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SPECTACLES OF A NUCLEAR EMPIRE:

OPERA AND FILM IN THE AMERICAN ATOMIC AGE, 1945-2018

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Abstract

"Spectacles of a Nuclear Empire: Opera and Film in the American Atomic Age, 1945–2018" examines the unique power of spectacle to produce and reproduce narratives of the United States' position as a global superpower in the wake of its use of nuclear weapons. The spectacle in question is the atomic bomb but also includes screenings or performances that narrate the atomic bomb's history. This work centers the films *Dr. Strangelove; or, How I Learned to Stop Worrying and Love the Bomb* (dir. Stanley Kubrick, 1964), *South Pacific* (dir. Joshua Logan, 1958) and *On the Beach* (dir. Stanley Kramer, 1959), public service announcements from the Federal Civil Defense Agency, and the operas *Einstein on the Beach* by Robert Wilson and Philip Glass and *Doctor Atomic* by Peter Sellars and John Adams.

I claim that the spectacle is inherent to nuclear empire's use of the atomic bomb and constitutes the aesthetic strategy used to produce and circulate nuclear empire's hegemonic ideology. The spectacle of the atomic bomb coheres a public, one that includes spectators, victims, and witnesses, all of whom can testify to the ongoing violence of nuclear technology. These violences are made a spectacle while at the same time paradoxically occurring on the level of the ordinary or mundane. A public made manifest by the nuclear problem is first built imaginatively, and I propose spectacle as a cultural response to our nuclear age. I follow in the methods of critical theorists in trying to understand how culture continues to shape and obfuscate political attachments. My work offers one perspective on the relation between spectacular mediation and historical meaning-making, exploring it through the media of opera and film.

The spectacle specifies—moreover, actualizes and materializes—the relation between aesthetics and ideology. In order to represent, reproduce, and circulate the beliefs of nuclear empire, the spectacle must be deployed as an aesthetic strategy. My work covers the long durée

of the nuclear age, from the hot and cold fluctuations of the Cold War to a post-9/11 United States. While geopolitical contexts change over time, the spectacle as a means of narrating our nuclear age adapts to these historical developments. I hope that the historical critique will be one among many that analyze American narratives of exceptionalism. Ultimately, I claim that the ideological and aesthetic are distinct but interdependent spheres of influence, both necessary to establish and maintain the nuclear empire.

Chapter One

Introduction; or, the "Sufficiently Spectacular" Bomb

On 2 December 2017, the University of Chicago commemorated the seventy-fifth anniversary of Chicago Pile-1 (CP-1), Enrico Fermi's successful experiment for the first ever sustained nuclear reaction. Across the campus, university scholars and invited experts grappled with the institution's place in a nuclear legacy. The series of events, titled "Nuclear Reactions," included special presentations and roundtable discussions that spoke to the techno-scientific developments and the socio-political responses in the seventy-five years after that first nuclear reaction. The celebrations included art installations and commissions for new music and performance pieces. An installation by Ogrydziak Prillinger Architects (OPA) titled "Nuclear Thresholds" situated at Henry Moore's statue "Nuclear Energy" depicted Fermi's discovery in the form of as giant oppressive ropes that began in an orderly plait and unfurled into a chaotic mass. A world premier was given of composer Ted Moore's piece *the curve is exponential* for carillon and tape.[1] The biggest commission went to the renowned pyrotechnic artist Cai Guo-Qiang, whose fireworks display was staged to detonate at the exact minute seventy-five years ago that CP-1 achieved a self-sustaining reaction. In his opening remarks, Guo-Qiang declared: "Through the complexity and paradoxes found in this artwork, I hope to express both concern and hope for developments in science and human civilization." At 2:30PM, with skies clear blue and frigid wintry air, the pyrotechnics went off: a spectacular kaleidoscope of rainbow-colored fireworks that expanded to the shape of a mushroom cloud. As the brightly colored smoke

[1] Shoutout to one of my graduate program cohort mates!!

dissipated and the symbol of the atomic bomb melted into thin air, a group of students staged a die-in in front of the gathered audience. For a moment, competing spectacles vied for the attention of the gathered spectators, who were then asked to follow the direction of the smoke towards the Rockefeller Chapel carillon. On this day, unlike the corresponding secret date seventy-five years before it, the University of Chicago made a spectacle of its role in advancing nuclear technology, acknowledging and celebrating in its own way its contribution to the United States' nuclear empire.

My research examines the unique power of spectacle to produce and reproduce narratives of the United States' position as a global superpower in the wake of its use of nuclear weapons. A spectacle is a multimedia event or performance, which can be screened or staged. In my work, the spectacle in question is the atomic bomb but also includes screenings or performances that narrate the atomic bomb's history. I propose that the spectacle is first and foremost defined as such because there are spectators. When it comes to screenings and performances, these include audience members, witnesses, or any assemblage brought together by a given performance or showing. Furthermore, spectacles are witnessed in bounded space and time, whether movie theaters, opera houses, or nuclear test sites. Though the etymology of spectacle (*spectāre*, to look or watch) and its study have focused on the ocular and visual sense, I want to emphasize the multiple senses necessary for its full reception such as our sonic and haptic senses.[2] I think about what inquiries sound might invite that sight might not. For example, besides the flash of the atomic bomb, spectators of nuclear tests also experience the heat and the throbbing of the aftershock, but also the physical delay of sound. I propose a methodology that is drawn from the

[2] "spectacle, n.1," in *Oxford English Dictionary* (Oxford: Oxford University Press).

discipline of sound studies but moves towards a deeply multisensory and synesthetic analysis, paying attention to all the senses, the knowledge that the full sensorium can generate, and the ways that some senses are experienced through others. Fleshing out the spectacle, so to speak, I emphasize the synesthetic possibilities for understanding and interpreting.

I propose that the spectacle does four things: it dazzles, it controls affect, it tests the body, and it creates a space of contestation and relationality among spectators and performers. Taking into account the spectator or collection of spectators, Marxist thinkers have named this collective "society," theaters understand spectators as "audience," and cultural anthropology has further implicated spectators as parts of a performative "community."[3] My impulse to center the spectator draws from these theories of collective reception, and I interpret the distancing effect between the spectator and spectacle as the spectator's power to interpret and create meaning from spectacle as itself a socially symbolic act.[4] The socially symbolic act, as Jameson notes, refers to the cultural object's maneuvering of and within historical and political contexts. Defining the boundaries of spectatorship depends on these contextual maneuvers, so for the critic, a crucial question will tend to thread every instance: this is a spectacle for whom, by

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[3] John J. MacAloon, ed., *Rite, Drama, Festival, Spectacle: Rehearsals Toward a Theory of Cultural Performance* (Philadelphia, PA: Institute for the Study of Human Issues, 1984); Catherine Bell, *Ritual Theory, Ritual Practice* (New York: Oxford University Press, 1992).

[4] Here I am thinking with several writers including: Roland Barthes and the idea of the death of the author Roland Barthes, *The Responsibility of Forms: Critical Essays on Music, Art, and Representation*, trans. Richard Howard, 1st ed. (New York: Hill and Wang, 1985). Noémie Ndiaye's gloss of reception theory, citing Susan Bennett and Jacques Rancière is an exceptional summary of the role of spectator in the act of interpretation in Noémie Ndiaye, *Scripts of Blackness: Early Modern Performance Culture and the Making of Race* (Philadelphia: University of Pennsylvania Press, 2022). And of course, the formulation "socially symbolic act" comes from Fredric Jameson's call to "always historicize!" To read a text for its socially symbolic act means to read it not only for its diachronic resonances but also for its synchronic meaning, how it works in its own time (allegorically, symbolically, etc.) in Fredric Jameson, *The Political Unconscious: Narrative as a Socially Symbolic Act* (New York: Cornell University Press, 1981).

whom, and to what effect? Why do narratives of nuclear empire take a spectacular form? Moreover, what is kept away from the spectator's perspective—or, what kind of unspectacular forms underlie the spectacle?

In this project, I draw on two major discourses of spectacle: one that follows a genealogy from Marxist thinkers to critical media studies and another that is conversant with scholars from theater and performance studies and cultural anthropology. These lines of thought come together in the dissertation because my case studies consist of film and opera. My intervention brings these lines of thought together to consider the ways the spectacle is circulated for various media. I consider what kinds of narrative or critique film and televised public service announcements could achieve in the immediate aftermath of World War II. Then I call to attention the ways American opera has likewise (re)produced and circulated narratives of empire. My comparative impulse works to show how both mass media and highly specialized media, such as opera, use spectacle as an aesthetic strategy.

The Spectacle

"The spectacle is not a collection of images; it is a social relation between people that is mediated by images," Guy Debord writes.[5] For Debord and other Marxist critics, the spectacle keeps a tight control over affect—spectacles are built to induce certain feelings. These critics scrutinize the relationships and discourses that the spectacle produces between the individual and the collective, what Debord names "society." The spectacle does not merely consist of this mediation between individual and image but also comprises the broader social conditions

[5] Guy Debord, *The Society of the Spectacle*, trans. Ken Knabb (Berkeley, CA: Bureau of Public Secrets, 2014), 2.

through which such acts of mediation and ideological filters become naturalized, transparent, and ultimately forgotten. The spectacle silences the overtly political. Debord understands the political as the dominant mode of production, which, in the late twentieth century meant post-Fordist, global capitalism. The spectacle, then, obfuscates the inequities produced by capitalism and flattens the social relation of spectators. "The spectacle presents itself as a vast inaccessible reality that can never be questioned. Its sole message is: 'What appears is good; what is good appears."[6] The passive acceptance of the spectacle is an expression of its status as a monopoly of appearances, which leads to a manner of appearing without any reply. Political scientist Michael Rogin argues,

> Spectacles in the Marxist modernist view, shift attention from workers as producers to spectators as consumers of mass culture. Spectacles colonize everyday life, in this view, and thereby turn domestic citizens into imperial subjects. Spectacle goes private by organizing mass consumption and leisure; it attaches ordinary, intimate existence to public displays of the private lives of political and other entertainers.[7]

His understanding of the spectacle is especially useful in the post-War context. With the proliferation of mass media, including radio, film, and television, ordinary citizens engaged in the circulation of imperial images—of war, nuclear testing, and geopolitical conflict. Unlike theater and performance studies and cultural anthropology, Marxist critics define spectators most capaciously through aggregating designators like "society," "domestic citizens," "imperial subjects," and "consumers."[8] In turn, these critics often leave those who create spectacle as unnamed forces. Spectacles are made by a hegemonic narrating class.

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[6] Debord, *The Society of the Spectacle*, 4.
[7] Michael Rogin, "'Make My Day!' Spectacle as Amnesia in Imperial Politics," in *Cultures of United States Imperialism*, ed. Amy Kaplan and Donald E. Pease (Durham, NC: Duke University Press, 1993), 507.
[8] Society à la "society of the spectacle" in Debord, *The Society of the Spectacle*. The latter terms (citizens, subjects, consumers) are used by a heterogeneous mix of thinkers including Baudrillard, Said, and Adorno: Theodor W. Adorno, *Minima Moralia*, trans. Edmund Jephcott

In the immediate post-War era, this "hegemonic narrating class" included such organizations as the Federal Civil Defense Agency, a US government agency tasked with educating the American public about nuclear technology and how to survive a nuclear attack. Defining the "narrating class" as such becomes less useful when my study addresses the spectacular form of opera. Certainly, different stakeholders of an opera production could be considered constitutive of a "hegemonic narrating class," but the rubric does not leave much room for stakeholders like composers and dramaturgs who use spectacular forms of art in nuanced ways to express anti-imperial leanings. Nor does "hegemonic narrating class" necessarily describe the role of performers in creating these theatrical spectacles. For the context of the opera house, I rely more on the idea of opera's intimate public, expanding the narrating body to include creators, performers, and spectators.

Within discourses of theater and performance studies, spectacle is typically understood as a characteristic of certain genres.[9] Opera is one of our most obvious examples of theatrical spectacle. Richard Wagner's nineteenth-century operas, named "music dramas" by him, relied heavily on the technological advances in "phantasmagoria," which regulated the spectator's sensorium—specifically what they saw and heard. Gabriela Cruz's study of the nineteenth-

(London: Verso, 2005); Jean Baudrillard, *America*, trans. Chris Turner (London: Verso, 1988); Edward W. Said, "The Imperial Spectacle," *Grand Street* 6, no. 2 (1987).

[9] Genres including opera, melodrama, circuses: Amy Hughes, *Spectacles of Reform: Theater and Activism in Nineteenth-Century America* (Ann Arbor: University of Michigan Press, 2012); Baz Kershaw, *The Politics of Performance: Radical Theatre As Cultural Intervention* (London: Routledge, 1992); Baz Kershaw, "Curiosity or Contempt: On Spectacle, the Human, and Activism," *Theatre and Activism* 55, no. 4 (2003); Matthew Wilson Smith, *The Total Work of Art: From Bayreuth to Cyberspace* (New York; London: Routledge, 2007); Gabriela Cruz, "The Flying Dutchman, English Spectacle and the Remediation of Grand Opera," *Cambridge Opera Journal* 29, no. 1 (2017): 30; Elise K. Kirk, "American Opera: Innovation and Tradition," in *The Cambridge Companion to Twentieth-Century Opera*, ed. Mervyn Cooke (Cambridge: Cambridge University Press, 2005); Herbert Lindenberger, *Situation Opera: Period, Genre, Reception* (Cambridge, UK: Cambridge University Press, 2010).

century operatic spectacle argues that "Wagner's fantasy…was for spectacle to function as a regime of domination."[10] The Wagnerian spectacle required Wagnerian technologies, Gundula Kreuzer argues.[11] She even sees Wagner's operatic spectacles as precursors to the various spectacles of the twentieth century, specifically film and television.[12] Matthew Wilson Smith's work creates a direct tie between the US culture industry and Wagnerian opera through "*Gesamtkunstwerk*."[13] The "total work of art" was an aesthetic ideal made famous by Wagner's various treatises, though he hardly invented the idea that theater and performance was multi-medial. Wilson Smith's strongest claim is that the *Gesamtkunstwerk* is "a central aesthetic project in the forging of the modern nation-state."[14] US Historian Amy Hughes has centered performance studies to describe how spectacle, such as melodrama and political demonstration, communicated ideas of race, gender, and class during the Reconstruction period.[15] I share with these scholars a desire to center opera within its wider historical, political, and cultural context. We all see in opera a uniqueness as a genre and institution of its own, and its enigmatic role in society, especially in the twentieth century, allows us to make interpretations of social values, technologies, and national imaginations.

My study of the operatic spectacle focuses on its relation to the spectator, this kind of spatial relation is crucial to understanding the potential ritualistic effects of the spectacle. Fundamental work has been done in studies of opera to examine its ritual functions. Martha Feldman's *Opera*

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[10] Cruz, "The Flying Dutchman, English Spectacle and the Remediation of Grand Opera," 30.
[11] Gundula Kreuzer, *Curtain, Gong, Steam: Wagnerian Technologies of Nineteenth-Century Opera* (Berkeley: University of California Press, 2018).
[12] Gundula Kreuzer, "Flat Bayreuth: A Genealogy of Opera as Screened," in *Screen Genealogies: From Optical Device to Environmental Medium*, ed. Craig Buckley, Rüdiger Campe, and Francesco Casetti (Amsterdam: Amsterdam University Press, 2019).
[13] Smith, *Total Work of Art*.
[14] Smith, *Total Work of Art*, 6.
[15] Hughes, *Spectacles of Reform*.

and Sovereignty demonstrates the power of interpretation within the opera house, which then becomes a space of contestation.[16] The opera house allowed "well-worn propositions to be tried on by listeners without requiring that those propositions be affirmed or negated."[17] She ultimately argues that "opera seria invariably reproduced, as narrative and social/symbolic practice, the prevailing social structure."[18] Feldman follows other scholars of theater and performance studies who blur the lines between ritual and performance. Such work has considered the theater's entertaining quality as a strategy toward its ritual efficacy.[19]

Other works in performance studies and spectacle have considered the ritualistic efficacy of such events as the Olympics. John MacAloon, following the work of Victor Turner, catalogs distinctive features of the spectacle.[20] MacAloon's four distinctions include: the primacy to visual sensory and symbolic codes, a certain size and grandeur, the institutionalization of the bicameral roles of actors and audience or performers and spectators, and the dynamic form.[21] He distinguishes the latter characteristic from the "sublime" where spectacle's description of natural phenomena is "metaphorical."[22] Given the wide ranging body of work regarding spectacle and ritual, I find the potential for meaning-making most useful in this project. Spectacle creates meaning in an age of expansive technology. The spectacle remains a dialectical proposition.

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[16] Martha Feldman, *Opera and Sovereignty: Transforming Myths in Eighteenth-Century Italy* (Chicago: University of Chicago Press, 2007). Chapter two on the aria form considers the form of *da capo* aria as a lived thing, which takes on a life of its own in performance (the score is but a historical trace).
[17] Feldman, *Opera and Sovereignty*, 18.
[18] Feldman, *Opera and Sovereignty*, 6.
[19] William O. Beeman, "The Anthropology of Theater and Spectacle," *Annual Review of Anthropology* 22 (1993).
[20] MacAloon, *Rite, Drama, Festival, Spectacle*. For a critique of Turner see Martha Feldman, "Magic Mirrors and the Seria Stage: Thoughts toward a Ritual View," *Journal of the American Musicological Society* 48, no. 3 (1995), https://doi.org/10.2307/3519834.
[21] MacAloon, *Rite, Drama, Festival, Spectacle*, 243-45.
[22] MacAloon, *Rite, Drama, Festival, Spectacle*, 245.

Creators and spectators' contesting values and ideologies vie for dominance during these spectacular encounters. The effect is paradoxically dialogic and reifying.

Take for example the nuclear ur-spectacle. On 2 December 1942, the University of Chicago witnessed the dawn of the nuclear age. "The Italian navigator has just landed in the new world," Arthur Compton announced gleefully, sharing the news that here, under the bleacher stands of the old Stagg Field, the famed émigré physicist Enrico Fermi generated the first sustained nuclear chain reaction: Chicago Pile Number One (CP-1). In his personal accounts, Fermi describes a chain reaction as being similar to "the burning of a rubbish pile from spontaneous combustion."

> Since the experiment had never been tried before, . . .we rehearsed the safety precautions carefully. . . . At 11:35am, the counters were clicking rapidly. Then, with a loud clap, the automatic control rods slammed home. It seemed a good time to each lunch. During lunch everyone was thinking about the experiment but nobody talked much about it. At 2:30, [George] Weil pulled out the control rod…the intensity shown by the indicators began to rise at a slow but ever-increasing rate. At this moment we knew that the self-sustaining reaction was under way. The event was not spectacular, no fuses burned, no lights flashed. But to us it meant that the release of atomic energy on a large scale would be only a matter of time.[23]

An illustration of the unspectacular CP-1 depicts the scientists crowded on a balcony overlooking a large pile of metal. Fermi enclosed uranium in a nine-foot graphite cube, which was further shielded with sheets of metal and bricks—safety precautions of the most solid yet mundane kind.

Three years later, the unspectacular Chicago rubbish pile would become the spectacular, world-ending technology of the nuclear age. In quick succession three atomic bombs were successfully detonated: the first on 16 July 1945 in the desert of New Mexico; on 6 August 1945

[23] Enrico Fermi, "Fermi's Own Story" quoted in Cynthia C. Kelly, *The Manhattan Project: the Birth of the Atomic Bomb in the Words of its Creators, Eyewitnesses, and Historians* (New York: Black Dog & Leventhal, 2010), EBook.

in the center of the civilian city Hiroshima, Japan; and on 9 August 1945 in another Japanese civilian city Nagasaki. On 14 August 1945, President Truman of the United States would declare victory over Japan, an imperial nation-state that surrendered unconditionally though certainly not without unfathomable civilian sacrifice. Estimates of those who died at Hiroshima and Nagasaki range from 110,00 to 210,000 persons, the lower estimate being made by the US military and the higher estimate being made by anti-nuclear weapons scientists.[24]

After the war, Fermi, now a member of the General Advisory Commission to the Atomic Energy Commission (AEC) the US federal agency that oversaw the development of nuclear technology, would openly challenge the work towards a more powerful weapon, the hydrogen bomb or thermonuclear bomb. In a statement he co-wrote and submitted to the AEC in 1951, Fermi reveals his alarm. Such a weapon "cannot be justified on any ethical ground which gives a human being certain individuality and dignity even if he happens to be a resident of an enemy country" and was "necessarily an evil thing considered in any light."[25] In 1954, Fermi passed away in his Chicago home due to complications from metastatic cancer. He challenged his own role in creating the technology for nuclear weapons when he became a spectator and witness to what his scientific discoveries had wrought. Within his own lifetime, he contested the spectacle of the atomic bomb the value of his own work, such that toward the end of his life he called for a different political narrative for the nuclear age.

[24] Alex Wellerstein, "Counting the Dead at Hiroshima and Nagasaki," Web article, *Bulletin of the Atomic Scientists* (2020), https://thebulletin.org/2020/08/counting-the-dead-at-hiroshima-and-nagasaki/.
[25] Quoted in David N. Schwartz, *The Last Man Who Knew Everything: The Life and Times of Enrico Fermi, Father of the Nuclear Age*, 1st ed. (New York: Basic Books, 2017).

Nuclear Empire

On 2 December 1967, this time on the twenty-fifth anniversary of Fermi's successful Chicago Pile-1 experiment, the University of Chicago erected a monument to that originary nuclear event: a statue by famed British artist Henry Moore entitled "Nuclear Energy." The unveiling of the statue formed the pinnacle of a series of celebrations, including a ritualistic procession through campus to the site of the monument. The bronze behemoth stood at twelve feet and was meant to depict the ambivalence of nuclear energy. From one perspective the statue looks like a skull, from another the mushroom cloud. In his own commentary, Moore stated: "Like anything that is powerful, it has a power for good and evil...the lower part [of the sculpture] is more architectural and in my mind has the kind of interior of a cathedral with sort of a hopefulness for mankind."[26]

Delivering an address at the celebratory unveiling, Professor Harold Haydon remarked: "As this bronze monument *remembers an event and commemorates an achievement*, it has something unique to say about the spiritual meaning of the achievement, for it is the special power of art to convey feeling and stir profound emotion, to touch us in ways that are beyond the reach of reason [emphasis mine]."[27] The statue marked the very place where, several feet below ground, Fermi had successfully created the first nuclear chain reaction. Through the ritualistic acts of remembering and commemorating, the University staked its claim within US nuclear empire. Only five years beforehand (1962), US nuclear supremacy was at its most challenged, but its deterrence, with the U.S.S.R. during the Cuban Missile Crisis, reaffirmed its control over global

[26] Quoted in "Nuclear Energy, Henry Moore (1898-1986)," 2015, accessed 17 Jan 2023, https://arts.uchicago.edu/public-art-campus/browse-work/nuclear-energy.
[27] General Archival Files, [Box 9, Atomic Energy Anniversary Celebrations, 1967, 1], Special Collections Research Center, University of Chicago Library.

order and geopolitical conflict. If spectacle is the superstructure, then nuclear empire is the base, this age's "mode of production."

I use the designation "nuclear empire" to name the period of US supremacy in the post-1945 world order. The nuclear empire spans the years (1946–1991), known as the years of the Cold War, but I extend the periodization to our present day. One could say "nuclear empire" names US supremacy in the Cold War's long durée, which other historians have termed the "The Long Cold War."[28] It not only hearkens to US political history but also to the structural function of the nation-state during this time. In this I deviate from musicological studies of Cold War Music. The American Musicological Society's Cold War Study Group, for example, "investigates the music composed during the decades after World War II, and specifically the relationship between new music and the continuing global opposition between the United States and the U.S.S.R.."[29] Though the period of my project correlates with that of the disciplinary boundaries taken up by Cold War studies, I am not investigating historical changes in musical styles during this period. Indeed, the spectacle I have in mind exceeds generic confines. Hence my work means to describe how this spectacular excess is inherent to nuclear empire's reification.

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[28] John Beck and Ryan Bishop, "The Long Cold War," in *Cold War Legacies: Systems, Theory, Aesthetics*, ed. John Beck and Ryan Bishop (Edinburgh: Edinburgh University Press, 2016); John Lewis Gaddis, *We Now Know: Rethinking Cold War History* (New York: Oxford University Press, 1997, 1997); John Lewis Gaddis, *The Cold War: A New History* (New York: Penguin, 2005); Paul Boyer, *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age* (New York: Pantheon Books, 1985); Paul Boyer, *When Time Shall Be No More: Prophecy Belief in Modern American Culture* (Cambridge, MA: Harvard University Press, 1992); Paul Boyer, *Fallout: A Historian Reflects on America's Half-Century Encounter with Nuclear Weapons* (Columbus: Ohio State University Press, 1998).

[29] "A.M.S. Cold War and Music Study Group," 2023, accessed 22 Feb, 2023, https://ams-net.org/cwmsg/. I see my distinction from musicology's Cold War Studies as a departure from Dahlhausian style history.

Recent scholarship focusing on the literary tradition in the nuclear age centers the formal ways nuclear empire shapes cultural artefacts. Maria Anna Mariani's monograph *Italian Literature in the Nuclear Age: The Poetics of the Bystander* poses a serious question about the role of Italy and its citizens as passive accomplices.[30] She claims that authors like Italo Calvino and Elsa Morante test the generic limits of science fiction, creating works that are both politically engaged in content and postmodern in form.[31] She sees Calvino's work as a formalist intervention dealing with the new space-time paradigm of the nuclear age. Her insights help enrich my own readings, especially with respect to opera where nuclear content began to take on a postmodern form now known as musical minimalism.[32] Closer to the center of nuclear empire, Jessica Hurley's work on the "nuclear mundane" articulates the ways that narratives of nuclear apocalypse obfuscate the everyday violence occurring at the environmental and infrastructural levels.[33] I follow Hurley's critical attention to the material ramifications of such narratives. In particular, her formulation of the "nuclear mundane" demands that we pay attention to the

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[30] Maria Anna Mariani, *Italian Literature in the Nuclear Age: A Poetics of the Bystander* (Oxford: Oxford University Press, 2022).
[31] Mariani, *Italian Literature in the Nuclear Age*, 9.
[32] The stylistic history of musical minimalism as it relates to US geopolitical contexts could be its own dissertation. But for a start on musical minimalism, I've turned to: John Cage, "Silence: Lectures and Writings," ed. Kyle Gann (50th anniversary ed., Middletown, CT: Wesleyan University Press, 2011); Robert Fink, *Repeating Ourselves: American Minimal Music as Cultural Practice* (Berkeley: University of California Press, 2005); Kyle Gann, *Music Downtown: Writings from The Village voice* (Berkeley: University of California Press, 2006); Kyle Gann, *No Such Thing As Silence: John Cage's 4'33"* (New Haven: Yale University Press, 2010); Peter Greenaway and Revel Guest, "Four American Composers: John Cage, Robert Ashley, Meredith Monk, Philip Glass; Das Völlige Gegenteil Gewöhnlicher Fernseh-Interviews," (Berlin: Absolut Medien GmbH, 2006); Rebecca Leydon, "Towards a Typology of Minimalist Tropes," *Music Theory Online* 8, no. 4 (2002), https://www.mtosmt.org/issues/mto.02.8.4/mto.02.8.4.leydon.html; Steve Reich, "Variations: A Conversation with Steve Reich," *Parabola* 5, no. 2 (1980); Nicholas Till, "Joy in Repetition: Critical Genealogies of Musical Minimalism," *Performance Research* 20, no. 5 (2015).
[33] Jessica Hurley, *Infrastructures of Apocalypse: American Literature and the Nuclear Complex* (Minneapolis: University of Minnesota Press, 2020).

nuclear problem as "the slow violence of the atomic age." "Like all slow violence," Hurley writes, nuclear violence "distributes its damage unevenly. Poor people, people of color, Indigenous people, queer people, and women receive the least benefit from the nuclear complex and are most exposed to its harm."[34]

The study of empire calls attention to US geopolitical maneuvers post-1945.[35] From its annexation of the Bikini Atoll in the Pacific to the Marshall Plan across the Atlantic, the United States used its military power for imperial occupation. Moreover, the US deployed imperial tactics within its own continental borders. The policies of eminent domain have been used to create sacrifice zones within the US for uranium mining and nuclear waste. Often these lands are under Native American sovereignty.[36] Military power ensures nuclear empire's dominance and growth of capital. Empire is always in process and, by extension, is always narrativizing or reifying itself.[37] Cultural responses—in my work, spectacular representations—have always

[34] Hurley, *Infrastructures of Apocalypse*, 14. I am especially taken by Hurley's claim that the study of apocalypse narratives "offers a timely theorization of futurelessness not as an obliteration of possibility but as a place to stand, a place where we might yet construct a world in which to live" (Hurley, 38).

[35] Elaine Scarry theorizes the US political structure as anti-democratic—what she deems "monarchical" but what I conceptualize as imperial. Elaine Scarry, *Thermonuclear Monarchy: Choosing between Democracy and Doom* (New York: W. W. Norton & Company, 2014).

[36] Winona LaDuke and Ward Churchill, "Native America: The Political Economy of Radioactive Colonialism," *The Journal of Ethnic Studies* 13, no. 3 (1985); Patrick Wolfe, "History and Imperialism: A Century of Theory, from Marx to Postcolonialism," *The American Historical Review* 102, 2 (1997); Dana E. Powell, *Landscapes of Power: Politics of Energy in the Navajo Nation* (Durham, NC: Duke University Press, 2018); Patrick B. Sharp, *Savage Perils: Racial Frontiers and Nuclear Apocalypse in American Culture* (Norman: University of Oklahoma Press, 2007).

[37] Amy Kaplan and Donald E. Pease, eds., *Cultures of United States Imperialism* (Durham, NC: Duke University Press, 1993). Amy Kaplan, *The Anarchy of Empire in the Making of U.S. Culture* (Cambridge, MA: Harvard University Press, 2002); Christopher Lee and Melani McAlister, "Introduction: Generations of Empire in American Studies," *American Quarterly* 74, no. 3 (2022): 478.

played a central role in imperial expansion and help construct imperial subjects.[38] As US historian Amy Kaplan argues, "Foregrounding imperialism in the study of American cultures shows how putatively domestic conflicts are not simply contained at home but how they both emerge in response to international struggles and spill over national boundaries to be reenacted, challenged, or transformed."[39] How the US presents international struggle will reflect domestic tensions—externalized projections of internal conflict. The American public's attachment to the nation is predicated on a global, relational extimacy.[40]

During the African American Civil Rights movement, leaders would name nuclear disarmament as a necessity for a truly anti-colonial liberation.[41] From Martin Luther King, Jr., to Angela Y. Davis, these leaders would connect the Black freedom struggle to geopolitical issues, linking freedom, peace, and anti-colonialism in their activism. In a speech addressed to the Black Woman's Forum, Angela Davis entreated the audience of her peers as follows:

> We can no longer afford to assume that peace is a white folks' issue. How can we in good conscience separate ourselves from the fight for peace when nuclear bombs do not know how to engage in racial discrimination? And if it were at all conceivable that nuclear fallout could be programmed to kill some of us while sparing others, I can guarantee you

[38] Lee and McAlister, "Generations of Empire," 479.
[39] Amy Kaplan, "'Left Alone with America': The Absence of Empire in the Study of American Culture," in *Cultures of United States Imperialism*, ed. Amy Kaplan and Donald E. Pease (Durham, NC: Duke University Press, 1993), 16.
[40] Here I am working with Lacan's *extimité*, the idea that the interiority of intimacy is predicated on external factors. But I'm also hearkening to Lisa Lowe's work on how geography and proximity shape social difference. Lisa Lowe, *The Intimacies of Four Continents* (Durham, NC: Duke University Press, 2015).
[41] Vincent J. Intondi, *African Americans against the Bomb: Nuclear Weapons, Colonialism, and the Black Freedom Movement* (Stanford, CA: Stanford University Press, 2014).
Gabrielle Hecht's work on the uranium mining in Africa was somewhat out of the purview of this current project, but no less crucial for understanding the impact of nuclear technology on social structures (i.e., colonialism). Gabrielle Hecht, *Being Nuclear: Africans and the Global Uranium Trade* (Cambridge, MA: M.I.T. Press, 2012).

> that the warmakers in this country would see to it that Black people would be its first victims.[42]

A similar response from Reverend J. E. Elliott that followed President Truman's 6 August 1945 announcement speaks to a pan-racial solidarity in the face of nuclear empire. He told his congregation, "I have seen the course of discrimination throughout the war and the fact that Japan is of a darker race is no excuse for resorting to such an atrocity."[43] In the historiography of nuclear empire, the histories of Black and Indigenous experiences have been articulated as separate spheres. Though mine is not a cultural history of those communities, it does bring together and center accounts of imperial harm. Nuclear empire sees one race that is reduced to a quest for supremacy in the arms race. As I retell historical narratives around these cultural responses, I want to keep these anti-imperial messages close at hand. The spectacle functions to obfuscate those violences of empire that are unspectacular. The atomic bomb will always incite fear of apocalypse and mass extinction, but the everyday infrastructures that maintain nuclear empire always already enact violence on bodies (human and nonhuman) through violences done to land, air, and water.[44] If these stories of imperial harm to ordinary citizens are not explicitly on my page, they are central to my intent and commitment.

The post-War United States was a time for reimagining US citizenship, requiring what Lauren Berlant described as "the orchestration of fantasies about the promise of the state and the

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[42] Angela Y. Davis, *Women, Culture & Politics* (New York: Vintage, 1990).
[43] Intondi, *African Americans against the Bomb*, 1. Intondi's work is crucial for understanding the African American response to the US military and its growing supremacy in the world. His historical narrative highlights the ways that Civil Rights activists have connected US military spending to cutbacks in social programs, especially to racialized communities. Some of the anti-military strategies included peaceful protest and refusal to register for the draft (Intondi, 74, 20).
[44] Hurley writes about waste protocols as infrastructures in the material sense through the statistics-based narratives of waste management, and her most recent work has turned toward a distinct ecological criticism in Jessica Hurley, "Nuclear Settler Colonialism at Sea, or How to Civilize an Ocean," *American Quarterly* 74, no. 4 (2022).

nation to cultivate and protect a consensually recognized ideal of the 'good life.'"[45] The nuclear spectacle haunted and terrorized. In return for the state-backed security it promised, the American public was asked to love their country and to recognize certain stories, events, experiences, practices, and ways of life as related to the core of who they were, their public status, and their resemblance to other people.[46] Given the near impossibility of containing atomic weapons and nuclear radiation, a rhetoric of containment made possible the propagandistic American narrative that undergirded its national identity.[47]

By 1984, Jacques Derrida was applying his deconstructionist method so as to articulate the problems of nuclear empire. According to Derrida, the problem that plagued nuclear empire, as evidenced by the geopolitical course of the Cold War, was that the bomb was "fabulously textual."[48] His argument boils down to the essential point that we talk about the bomb so that we may never use the bomb: that is the "missive" of Mutually Assured Destruction. The paradox of the nuclear problem is that quantity stands in a negative relation to utility, hence quantity represents an inherent perversion of the capitalist understanding of use-value: *more* nuclear weapons mean *less* use of weapons. This perverse use-value is sustained by the demonstration, the spectacle, which insists that the bomb *could* be useful. It's that paradox that leads Derrida to argue that the bomb is "fabulously textual" and thus "a speculation, even a fabulous specularization."[49] On this account, the spectacular displays of post-nuclear annihilation,

[45] Lauren Berlant, "Citizenship," in *Keywords for American Cultural Studies*, ed. Bruce Burgett and Glenn Hendler (New York: New York University Press, 2020), 44.
[46] Berlant, "Citizenship."
[47] Alan Nadel, *Containment Culture: American Narratives, Postmodernism, and the Atomic Age* (Durham, NC: Duke University Press, 1995).
[48] Jacques Derrida, "No Apocalypse, Not Now (Full Speed Ahead, Seven Missiles, Seven Missives)," *Diacritics* 14, no. 2 (1984): 23.
[49] Derrida, "No Apocalypse, Not Now," 23.

mushroom clouds, and radiation's effects naturalize the spectators' understanding and acceptance of the nuclear problem. Spectators are left to speculate about when the spectacle might become "the real thing."

Aesthetic Strategy and the Ideology of Nuclear Empire

Spectacle is inherent to nuclear empire's use of the atomic bomb. In a declassified memo from the US military Target Committee, the leaders outlined the psychological factors in choosing certain Japanese targets. Under article "E: The Psychological Factors in Target Selection" the memo states:

> It was agreed that psychological factors in the target selection were of great importance. Two aspects of this are (1) obtaining the greatest psychological effect against Japan and (2) making the initial use sufficiently spectacular for the importance of the weapon to be internationally recognized when publicity on it is released.[50]

I claim that the spectacle constitutes the aesthetic strategy used to produce and circulate nuclear empire's hegemonic ideology. The atomic bomb proved to be an epistemic shift, part of a culture in which empire was sublimated through various media. Cultural critic Rey Chow writes, "It was probably no accident that the United States chose as its laboratory, its site of experimentation, a civilian rather than military space, since the former, with a much higher population density, was far more susceptible to demonstrating the upper ranges of the bomb's spectacular potential."[51] It was not simply that hard science was replaced by a visual device, but that "the dropping of the bombs marked the pivot in the progress of science."[52] As an aesthetic strategy, the spectacle is

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[50] US National Archives, Record Group 77, Records of the Office of the Chief of Engineers, Manhattan Engineer District, TS Manhattan Project File '42-'46, folder 5D Selection of Targets, 2 Notes on Target Committee Meetings.
[51] Rey Chow, "The Age of the World Target: Atomic Bombs, Alterity, Area Studies," in *The Rey Chow Reader*, ed. Paul Bowman (New York: Columbia University Press, 2010), 5.
[52] Chow, "Atomic Bombs, Alterity, Area Studies," 6.

one of many strategies in the arsenal of nuclear empire. The spectacle of the atomic bomb coheres a public, one that includes spectators, victims, and witnesses, all of whom can testify to the ongoing violence of nuclear technology. These violences are made a spectacle while at the same time paradoxically occurring on the level of the ordinary or mundane. A public made manifest by the nuclear problem is first built imaginatively. I propose spectacle as a cultural response to our nuclear age, and I follow in the methods of critical theorists in trying to understand how culture continues to shape and obfuscate political attachments. My work offers one perspective on the relation between spectacular mediation and historical meaning-making, exploring it through the media of opera and film.

I make a distinction between aesthetic strategy and aesthetic category, particularly in relation to the sublime. Frances Ferguson's essay on the nuclear sublime posits the atomic bomb as the most recent version of the sublime, quoting Edmund Burke, "We love the beautiful as what submits to us, we fear the sublime as what we must submit to."[53] According to Ferguson, the nuclear sublime becomes a useful lever in discussions of aesthetics because it helps "an individual identify himself, to attach himself to a consciousness of his own individuality."[54] The perception of the sublime adheres to the individual's act of individual judgment: the sublime is enlisted in the search for a unique individual subjectivity, the sublime affirms individual identity at the expense of the notion of private ownership, and, finally, the virtue of the sublime is that it cannot be exchanged. You don't want to witness another's sublime; it encroaches on your individuality.[55]

[53] Frances Ferguson, "The Nuclear Sublime," *Diacritics* 14, no. 2 (1984): 5.
[54] Ferguson, "The Nuclear Sublime," 6.
[55] Ferguson, "The Nuclear Sublime," 9.

I am not proposing here that the atomic bomb is inherently sublime. I want to make the distinction that the atomic bomb is spectacular, which, if it has anything to do with the sublime, is a bad form of it, what we might call a bad sublimation. The term "nuclear sublime" implies that the nuclear exceeds understanding, but my own historical impulse is to insist that the atomic bomb has historical actors and victims from whom we can learn. Moreover, the spectacle implies the presence of the spectator and can bring together a collective of spectators. With a certain amount of razzle dazzle, the spectacle vies for control over affect and affected bodies, creating a space and time for spectators to relate to or contest the narratives presented. I insist on the spectacle as an aesthetic *strategy* that narrativizes and reifies nuclear empire because I want to consider the ways that spectacle as a form and an experience can not only be used to mystify spectators but be deployed strategically to critique nuclear empire, as happens in the operas I take up in this dissertation.

At its core, "nuclear empire" calls attention to the epoch-changing technology of nuclear weapons science. The field of Science and Technology Studies has been instrumental to my thinking about the dialectical relation between technology and culture. Cultural figurations of nuclear technology represent historically specific reactions and interpretations. Anthropologist Joseph Masco articulates a central question of nuclear empire: "What kind of cultural work is performed in the act of making something 'unthinkable'? How has the social regulation of the imagination—in this case, of nuclear war—been instrumental in American life since World War II?"[56] Masco makes a compelling inquiry into the intersections between nuclear technoscience, culture, and everyday life. Starting from the premise that "the invention of the atomic bomb

[56] Joseph Masco, *The Nuclear Borderlands: The Manhattan Project in Post-Cold War New Mexico* (Princeton, NJ: Princeton University Press, 2006), 2.

transformed everyday life, catching individuals within a new articulation of the global and the local," Masco proposes a new study of aesthetics that he formulates as *technoaesthetics*: "the evaluative aesthetic categories embedded in the expert practices of weapons scientists. …are the non-classified everyday modes of interacting with nuclear technologies."[57] According to Masco, aestheticizing the bomb—literally the sensory experience of the bomb—was crucial to the development of the technology. Technoaesthetics were further imbricated in geopolitical matters, a history of the bomb he recounts in three parts: 1945–1962, above ground testing; 1963–1992, subterranean testing; and from 1995–2010, computer-generated model testing.[58] Masco argues that the three different periods of testing offer three different technoaesthetic modes of engagement. During above-ground testing, scientists could feel in their bodies the effects of ever-growing nuclear weapons technology and could thus apprehend the dangerous real-world consequences.[59] The scientists aestheticized the bomb, apprehended the bomb through their bodily senses, and understood the bomb's spectacular power through visual, sonic, and haptic senses as their bodies were shocked by the bomb's light, sound, and heat. As bomb testing moved underground and then to the furthest removed technological mediation of computer-generated models, scientists could no longer *feel* the bomb, thus losing a sense of what the bomb might mean in the real world. Masco argues that their physical detachment from the bomb allowed scientists to fetishize the bomb: the further desensitized (or, de-aestheticized) the

[57] Masco, *Nuclear Borderlands*, 1, 44.
[58] Masco, *Nuclear Borderlands*, 55-96.
[59] The scientists were not the only ones to experience the shock of the bomb. Several tests included experimenting with military troops. In one, troops were asked to dig their own trenches in close proximity to a bomb test, and then they were asked to traverse the fallout area. Essentially, they were sent out as lab rats to see how much radiation they would encounter in a "real life situation."

scientists became, the more they sublimated the bomb ultimately losing a sense of the real repercussions of their evermore powerful and dangerous weapon.

As a formal principle, the aesthetic strategy of spectacle attempts to subsume its opposite—the "unspectacular." The spectacular bomb is made through unspectacular infrastructures and experiments, like the giant graphite pile of CP-1. The dialectical impulse in play in this project follows the work of Masco and Hurley who study the everyday, "ordinary" violences of nuclear technology in US culture and literature.[60] I take up Jessica Schwartz's proposal to examine the "nuclear silences" inherent in the structures of imperial domination. Schwartz's ethnographic work and activism with and for the indigenous populations of the Marshallese Islands attest to an ongoing silencing—a tool to maintain nuclear empire's hegemonic control.[61] I want to take this critical intervention further by holding silence, or the "unspectacular," in the same space as spectacle to claim that both are aesthetic characteristics of ideological authority.

My analysis of ideology focuses not only on spectators, then, but institutions and (intimate) publics. Following Terry Eagleton, I think of ideology as "that which makes the subject feel the world is not an inhospitable place."[62] Ideology is the larger belief system that legitimates the power of a dominant social group or class, and can become dominant through six ways:

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[60] Joseph Masco's oeuvre speaks to the ways nuclear technology shows up in everyday life. Masco, *Nuclear Borderlands*; Joseph Masco, *The Theater of Operations: National Security Affect from the Cold War to the War on Terror* (Durham, NC: Duke University Press, 2014, 2014); Joseph Masco, *The Future of Fallout, and Other Episodes in Radioactive World-Making* (Durham, NC: Duke University Press, 2021)..
Again Jessica Hurley's work has been fundamental to my thinking on the "nuclear mundane."
[61] Jessica A. Schwartz, "Matters of Empathy and Nuclear Colonialism: Marshallese Voices Marked in Story, Song, and Illustration," *Music and Politics* 10, no. 2 (2016), https://doi.org/10.3998/mp.9460447.0010.206; Jessica A. Schwartz, *Radiation Sounds: Marshallese Music and Nuclear Silences* (Durham, NC: Duke University Press, 2021).
[62] Terry Eagleton, *Ideology: An Introduction* (London: Verso, 1991).

promotion, naturalization, universalization, denigration, exclusion, and mystification.[63] The ideology that interests me is that of nuclear empire, the ideology that maintains the necessity for nuclear supremacy—this belief makes the subject (spectator or ordinary citizen) feel the world is a more hospitable place with the presence and proliferation of nuclear technology. It is an ideology mired in imperial action—conquest of lands and peoples—but also of technological exceptionalism.

The United States is hardly a stranger to the ideology of exceptionalism.[64] Throughout its history, the nation-state's ideology permeated myths of the frontier. US historian Greg Grandin defines the frontier myth: "The concept of the frontier served as both diagnosis (to explain the power and wealth of the United States) and prescription (to recommend what policy makers should do to maintain and extend that power and wealth)."[65] In our nuclear age, the frontier manifests in the Bikini Atoll for testing of the hydrogen bomb, toward the moon in a race against the Soviet Union, and at the quantum reaches of the atom. At the core of this expansionist drive is the ideology that upholds nuclear empire.

The spectacle specifies—moreover, actualizes and materializes—the relation between aesthetics and ideology. In order to represent, reproduce, and circulate the beliefs of nuclear empire, the spectacle must be deployed as an aesthetic strategy. Again, as exemplified by the Target Committee memo, the spectacular nature of the bomb was a deliberate (aesthetic) strategy toward geopolitical ends. My work covers the long durée of the nuclear age, from the hot and cold fluctuations of the Cold War to a post-9/11 United States. While geopolitical contexts

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[63] Eagleton, *Ideology: An Introduction*, 5-6, 33-62. In chapter two of this monograph, Eagleton lays out the genealogy of "ideological strategies."
[64] Greg Grandin, *The End of the Myth: From the Frontier to the Border Wall in the Mind of America* (New York: Metropolitan Books, Henry Holt and Company, 2019), EBook.
[65] Grandin, *End of Myth*, Introduction.

change over time, the spectacle as a means of narrating our nuclear age adapts to these historical developments. I hope that the historical critique will be one among many that analyze American narratives of exceptionalism. Ultimately, I claim that the ideological and aesthetic are distinct but interdependent spheres of influence, both necessary to establish and maintain the nuclear empire.

American Opera in the Nuclear Age

My work brings opera into the larger conversation about media spectacle. I claim that opera is an aesthetic medium unlike film and television that begs for a different kind of intersubjective relation than they do—one among story tellers, performers, and audience (read: spectators). It differs from electronic media in that many of the laboring forces are right in front of you, breathing the very same air that you breathe in the opera house, at least in live performance.

While many scholars have studied mass media in relation to histories of nuclear technology, no one has yet done so in ways that make opera central.[66] My work centers opera within a larger study of spectacle because of its intimate public, primarily in opera houses themselves.[67] Following the work of Berlant, I use the term "intimate public" to denote a collective whose

[66] Reba Wissner, *Music and the Atomic Bomb in American Television, 1950–1969* (New York; Bern; Berlin; Vienna: Peter Lang International Academic Publishers, 2020); Jerome F. Shapiro, *Atomic Bomb Cinema: The Apocalyptic Imagination on Film* (New York: Routledge, 2002); Ferenc Morton Szasz, *Atomic Comics: Cartoonists Confront the Nuclear World* (Reno: University of Nevada Press, 2012); David Deamer, *Deleuze, Japanese cinema, and the atom bomb the spectre of impossibility* (New York: Bloomsbury Academic, 2014); Yūko Shibata, *Producing Hiroshima and Nagasaki: Literature, Film, and Transnational Politics* (Honolulu: University of Hawai'i Press, 2018); Margot A. Henriksen, *Dr. Strangelove's America: Society and Culture in the Atomic Age* (Berkeley: University of California Press, 1997).

[67] Certainly, new kinds of intimate publics are formed with live broadcasts, like the Metropolitan Opera's HD broadcasts or televised and filmed opera. My case studies focus on the potential of relationality between spectator and spectacle in the opera house. Since I have not actually been present at the live performances of the operas I study, I am indebted to their mediated and reproducible forms as video and audio recordings, as well as to scores and libretti.

intimate lives or personal affects and feelings are constituted by their consumption of a common medium or their participation in a common mediascape.[68] An intimate public is bound together by a structure of feeling, pace Williams, that defines forms and conventions as elements of "social material process."[69] Individuals and ordinary citizens do not live in "world views" or "ideologies" but rather practice a variable relation between the meaning and value of their affective life and formal or systemic beliefs.[70] They are in a constant flow between an internal and external drive toward living "the good enough life."[71] What's crucial about naming an intimate public as such is the critique entailed concerning the political (in)action of the collective. Berlant's work on classic Hollywood cinema, for example, attends to "the intimate public's tendency to route its optimism toward affects and aesthetics as against the conventionally political."[72] It is enough to *feel* utopian without having utopia: "In mass-mediated intimate publicity, the utopian and heterotopian are adapted to a scene of bargaining not with fulfillment (that would be politics) but with sensually lived potentiality."[73] The operas I foreground do not argue outright for the deactivation of nuclear weapons and instead seem to say that being protected by the existence of US bombs and not being bombed oneself right now feels good enough.

My brief survey of operas from the immediate post-War era (1945-1976) reveals that none directly addressed "the bomb." Many, however, dealt with issues about nationalism, especially

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[68] Lauren Berlant, *The Queen of America Goes to Washington City: Essays on Sex and Citizenship* (Durham, NC: Duke University Press, 1997).
[69] Raymond Williams, *Marxism and Literature* (Oxford: Oxford University Press, 1977), 133.
[70] Williams, *Marxism and Literature*, 132.
[71] Lauren Berlant, *Cruel Optimism* (Durham, NC: Duke University Press, 2011).
[72] Lauren Berlant, *The Female Complaint: The Unfinished Business of Sentimentality in American Culture* (Durham, NC: Duke University Press, 2008), 270.
[73] Berlant, *Female Complaint*, 272.

the question of Communism.[74] In my chapter on *Einstein on the Beach*, I consider some reasons why opera was late to the conversation on nuclear technology. I claim that opera needed a new musical and theatrical vocabulary in order to begin to address the nuclear problem. Meanwhile, American opera in the midcentury was bound to new cultural institutions—the university and regional opera house perhaps being the most influential. Composers and impresarios worked toward an "American Operatic Repertoire" with intimate publics that consisted of intellectuals and (dare I say) modern bourgeois dilettantes. John Dizikes's *Opera in America: A Cultural History* composes a long narrative history of opera, operetta, and musical theater in the US.[75] In the immediate post-War era, he writes that the United States experienced a so-called "civic mania." Dizikes bases his cultural history of mid-century American opera on a 1966 economic study published by Baumol and Bowen, "The Performing Arts—the Economic Dilemma."[76] The study defines opera consumers as four overlapping yet different audiences: those of the major opera house in large urban metropolises, the regional opera house, the local community theaters (what they call "amateur performance"), and the university and college stage. Midcentury American opera was a cultural institution with its own "political unconscious."[77] In an era of

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[74] Joy H. Calico, "Columbia University and Neoromantic American Chamber Opera at Midcentury" (Paper presentation, Society for American Music, 2018). Thanks to Joy Calico for sending me her paper many years after she gave it. In her words: "my focus was the fact that there is one set of mid-century American opera that "everyone" who is a singer knows because young singers learn arias from them and might do scenes from them in their undergraduate programs, and another repertoire entirely when it comes writing the history of American music in the mid-20th c; the focus for my research was the fact that both of those things were thriving simultaneously in the Columbia U music department."

[75] John Dizikes, *Opera in America: A Cultural History* (New Haven, CT: Yale University Press, 1993).

[76] Dizikes, *Opera in America*, 525.

[77] Jameson is quick to describe the concept of "political unconscious" but hardly ever defines it. The term refers to the process of a public's political attachment and subsequent repression of the overt desire toward the political. He writes that the critic's job is to make conscious what is made politically unconscious, "It is in detecting the traces of that uninterrupted narrative, in restoring

booming economic growth, opera's intimate public aspired to cultural prestige—a desire that could never be entirely fulfilled and thus took the compulsively recursive form of a repressed desire to achieve cultural status in the context of competing spectacles, where film and television dominated the American imagination.

Opera's intimate public constitutes a separate though related sphere with respect to the mass-mediated intimate public. To be sure, the ontology of opera is unstable. Is opera the mechanics of opera in performance or the metaphysical of opera in its "capacity to 'move' human thoughts and passions?"[78] With trends changing over time, it makes it difficult to pin down "what" of opera and the "we" of opera's intimate public. And yet, I want to make the distinction that there is in fact an intimate public whose shared identity is constituted by opera's long history as both a genre and an institution.[79] Critics from Edward Said to Theodor W. Adorno have singled out opera because of its formal and institutional uniqueness. With opera, they have surveyed a specific intimate public's affective and political constitution. Said calls opera a "highly

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to the surface of the text the repressed and buried reality of this fundamental history, that the doctrine of a political unconscious finds its function and its necessity" (Jameson, *Political Unconscious*, 4.
My own interest in Jameson's work has been the way it describes ideology as a collective desire. Ideology and utopia are always coupled in their desire for collectivity, and the "unconscious" part of the political unconscious is that we always desire collectivity. And Jameson is (funnily enough) more of a Freudian thinker than a Marxist one in the sense that he takes very seriously the "unconscious" part of the "political unconscious"—that the desire or wish fulfillment determines the psychic attachments for a collective; or, a collective cathects onto a certain utopia, and that process of cathexis is ideological.

[78] Carolyn Abbate, *In Search of Opera* (Princeton, NJ: Princeton University Press, 2001), 6. I borrow the exact phrase "the ontology of opera is unstable" from Martha Feldman and Judith Zeitlin's Winter 2023 course "Opera Across Borders." But I think we are all thinking alongside Abbate, who I've quoted, who has been thinking over the years about the (apparent) ineffability of music as it relates to the materiality of music. I add that the ontology of opera is unstable with a sense that opera is ineffable and material and the irreducibility of these two lines of thought are also at the heart of the relation between spectacle and spectator. In other words, opera's ontology like spectacle's strategy is unstable—a constant site of contest.

[79] Feldman, *Opera and Sovereignty*.

specialized form of aesthetic memory"[80] one with a deep history tied to imperial power and imperial forms of art. He writes, "Certainly it is the case that many of the great aesthetic objects of empire are remembered and admired without the baggage of domination…Yet the empire remains, in inflection and traces, to be read, seen and heard."[81] Adorno calls opera "the specifically bourgeois genre which, in the midst and with the means of a world bereft of magic, paradoxically endeavors to preserve the magical element of art."[82] Opera's generic function has deep ties to its institutional and social organization.

> In the nineteenth century, the bourgeois yearning for freedom had successfully escaped to the representative spectacle of opera, just as it had escaped to the great novel, whose complexion opera so frequently recalls. . . . It is precisely because opera, as a bourgeois vacation spot, allowed itself so little involvement in the social conflicts of the nineteenth century, that it was able to mirror so crassly the developing tendencies of bourgeois society itself.[83]

The paradox of modern opera is that it is a remnant of the historical bourgeois, and opera's attempt to remain autonomous from its bourgeois context makes it more capable of theorizing that specific collective (the "bourgeoisie" if you will) than the other forms of spectacle in this study. Adorno claims that where opera "seeks a solid representation of some so-called social problem…it falls victim to helpless and corny symbolizing."[84] He aligns with contemporaries like Jürgen Habermas, who explain the rise of mass media by invoking the decline of the bourgeois public sphere.[85] Analyzing the affective meaning of these operas gives us a sense of that intimate public's image of their own America.

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[80] Said, "The Imperial Spectacle," 98.
[81] Said, "The Imperial Spectacle," 104.
[82] Theodor W. Adorno, "Bourgeois Opera," in *Opera through Other Eyes*, ed. David J. Levin (Stanford, CA: Stanford University Press, 1993), 29.
[83] Adorno, "Bourgeois Opera," 36.
[84] Adorno, "Bourgeois Opera," 28.
[85] Jürgen Habermas, "The Public Sphere: An Encyclopedia Article (1964)," *New German Critique* 3 (Fall 1974): 49–55. Quoted in Smith, *Total Work of Art*.

Paying close attention to American opera allows me to narrow the wide scope of spectacle to a singular institution whose spectators can be defined as a kind of intimate public. Opera's intimate publics attach their identities to the cultural form, within which they can contest and reaffirm boundaries of nation, ethnicity, class, and gender. Opera's spectacular production circulates certain ideologies, truths that hold that intimate public together. And yet, opera like other media spectacle can fall short by failing to address the everyday structures of slow violence that subjugate the ordinary lives of spectators and performers.[86]

The chapters that follow tell a history about the US cultural response to nuclear technology and proliferation. Chapter 2 "Cold War Aesthetic Modes: Silence and Melodrama, 1945-1964" names the characteristics of spectacle in the immediate post-War era. Chapter 3 "*Einstein on the Beach* and the Nuclear Event" describes how opera's intimate public might begin to understand the nuclear event as an historical spectacle. Chapter 4 "Nuclear Myths in the American Frontier: *Doctor Atomic* in New Mexico" recounts the work of operatic spectacle in making and re-making fundamental myths of US empire. There are wide historical leaps from chapter to chapter, and while geopolitical contexts change over time, the aesthetic strategy of spectacle adapts to these historical developments.

In the immediate post-War and early Cold War eras, spectacles on film were in position to instill everything from political attachments to beliefs in military supremacy because of the

[86] I use the term slow violence as theorized in Hurley, *Infrastructures of Apocalypse*.. She writes, "The nuclear mundane is the slow violence of the atomic age; and like all slow violence, it distributes its damage unevenly" (14). Hurley cites Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge, MA: Harvard University Press, 2011).

medium's dominance in mass circulation during WWII.[87] The aesthetic strategy of spectacle was central to how security and citizenship were imagined. Chapter 2 centers the films *Dr. Strangelove; or, How I Learned to Stop Worrying and Love the Bomb* (dir. Stanley Kubrick, 1964), *South Pacific* (dir. Joshua Logan, 1958) and *On the Beach* (dir. Stanley Kramer, 1959). I compare these films with a number of the FCDA's public service announcements, including the famed "Duck and Cover" PSA featuring "Bert the Turtle." I propose that the overall aesthetic strategy of nuclear spectacle was formed along two lines: silence and melodrama. Silence denotes the system of secrecy necessary to maintain governmental control over information.[88] Again, following the work of Schwartz, I argue that "nuclear silence" represents both hegemonic repression and lack (or the presence of complete absence). I think about silence as it pertains to infrastructures of nuclear technology—the steady pulse of mining, highways, waste deposit sites does not sound any alarm until things go tremendously wrong.[89] I argue that silence's opposing aesthetic strategy is melodrama, the genre of emotional excess and political theater. Melodrama

[87] The study of film media *during* WWII is out of the scope of my study, so I turn to the work of film historians: Sumiko Higashi, "Melodrama, Realism, and Race: World War II Newsreels and Propaganda Film," *Cinema Journal* 37, no. 3 (1998), https://doi.org/10.2307/1225826; Lewis Jacobs, "World War II and the American Film," *Cinema Journal* 7 (1967), https://doi.org/10.2307/1224874; J. David Slocum, "Cinema and the Civilizing Process: Rethinking Violence in the World War II Combat Film," *Cinema Journal* 44, no. 3 (2005), http://www.jstor.org.proxy.uchicago.edu/stable/3661140. I also thoroughly enjoyed the Netflix docuseries outlining the battlefield work of John Ford, William Wyler, John Huston, Frank Capra, and George Stevens in Laurent Bouzereau, "Five Came Back," (USA: Netflix, 31 March 2017).

[88] Alex Wellerstein, *Restricted Data: The History of Nuclear Secrecy in the United States* (Chicago: The University of Chicago Press, 2021).

[89] For example, Three Mile Island. On this see: Natasha Zaretsky, *Radiation Nation: Three Mile Island and the Political Transformation of the 1970s* (New York: Columbia University Press, 2018). Or the radiation exposure on indigenous lands as expressed by groups like the Tularosa Basin Downwinders Consortium.

provided a sense of moral clarity during the Cold War because it drew lines between "good" and "evil" with stark clarity.

By 1976, the operatic spectacle provided a space of retrospective imagining, where creators and spectators alike could contest whether the nuclear event was a rupture in history or an ongoing historical condition. Chapter 3 revolves around the opera *Einstein on the Beach*, created by Robert Wilson and Philip Glass. Through close reading of the opera along with contextual archival and interview material, I consider how the nuclear age confronted new rationalizations of space and time. The nuclear age introduced a paradoxical temporality because the atomic bomb functions on the level of the moment and the millennia—both the moment of explosion and the ensuing millennia of radiation. This nuclear temporality had ramifications for the temporal and spatial possibilities in a cultural performance such as opera. *Einstein on the Beach* offered one way to make meaning long into the aftermath of events that precluded meaning, in the face of which opera's spectacular aesthetic proposed a certain utopia, if a bracketed one—a utopia in which we can *feel* our way through the nuclear event together.

In our own time, twenty-first century spectacle continues to grapple with the nation's nuclear history. The spectacle has at least as much power in an age of heightened terror, global capitalism, and information technology as it had during the Cold War. Grand operas (like Peter Sellars and John Adams' *Doctor Atomic*) and epic film (the upcoming Christopher Nolan biopic, *Oppenheimer*) confront our nuclear past, elevating historical figures like Robert Oppenheimer to hagiographic loftiness. Chapter 4 therefore focuses on the 2018 re-staging of *Doctor Atomic* at the Santa Fe Opera (SFO), which was less than 100 miles away from Los Alamos and 200 miles away from the original Trinity Test Site. SFO's *Doctor Atomic* exists within a network of institutions in northern New Mexico that continue to rely on nuclear techno-science. The opera's

spectacular account obfuscates the slow violence of nuclear infrastructure, such as radiation exposures due to uranium mining on and around the Navajo nation.[90] Having visited cultural sites in northern New Mexico, I present an ethnographic account of these institutions alongside my critical interpretation of the opera. I intend for the ethnographic study and close reading to substantiate the claim that spectacle in the twenty-first century continues to have deep political and material ramifications.

Overall, this project aims to show the continued reliance on spectacle as an aesthetic strategy to maintain ideological attachments with nuclear empire. The American imaginary about the bomb has evolved from one of subliminal awe to spectacular sublimation, from silent censorship to operatic admiration. One could say, following Stanley Kubrick and his invention Dr. Strangelove, that we have stopped worrying and learned to love the bomb.

[90] LaDuke and Churchill, "Political Economy of Radioactive Colonialism."

Chapter Two

Cold War Aesthetic Modes: Silence and Melodrama, 1945–1964

The horns call out the melody of the famous Civil War tune, "When Johnny Comes Marching Home." The drums keep the beat. Stanley Kubrick's 1964 critical and commercial hit, *Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb* (1964), ends with a literal bang.[91] A military march accompanies shots of the American B-52 heading towards its Russian target interspersed with shots of Major Kong desperately repairing the bomber's doors. If he can't get those damn doors open, not only will he fail his mission but he will fail his country. We hear the exchange between the navigator, co-pilot, and bombardier:

> Target distance, six miles.
> Roger. Six miles. False ident transponder active.
> False ident transponder active.

Their voices move to the background of the march, the sound of military jargon becomes another rhythmic counterpoint to the drum's steady pulse. As the B52 reaches its target, Major Kong unlatches the bomb doors and finds himself straddling the nuclear bomb as it is released. His cowboy hollers of "YAHOO!" shout out the soundtrack, but instead of music, we hear a deluge of wind and the bomber's jet engines. Major Kong whoops and bellows as he reaches earth atop the bomb that he rides like a bucking bronco.

The next frame is a blank one. No music or fabricated sound accompanies this split second.

Then, the flash of detonation, followed by the boom of the bomb's blast.

The realism of stock footage, likely documentation from one of many above-ground nuclear tests in the United States during this time, juxtaposes itself with what was previously a zany

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[91] Stanley Kubrick, "Dr. Strangelove or: How I Learned to Stop Worrying and Love the Bomb," (USA: Columbia Pictures, 29 Jan 1964), Film.

cowboy riding a replica bomb. Demarcating the boundary between suspenseful drama and realism, there is then silence and a blank frame. In this moment, like a held breath, what is to be is yet unknown, registered through silences that let us fill in what we suspect, what we anticipate. And so a narratological knowing begins. The nuclear silence is a lacuna—what fills it is the spectacle.

This chapter will outline the history of the US nuclear problem in the immediate post-War and early Cold War years. I argue that the aesthetic strategy of spectacle was central to how security and citizenship was imagined and describe how government officials set the policies that would shape the US position as a nuclear empire.[92] While most histories of the Cold War focus on those major historical figures, my historical narrative will offer an analysis of the cultural forms concerning the nuclear problem, including film, musical theater, and public service announcements, all of which register the values that the state assigns its citizens. Nuclear biopolitics comes into play here because the state determines who is a legitimate citizen deserving of security. Moreover, as I argue below, spectacularization of the nuclear problem by the United States served as a crucial aesthetic strategy, used to solidify the image of a secure nation.

The interventions offered here are therefore relevant for musicology, cold war studies, nuclear studies, and American studies. Musicology's Cold War narratives of music history focus heavily on the US/U.S.S.R. binary, only recently opening up to the so-called Third World.[93]

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[92] Berlant, *Queen of America*, 22. I derive my understanding of citizenship as an aesthetic and affective attachment to the nation-state from Berlant.
[93] Ronald Radano and Tejumola Olaniyan, eds., *Audible Empire: Music, Global Politics, Critique* (Durham, NC: Duke University Press, 2016); Manan Desai, "Korla Pandit Plays America: Exotica, Racial Performance, and Fantasies of Containment In Cold War Culture," *The*

Where the disciplinary focus has been primarily on the nation, nationalism, and transnationalism, this chapter will center empire. By doing so, it will broaden the relational field to include the hegemonic policies of nuclear nation-states. Moreover, where musicology has focused on the styles of modernism and socialist realism in ways that bolster the US/U.S.S.R. binary, this chapter centers the aesthetic modes of silence and melodrama to think about how each serve overall aesthetic strategies of spectacle. Moving beyond aesthetic style and style-history, the chapter evaluates a constellation of cultural objects produced in the forms of socially symbolic acts that reinforce narratives of US citizenship in this era.[94] American studies has long availed itself of the study of empire, but it has largely described imperial cultural objects rather than evaluating each object as, in Frederic Jameson's words, "dialectically transformed… no longer construed as an individual 'text' or work in the narrow sense, but … reconstituted in the form of the great collective and class discourses of which a text is little more than an individual parole or utterance."[95] I want to push the analytic impulse further to tell a cultural history attuned to the synchronicity of these cultural forms as nuclear spectacles and emphasize the importance of both

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Journal of Popular Culture 48, no. 4 (2015); Eduardo Herrera, *Elite Art Worlds: Philanthropy, Latin Americanism, and Avant-Garde Music* (New York: Oxford University Press, 2020); Ban Wang, "Third World Internationalism: Films and Operas in the Chinese Cultural Revolution," in *Listening to China's Cultural Revolution*, ed. Paul Clark, Laikwan Pang, and Tsan-Huang Tsai (New York: Palgrave Macmillan, 2016).

[94] Peter Schmelz citing Odd Arne Westad has emphasized that the Cold War was more about ideas and beliefs than about anything else, especially as these Cold War ideas dominated so-called Third World nations. Peter J. Schmelz, "Introduction: Music in the Cold War," *Journal of Musicology* 26, no. 1 (2009), https://doi.org/10.1525/jm.2009.26.1.3.
The term "socially symbolic act" comes from Jameson, *Political Unconscious*, 125. The term refers to a text's dialectical historicity as both diachronic (i.e., intertextual) and synchronic (i.e., ideological).

[95] Jameson, *Political Unconscious*, 76.
Central texts of American Studies that specifically address nuclear culture include: Henriksen, *Dr. Strangelove's America*; Elaine Tyler May, *Fortress America: How We Embraced Fear and Abandoned Democracy* (New York: Basic Books, 2017).

high culture and mass media in these spectacles of empire, which are imbricated in the lives and continued oppression of peoples within and outside of the US. My own narrative offers an evaluation of the aesthetic strategy, the "spectacle" that is intentionally tied to the national imaginary, which I then tie back to the political in showing how spectacle is imbricated in political history. By enlarging the scope to include contemporaneous nuclear events and expanding the relational field so as to consider spectacles beyond the stage, I show how these musical and spectacular cultural forms serve US imperial narratives.

The Nuclear Spectacle as Civic Obligation

On the evening of August 6, 1945, US President Harry Truman broadcast a special announcement.

> Sixteen hours ago an American airplane dropped one bomb on Hiroshima, an important Japanese Army base. That bomb had more power than 20,000 tons of T.N.T. It had more than two thousand times the blast power of the British "Grand Slam" which is the largest bomb ever yet used in the history of warfare.[96]

He spoke with a calm, tenor-pitched voice—his diction clear, his consonants carefully articulated. Compared to his predecessor Franklin Delano Roosevelt's mid-Atlantic baritone, Truman spoke with the lilt of his Midwestern childhood.

> The Japanese began the war from the air at Pearl Harbor. They have been repaid many fold. And the end is not yet. With this bomb we have now added a new and revolutionary increase in destruction to supplement the growing power of our armed forces. In their present form these bombs are now in production and even more powerful forms are in development.

[96] President Harry S. Truman Talks on Atomic Bombs, 6 August 1945, 2360 111-ADC-9865, National Archives, Moving Images Relating to Military Activities 1947-1964, Records of the Office of the Chief Signal Officer 1860-1985, College Park, MD.

Truman broadcast from the USS Augusta, somewhere in the Atlantic, recounting for the US continent the nuclear event off in the Pacific.

> It is an atomic bomb. It is a harnessing of the basic power of the universe. The force from which the sun draws its power has been loosed against those who brought war to the Far East.

Calmly and without ambivalence, he repeated the words "bomb" and "destroy." He spoke with the assurance that the American people, and perhaps he himself, needed to hear about the two billion dollar "scientific gamble" and the achievement of US *scientific* power in order to triumph over their Japanese enemies.

Information out of Japan about the experience of the nuclear bomb was repressed, censored heavily by the US government.[97] The fundamental "ur-spectacle" of the nuclear age, the first use of the atomic bomb in war, was one staged for the US enemy, not for its own citizens. Cultural critic Rey Chow emphasizes the decision to bomb a civilian city center rather than a military space since the former "was far more susceptible to demonstrating the upper ranges of the bomb's spectacular potential."[98] Meanwhile, the US public would remain largely unaware of "the bomb's spectacular potential" because most of the population received their news from newspapers and the radio.[99] According to a 1946 poll conducted by the *Bulletin of Atomic Scientists*, only a third of those surveyed remember seeing any footage of the bombing from newsreels or at the movies.[100] Nevertheless, these newsreels would have been highly censored

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[97] Chow, "Atomic Bombs, Alterity, Area Studies," 13.
[98] Chow, "Atomic Bombs, Alterity, Area Studies," 5.
[99] Sylvia Eberhart, "How the American People Feel About the Atomic Bomb," *Bulletin of the Atomic Scientists* 3, no. 6 (1947): 149, https://doi.org/10.1080/00963402.1947.11455875. According to the 1946 poll and survey run by the *Bulletin of Atomic Scientists*, 85% of those polled received their news and information about the atomic bomb through the radio, and a subset of 85% of those polled received their knowledge from the newspaper. Another 50% of those polled reported getting news from magazines.
[100] Eberhart, "American People Feel About Bomb," 168.

since footage of the American bombing was deemed highly classified.[101] Indeed, in the immediate aftermath of the war, the US public could only source their information from text or from acousmatic sources, what Michel Chion would term in this instance the *radio acousmêtre*, which grants Truman a certain authority when sharing the news about the overwhelming nature of this "ur-spectacle."[102]

Instead of disseminating the nuclear event among US citizens, various governmental, scientific, and journalistic organizations sought to document it through still photography and textual narrative. Two weeks after the bombing on Japan, LIFE Magazine included photos of the smokestacks over Hiroshima and Nagasaki, the latter of which look similar to the mushroom cloud more commonly associated with atomic bombs today.[103] The magazine thus attempted to convey to the American populace the damage wrought on the civilian populations. Yet still, foreign journalists were not allowed into Japan until September. Even with the war ending and the horrors of the bomb slowly being disseminated globally, the American public had to rely on stories and personal accounts. John Hersey's series of articles for *The New Yorker* magazine served to humanize the survivors' tales at Hiroshima.[104] To be sure, all accounts of the atomic

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[101] Greg Mitchell, "Hiroshima Film Cover-up Exposed: Censored 1945 Footage to Air," *The Asia-Pacific Jounral* 3, no. 8 (2005). General MacArthur imposed a ban on the dissemination and possession of materials relating to the bombings. John W. Dower, "The Bombed," in *Hiroshima in History and Memory*, ed. M. Hogan (Cambridge: Cambridge University Press, 1996). cited in Mark Silver, "Framing the Ruins: The Documentary Photographs of Yamahata Yosuke (Nagasaki, August 10, 1945)," in *Imag(in)ing the War in Japan: Representing and Responding to Trauma in Postwar Literature and Film*, ed. Mark Williams and David Stahl (Leiden, The Netherlands: Brill, 2010).

[102] Michel Chion, *The Voice in Cinema*, trans. Claudia Gorbman (New York: Columbia University Press, 1999), 21. Chion describes the acousmatic voice, specifically the "interdiction against looking," as the guarantor of authority transforming the voice into "the Master, God, or Spirit" (19).

[103] "War's Ending: Atomic Bomb and Soviet Entry Bring Jap Surrender Offer," *Life Magazine*, 20 Aug, 1945.

[104] John Hersey, "Hiroshima," *The New Yorker* (New York, NY), 24 Aug 1946.

bomb are mediated—technologically and narratively—but the extreme censorship of on-the-ground footage for the US public meant that the violence from the atomic bomb was perhaps too overwhelming, *too* spectacular.[105]

As the US nuclear arsenal multiplied and the public grew more aware of the destructive power of the atomic bomb, government leaders had to decide what kind of protection to provide the nation's citizens and, more importantly, what security would look like. In 1951, President Truman established the Federal Civil Defense Administration (FCDA) to proactively address the need for civil defense, "designed to protect life and property in the United States in case of enemy assault."[106] Notably, President Truman's statement emphasized the fact that responsibility for civil defense would be vested primarily in the individual states, calling on "all citizens to lend their support to civil defense in their own communities."[107] The move away from federal oversight and toward individual and local responsibility was a response to anti-government

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[105] In Wellerstein's historical account, he lays out the meticulous planning that General Groves undertook to "control the narrative" (as the saying goes). "Such was the seemingly paradoxical nature of these "publicity" statements: they advertised their revelations along with the fact that they were holding back vast, powerful "secrets." The explicit purpose of this sort of statement was in warning newsmen and project participants to tread carefully. More implicit was a reinforcement of a new mystique, part of the "special" aura of the bomb" Wellerstein, *Restricted Data*, 121. Given the lack of certainty around the effects of radioactivity, Groves was especially keen to coordinate the publicity around the use of the atomic bomb. He pushed the idea that the bomb helped end the war for the American people, and he avoided discourse about the violence done to the Japanese civilians. Wellerstein writes: "During the American occupation of Japan (1945–1949), US forces under General MacArthur exerted heavy censorship over both materials published within Japan and materials that could leave Japan. The atomic bombings were considered a particularly sensitive topic, as American officials believed that dwelling on them could incite Japanese enmity against the US. Real discussion about the legacy of Hiroshima and Nagasaki, and the question of long-term effects, were stifled within the country after the United States returned control to Japan and would especially flourish after the 1954 "Bravo" accident invigorated Japan's sense as a "nuclear victim" (129).

[106] Harry S. Truman, "Statement by the President Upon Signing the Federal Civil Defense Act of 1950," news release, 12 January, 1951, https://www.trumanlibrary.gov/library/public-papers/10/statement-president-upon-signing-federal-civil-defense-act-1950.

[107] Truman, "Statement by the President."

attitudes because "big government" was believed, or alleged, to be tied to communist and socialist ideology.[108] In order to moderate the public's reaction to the overwhelming images of atomic bombs and mushroom clouds, the FCDA began to broadcast its own public service announcements.

As Joseph Masco writes, televised nuclear tests made a "kind of national spectacle [grounding] the experimental work of weapons scientists in both Cold War politics and nuclear fear."[109] Indeed, the two were inseparable. The FCDA's broadcast called "Operation Cue" referred to the nuclear test "Apple II," which was a single bomb test under the larger umbrella of nuclear tests named "Operation Teapot." "Apple II" was detonated on 5 May 1955, and televised live. The "Apple II" nuclear test sought answers about the effects of an atomic explosion on various types of households and utilities like powerlines and gas tanks. The nuclear test also included food testing to better understand the effects of an atomic blast and fallout on emergency rations. The PSA transpires as such:

> A trumpet fanfare accompanies the fade-in of the FCDA's official seal. The fanfare initially sounds like a military flourish, but as it progresses to the cadence the fanfare modulates to something more "Hollywood"—the music more noir than fanfare, more civilian than military. A deceptive cadence. No music accompanies the narrator's opening: "In the picture we are about to see, we must remember that the explosive power of the atomic bombs used in this test was in the kiloton range. The explosive power of today's hydrogen bomb is measured in terms of megatons."[110] Continuing on in the dry, matter-of-fact tone, the narrator outlines the mathematical differences between the atomic bomb and the hydrogen (that is, thermonuclear) bomb. The lack of musical orchestration, the silent mise-en-scène, signals the gravity of the facts being shared. Then, another orchestral flourish introduces a panoramic shot of the blue skies and burnt desert of the Nevada test site.

[108] May, *Fortress America*, Ch 1.
[109] Masco, *Nuclear Borderlands*, 67.
[110] U.S. Federal Civil Defense Administration, "Operation Cue," (United States, 1955). The description here is my own.

Earning the nickname “Survival Town” and “Doom Town,” the test site’s physical structures were built at one-mile radius around the anticipated explosion’s epicenter. The homes were completely furnished, and housed mannequin families, figurative (and plastic) nuclear families.

> After a blinding white light is seen, footage of the damage to “Doom Town” plays one after another, the last of which features the mannequin of a child set next to a window. The musical accompaniment, in an ominous minor key, punctuates each building’s destruction and fall, adding a sonic commentary on the wreckage of Doom Town and the hypothetical demise in the aftermath of a nuclear attack.

The most spectacular presentation of nuclear technology was the televised broadcast of nuclear tests. These broadcasts incorporated all the elements of spectacle—the necessary yet alarming dissemination of information, a melodramatic soundtrack, and a narrative that enjoined individualist responsibility. Reports indicate that nuclear test broadcasts reached 35 million Americans.[111] By the mid-1950s, in early Cold War America, the spectacle of nuclear technology found an advantageous medium in the television broadcast. Coupled together, the medium of television and the sheer power of the spectacle could reach individual households in the ever-growing suburbs. Because the broadcast quality varied across households, the immediate dangers of nuclear annihilation seemed distant—technological mediation aided in the phantasmatic spectacle.

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[111] Alexander Thimons, "Blurred Visions: Atomic Testing, Live Television, and Technological Failure," *Journal of Film and Video* 72, no. 3/4 (2021). Thimons work adds to a long discourse of the role of television and liveness at the heart of these nuclear (and otherwise) spectacles. Writing specifically about the failure of these televised broadcast to relay a sense of “liveness,” Thimons argues: “these broadcasts complicate theories of television liveness by foregrounding a distinction between two possible loci of indeterminacy in a television broadcast: the indeterminacy of the event unfolding before television cameras and the indeterminacy of the signal within the transmission channel. In the test broadcasts, this latter site of indeterminacy thematizes the indeterminacy of the former, highlighting the randomness at the heart of nuclear annihilation, which the broadcasts otherwise obscure. The test broadcasts, therefore, are unique among the array of early Cold War nuclear media because they used the contingencies of a failed televisual technology to expose an analogous contingency immanent in nuclear weapons technology” (103).

Above-ground testing was "intimately connected" to the geopolitics of the early Cold War (1945-1962).[112] The simultaneity of learning of the existence of nuclear weapons and learning of how lethal they were made for a fearful atmosphere in the immediate post-War and early Cold War eras.[113] In 1951, Los Alamos weapons scientist Ted Taylor described the nuclear tests of Operation Greenhouse on the Enewetak Atoll, located among the Marshallese Islands.

> It was extremely exciting, including many hours of floating in the lagoon with snorkel and face mask, watching countless numbers and varieties of tropical fish so close that one often touched them. The explosion was every bit as awesome as I had expected—roughly five times as big as the one that destroyed Hiroshima. . . .instant light, almost blinding through the goggles, and the heat that persisted for a time that seemed interminable. I was sure I was getting instant sunburn. . . . I had forgotten about the shock wave, a surprisingly sharp, loud crack that broke several martini glasses on the shelf on the beach house bar. The sight was beautiful at first, in an awesome way, then turned ugly and seemed threatening as the gray-brown cloud spread and began drifting towards us. I tried hard to shake off the feelings of exhilaration, and think about the deeper meanings of all this, without success. It was just plain thrilling.[114]

The sight was beautiful at first, in an awesome way, then turned ugly. Taylor's reminiscence resonated with the paradoxical feelings of hope and horror instilled during the atomic age. He described his aesthetic judgment, the perception of the nuclear test's spectacular form, and its effect on him as "just plain thrilling." Though he tried to "think about the deeper meanings of all this," he submitted himself body and soul to the spectacle.

Taylor's engagement with the bomb, though specialized and unique given his work as a nuclear physicist with Los Alamos laboratory, reproduces a generalized feeling about the nuclear spectacle among the US Public, who became spectators to the phantasmagoria of the nuclear sublime, disregarding the bodies at work and those displaced in order to make the spectacle

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[112] David M. Blades and Joseph M. Siracusa, *A History of U.S. Nuclear Testing and Its Influence on Nuclear Thought, 1945-1963* (Lanham, MD: Rowman & Littlefield, 2014, 2014), xii.
[113] Gaddis, *We Now Know*, 85.
[114] Masco, *Nuclear Borderlands*, 61-62.

happen. The post-War era was a time for reimagining US citizenship, requiring "the orchestration of fantasies about the promise of the state and the nation to cultivate and protect a consensually recognized ideal of the 'good life,'" a life safe from fallout and atomic bombs.[115] In return for state-backed security, citizens were asked to love their country and recognize certain stories, events, experiences, practices, and ways of life that related to the core of who they were. These nuclear spectacles were and remain an integral part of the stories that the nation-state tells about its own citizenship in the early Cold War.

Nuclear culture has been outlined as inherently theatrical by Tracy C. Davis, whose work insists that the regimes of Cold War nuclear civil defense were inherently and crucially theatrical, especially performative in their emphasis on rehearsal.[116] If citizens rehearsed their way through disaster scenarios, then when the real bomb was dropped, they could be prepared to perform, to survive.[117] By centering the theatricality of civil defense, Davis exposes the necessary spectacularity of nuclear culture.

> While I accept the theater scholar's claim that there is a threshold between rehearsal and performance, I take the performance scholar's part in asserting that rehearsals are events in their own right, and insist, in opposition to most historians, that rehearsal is a viable category for explaining an empirical testing-out, that play-acting a possible future is significant evidence of how civil defense planning is expressed through emplotment, and that producing 'knowledge' about this particular kind of future through embodied exercises is an important aspect of Cold War history.[118]

Davis sets an example for writing Cold War cultural history that emphasizes the phenomenological aspects of living through the nuclear event. These civil defense rehearsals are

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[115] Berlant, "Citizenship," 44.
[116] Tracy C. Davis, *Stages of Emergency: Cold War Nuclear Civil Defense* (Durham, NC: Duke University Press, 2007), 2.
[117] Davis, *Stages of Emergency*, 23.
[118] Davis, *Stages of Emergency*, 88.

not performative speech acts, in the Austinian sense, but rather the embodiment of new meanings for being in the nuclear age and the very futurity of the human condition. For example, one of Davis' case studies "Operation Alert" (OPAL), reached nearly a quarter of the US population, but insofar as it instituted emergency drills and exercises the necessary facilities—like fallout shelters—were not built for the masses.[119] Through the pageantry of drills, nuclear culture built structures of feeling while the nation-state lacked the necessary infrastructures for protection.

Regarding nuclear spectacles, this also included the public service announcement and civil defense drills. Citizens could cultivate a sense of safety through these spectacles, which were made by leaders of the nation-state for those that are sufficiently able-bodied and "mentally tough" to survive nuclear annihilation. The effect of these spectacular drills allowed the nation-state to recuse itself from material responsibility to both its citizens and the non-citizens that it had displaced. The circulation of nuclear images like the mushroom cloud and the phallic-shaped bombs also contributed to the sense of safety that the public shared.

Discourses of security studies have tied theatricality to the Cold War era's core act of governance and technological practice.[120] Joseph Masco claims that "it became a civic obligation to collectively imagine, and at times theatrically enact, the physical destruction of the nation-state."[121] Davis' work argues that the FCDA drills and public service announcements exemplifies the phenomenological aspect of the new security state. Security studies has focused on media (and the study of media) as essential to the circulation of nationalist fantasies—images of the protected nation and safe citizens.

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[119] Davis, *Stages of Emergency*, 33.
[120] My understanding of "security studies" and its genealogy come from Inderpal Grewal, *Saving the Security State: Exceptional Citizens in Twenty-First-Century America* (Durham, NC: Duke University Press, 2017).
[121] Masco, *Theater of Operations*, 46.

In these years 1945-1964, nuclear spectacles "colonized everyday lives" by seizing the attention of ordinary people. Marxist theorist Walter Benjamin had observed the rise of fascism in conjunction with the "aestheticization of politics."[122] Returning to Benjamin's theories, critic Susan Buck-Morss argues that art must do more than be a vessel for a better politics by undoing "the alienation of the corporeal sensorium" so as "to *restore the instinctual power of the human bodily sense for the sake of humanity's self-preservation*."[123] The circulation of the mushroom cloud image dominated the vision of life in the atomic age. From civil defense drills to televised weapons testing, spectators received the nuclear spectacle with few objections.[124]

Spectacles, like the broadcast of Operation Cue, stultify the spectator's emotions—they are left awe-struck. The state of awe, however, does not mean that there are cathartic affects produced in its wake.[125] Left in a stupor, the spectator can do nothing but gawk, wonder in amazement. At best, the spectacle in its modes of melodrama and silence can arouse feelings of fear and sympathy, but its finest work is the razzle-dazzle, its sleight of hand: Look over there! It's a mushroom cloud! And behind the magician's back, the hand deals destruction to lands in the Marshallese Islands and the desert landscapes of Southwestern US

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[122] Susan Buck-Morss, "Aesthetics and Anaesthetics: Walter Benjamin's Artwork Essay Reconsidered," *October* 62 (Autumn 1992): 4.
[123] Buck-Morss, "Aesthetics and Anaesthetics," 5. Emphasis Morss'.
[124] Certainly, there were objections to the US's growing nuclear arsenal. One of the major groups protesting nuclear proliferation was the union of concerned scientists, including many of the scientists who worked on the Manhattan Project. Dexter Masters and Katharine Way, eds., *One World or None: A Report to the Public on the Full Meaning of the Atomic Bomb* (New York: New Press, Distributed by W. W. Norton & Co, 2007); Spencer R. Weart, *The Rise of Nuclear Fear* (Cambridge, MA: Harvard University Press, 2012); Odd Arne Westad, *Reviewing the Cold War: Approaches, Interpretations, Theory* (London: Frank Cass, 2000).
See also the decades-long activist work of such groups like the Ploughshares Fund. https://ploughshares.org/about-us
[125] Here I'm thinking with Ngai's Ugly Feelings, specifically "stuplimity." Sianne Ngai, *Ugly Feelings* (Cambridge, MA: Harvard University Press, 2005).

Silence

Two anecdotes demonstrate the dualistic nature of nuclear silence, which is rooted in the years of World War II. The first, the regime of silence practiced by citizens, and the second, the sublime silence after the first atomic bomb explosion, each of which conveys the nature of silence, which registers as lack and as repression.

During the World War, the American public's attention was diverted east and west, as news poured in about troops in Europe and in the Pacific theater. As they looked beyond the continent, fellow citizens were hard at work on a top-secret mission that would end the war. Now known as the Manhattan Project, the operation spanned the continental US as uranium was mined in the desert of the four corners (also known as the Navajo Nation), enriched in Tennessee, refined into plutonium in Washington state, experimented on in Los Alamos, New Mexico, and tested in the empty deserts of Nevada.[126] The Manhattan Project required extensive secrecy and silence, such that most ordinary workers in the enrichment plants did not even know that they were working with radioactive material.[127] Wellerstein recounts the history of secrecy and confidentiality around the Manhattan Project: "the expansive wartime secrecy infrastructure created by the military and civilian authorities working on the Manhattan Project would signal things to come in the postwar period, and the myths of its success would be foundational to the creation of a

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[126] Selected source documents can be found in Kelly, *Manhattan Project*.
The Atomic Heritage Foundation has also curated a map with the ALSOS Digital Library for Nuclear Issues. The map shows the expansive network of sites under the umbrella of the Manhattan Project. Unfortunately, the site is now censored due to "security issues."
I have found Michael Bull's work on air-raid sirens and the discipline of listening to be a kind of silent practice. In other words, while citizens listen for bombers or sirens they are attuned to silence. In this instance, silence marks the boundary of safety (we are safe in this silence until we hear the sound warning us that we are not safe). Michael Bull, "Listening to the Sirens," in *Sound Objects*, ed. James A. Steinrager and Rey Chow (Durham, NC: Duke University Press, 2019).
[127] Kate Brown, *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters* (Oxford: Oxford University Press, 2013).

new national security state.[128] Silence was a necessary aesthetic mode during the war, and it would set the sonic stage for the Cold War to come.

My conception of silence is as much symbolic as it is acoustic. Witnessing the Trinity test on 16 July 1945, weeks prior to the use of the atomic bomb, Edwin M. McMillan, a physicist at Los Alamos laboratory, recalled:

> The whole spectacle was so tremendous and one might almost say fantastic that the immediate reaction of the watchers was one of awe rather than excitement. After some minutes of silence, a few people made remarks like, "Well, it worked," and then conversation and discussion became general. I am sure that all who witnessed this test went away with a profound feeling that they had seen one of the great events of history.[129]

Silence accompanied the viewers' awe, but it was also attributed to the physical nature of the bomb. Nearly ten miles away, Enrico Fermi saw the blast immediately, felt its explosive pressure wave forty seconds later, and would have heard the rumble one minute and thirty seconds afterwards.[130] Because light travels faster than sound, the witnesses saw the detonation before they heard it. In that one minute and thirty seconds, they experienced the sublime silencing force of their atomic experiment.

As knowledge about nuclear weapons science began to circulate in the public, silence began to name the lack of public outcry in the wake of the growing power and number of nuclear weapons. In 1946, the *Bulletin of the Atomic Scientists* created the Committee on the Social

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[128] Wellerstein, *Restricted Data*, 52. Chapter 2 in Wellerstein's monograph focuses on General Groves' ability to maintain confidentiality around the Manhattan Project. According to Wellerstein, "Groves' approach was more active and aggressive: what he wanted was a full counterintelligence effort that would constantly monitor existing security practices for violations and actively search out cases of attempted sabotage or espionage. Eventually, Groves' security plan would even have its own semi-autonomous domestic and foreign intelligence wings that would report only to him" (63). Groves' authoritarian practices ensured a buffer of silence around the Manhattan Project.

[129] McMillan quoted in Kelly, *Manhattan Project*.

[130] Fermi quoted in Kelly, *Manhattan Project*.

Aspects of Atomic Energy to conduct social science research on the American public's reaction to the nuclear problem. Using methods of polling and surveying, the social scientists targeted a public prior to the impending Trinity Test. During this time, when the US was a nuclear monopoly, those surveyed did not prioritize the threat of the bomb in their day-to-day lives.[131] One survey response offered the view that "there is no use worrying about something you can't help."[132] When by 1959 the US was no longer a nuclear monopoly, two out of three Americans listed the possibility of nuclear war as the nation's most urgent problem. Historians have suggested that rather than indicating complacency, nuclear silence came from a place of deep-seated horror.[133]

Jessica Schwartz calls this silence "nuclear silence" and argues that silence defines the aural culture of the nuclear age.[134]

> The nuclear threat was the threat of eternal, absolute silence, an infinite finitude not just for mortal 'men' but also for the species and the planet. The sounds and music that tried to make this silence positive anxiously erased this silence in anticipation of future silences.[135]

Schwartz's study emphasizes silence as an aesthetic, sensory mode that was coupled with a biopolitics of repression. Schwartz emphasizes nuclear culture as a sonic culture "because of the conspicuous manipulation of silence" necessary for the nuclear empire's control of both its citizens and subjects abroad, notably the indigenous populations of the Marshallese Islands

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[131] Eberhart, "American People Feel About Bomb," 146.
[132] Eberhart, "American People Feel About Bomb," 148.
[133] Here Elaine Tyler May cites Paul Boyer and Robert J. Lifton. Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* (New York: Basic Books, 1988), 26.
[134] Schwartz, *Radiation Sounds*, 22; Jessica A. Schwartz, "Resonances of the Atomic Age: Hearing the Nuclear Legacy in the United States and the Marshall Islands, 1945–2010" (PhD Diss., New York University, 2012), 1-2.
[135] Schwartz, "Resonances of the Atomic Age," 16.

rooted out for the sake of US nuclear expansion.[136] But Schwartz also utilizes "silence" as a way to understand trauma in the nuclear age, especially the trauma inflicted on and felt by the Marshallese.

Military leaders in Washington announced in 1946 that the US would begin conducting atomic tests at Bikini Atoll in the Marshall Islands. A live broadcast was scheduled, and popular news sources like *LIFE* magazine began to run stories about the idyllic "Atom Bomb Island." In the 25 March 1946 issue of *LIFE*, the major story on these atom bomb tests did not fail to mention the 167 natives of Bikini that were made refugees, and the tone of the article criticized the colonial and imperial nature of the US relation to Bikini and the Marshall Islands. Though military officials testified that the explosive tests at the Bikini Atoll were not a gesture of war or intimidation contra the Soviet Union and communism, they delivered what was nonetheless received as an aggressive message from the US.[137]

The image of the mushroom cloud over Bikini Atoll and the idea of a lost paradise resonated beyond geopolitical and military strategy. Popular culture began to flourish around the spectacle, including a French swimsuit atelier introducing the two-piece "bikini" and the Ziegfeld Follies' "Miss Atomic Bomb pageant."[138] The anthropomorphic sexualization of the atomic bomb tests in the Marshall Islands contributed to the silencing and continued displacement of the indigenous populations.[139] These tropical frontiers contrasted the safe suburban utopia of the continental US as the call of the exoticized island embedded itself into the national imaginary.

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[136] Schwartz, *Radiation Sounds*, 5.
[137] Richard Rhodes, *Dark Sun: The Making of the Hydrogen Bomb* (New York: Simon & Schuster, 1995), 262.
[138] Traci Brynne Voyles, "Anatomic Bombs: The Sexual Life of Nuclearism, 1945–57," *American Quarterly* 72, no. 3 (2020), https://muse-jhu-edu.proxy.uchicago.edu/article/765827.
[139] Schwartz, *Radiation Sounds*, 23.

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"You listen, you hear island call to you," the character "Bloody Mary" tells the young romantic, Lieutenant Joe Cable in *South Pacific*.[140] The musical motif that signifies "Bali Ha'i," the imaginary tropical island home to the Tonkinese people indigenous to the Pacific archipelago, floods the orchestration. A simple octave followed by a half-step down, the repetition of the motif creates a musical suspension evoking an un-homely feel, the chromatic melody suggestive of the exotic, far-away, and unfamiliar. Bloody Mary slides into the renowned song, "Bali Ha'i."

> Mos' people live on a lonely island
> Lost in the middle of a foggy sea
> Mos' people long for anudder island
> One where dey know dey would lak to be
>
> Bali Ha'i may call you,
> Any night, any day.
> In your heart you'll hear it call you
> 'Come away, come away'
>
> Bali Ha'i will whisper
> On de wind of de sea
> 'Here am I, you special island
> Come to me, come to me!'

An off-stage women's chorus joins the orchestral accompaniment, adding to the haunting character of the lyrical song. The exoticized women's voices direct Lt. Cable and his fellow American officers to listen for the silent (or silenced) call of the island, which itself symbolizes pure desire and an escape from the ongoing war.

Rodgers and Hammerstein's *South Pacific* premiered in 1949, an instant hit in New York City's Broadway. Oscar Hammerstein wrote the musical's book (i.e., libretto) based on the

[140] Joshua Logan, "South Pacific," (USA: 20th Century Studios & The Samuel Goldwyn Company, 19 Mar 1958), Film.

Pulitzer-prize winning collection of stories *Tales of the South Pacific* by James A. Michener. The themes of racial intolerance, postwar colonialism, gender inequality, and the changing image of US business piqued Hammerstein's interest, but ultimately the Broadway duo prioritized entertainment at the expense of overt social critique.[141] As critic Brooks Atkinson wrote in his review for the *New York Times*, "Fortunately for the theatergoer the authors of 'South Pacific" are not trying to win a medal for culture, but to delight Broadway, which is a fairly stubborn community."[142] Nearly a decade later, the movie version of the musical was made in dazzling technicolor. It received critical acclaim and popular admiration, bringing Rodgers' melodies and Hammerstein's social commentary to a wide audience in the US and across the globe.

At the heart of the issue of racial intolerance is the romance between Lt. Cable and Bloody Mary's daughter Liat. Portraying a love story between a white US soldier and a non-white woman from the Asiatic Pacific addressed the anti-Asian sentiments that had roots in anti-Japanese hate during WWII.[143] Ultimately, the romantic plot is meant to challenge post-War views of race relations and laws on miscegenation.[144] And yet, the plot can only do so much in fostering empathy for Liat and her fellow Tonkinese people. Though Lt. Cable struggles internally over his racialized desire, both the novel and the musical never portray Liat's point of view.

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[141] Jim Lovensheimer, *South Pacific: Paradise Rewritten* (New York: Oxford University Press, 2010).
[142] Brooks Atkinson, *New York Times* (New York), 17 April 1949.
[143] John W. Dower, *War Without Mercy: Race and Power in The Pacific War* (New York: Pantheon Books, 1986). Dower's work is seminal in US history studies for being one of the first historiographies of WWII to center racism on the Pacific front.
[144] For more on the history of miscegenation laws and the culture of racialization in the US see: Mary Dudziak, *Cold War Civil Rights: Race and the Image of American Democracy* (Princeton, NJ: Princeton University Press, 2000); Peggy Pascoe, *What Comes Naturally: Miscegentation Law and the Making of Race in America* (New York: Oxford University Press, 2010).

Liat's status as a silent character is exacerbated during the song "Happy Talk," in which her mother Bloody Mary sings to Lt. Cable about their happily-ever-after if he were to accept Liat in marriage.

> Happy talk,
> Keep talkin' happy talk
> Talka about t'ings you'd like to do.
> You got to have a dream
> If you don't have a dream
> How you gonna have a dream come true?

Bloody Mary entices Lt. Cable with a life in paradise as "a dream come true." Meanwhile, Liat pantomimes the lyrics of the song in a childlike manner. The full script for stagehands calls Liat's gestures "finger business"—with "happy talk" she points to her smile, with "keep talkin' happy talk" her hands mime a chattering mouth. The infantilizing performance adds to her portrayal as a silent, submissive future wife for Lt. Cable and perpetuates the stereotype of the silent, submissive Asian and Pacific Island woman. Taking this analysis further, I argue that Liat symbolizes the Westernized view of indigenous Pacific islanders as avocal, in particular lacking political voice.[145] Liat's silence is emblematic of the silence used to control bodies and information in both the US and its expanding Western frontier.[146]

While Liat awaits a future in silence, her counterpart, Navy nurse Nellie Forbush, depends on a future that is dependent on another voice, that of her lover Emile De Becque. Lt. Cable and De Becque have gone on a reconnaissance mission to scout out enemy territory. Crowded around a radio, the leaders at the Navy base listen intently for De Becque's transmission. Notably, the

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[145] Jessica Schwartz, citing Patty O'Brien's *The Pacific Muse*, writes about the exoticization and marginalization of island "native women" dating back to European Enlightenment. The connection further solidifies the long durée of ideas that keep indigenous islanders oppressed under the weight of Western imperial control. Schwartz, *Radiation Sounds*, 11.
[146] Schwartz, *Radiation Sounds*, 23.

cinematic framing of this scene centers on the men around the radio with Nellie standing by in the adjacent room, as if to emphasize the men's association with *radio acousmêtre* and the women's association with silence. De Becque's voice breaks through, and he reports on enemy planes. The reconnaissance team stops in silence, listening as enemy planes above shift from their flight drone to ammunition shelling. As they run for cover, they lose radio transmission. Off camera and off air, Lt. Cable is killed. De Becque finds one more moment to update the base with the news, and not unlike President Truman's 6 August 1945 address, De Becque's is another acousmatic voice disclosing the report of a far-off death. Nellie is the one to break the news to Liat and Bloody Mary. Liat reproduces acoustically and symbolically the silent and silenced indigenous bodies under nuclear empire. Instead of consummating a loving and child-bearing marriage with her American lover, she has to confront his death when he is killed. Liat is then passed on to the French planters of the island, themselves coded as ethnic others in the US-centric musical. Liat's viability as a vessel for reproduction is terminated such that she no longer threatens the social order with the possibility of birthing mixed-race offspring. As the US empire cut off the Marshallese Islanders' access to sovereignty and social reproduction, Liat finds herself cut off from social and biological reproduction.[147]

The aesthetic mode of silence is both a symbol of and a tool for hegemonic control. The musical *South Pacific* gestures toward the former, as Liat and her fellow Tonkinese are subjected to the US Navy's occupation. On the other hand, the covert nature of the Manhattan Project and the continued private classification of the military's use of nuclear weapons science signals the

[147] Here, I am thinking about how sexual reproduction is intimately tied to racial capitalism, as theorized by numerous historians of Atlantic chattel slavery. Shauna J. Sweeney, "Gendering Racial Capitalism and the Black Heretical Tradition," in *Histories of Racial Capitalism*, ed. Destin Jenkins and Justin Leroy (New York: Columbia University Press, 2021); Saidiya Hartman, "The Belly of the World: A Note on Black Women's Labors," *Souls* 18, no. 1 (2016).

nation-state's reliance on silence. Silence is especially interesting in the immediate post-War context, which was inundated with the acousmatic voices of radio and even film, voices that derive their power from being heard but not (always) seen. The thing unheard, and sometimes unseen, is implicated in powerlessness. Especially as US sovereignty expanded westward, the nuclear empire took advantage of the aesthetics of silence in coordination with the overtly unsilent, the excessive style of the melodramatic.

Melodrama

Stanley Kramer's *On the Beach* (1959) delivers a celebrity-packed, entertaining yet critical view of the contemporary nuclear problem.[148] The film is based on the 1957 novel by Nevil Shute and follows Gregory Peck's Captain Dwight Towers, who is captain of the last surviving nuclear submarine of the US Navy. Set in Australia during a post-nuclear war situation, the plot depicts the last surviving enclave of society, whose lives are threatened by the impending radiation fallout. With the last remnants of human life on the verge of extinction, Capt. Towers ventures out with his crew to find a place on earth safe from radiation. When their expedition finds no promising safety in the northernmost parts of the globe, the American crew returns to Australia to live out the rest of their numbered days. The film and novel both end in a mass suicide, for which the Australian government provides "special pills" to citizens. Kramer's filmic adaptation of Nevil Shute's novel emphasizes the anticipation of this profound loss in a way that belies the novel's appeal to generic realism. Sharon Marcus's reading of the novel addresses Shute's anti-modernist appeal "to make the strange familiar."[149] She argues that Shute achieves a

[148] Stanley Kramer, "On the Beach," (USA: United Artists, 17 Dec 1959), Film.
[149] Sharon Marcus, "Reading as if for Death," *Critical Inquiry* 48, no. 3 (2022): 442.

kind of defamiliarization "not through choices that disrupt automatism," which an author like Leo Tolstoy might have employed, but rather "by dilating upon the mundane events that prevail even in the shadow of apocalypse."[150]

The biggest difference between the novel and the film concerns the kind of relationship between Moira and Dwight. While the novel operates in the register of realism in which humanity is doomed, the film instead centers the love plot between Capt. Towers and his Australian love interest Moira Davidson (played by Ava Gardner), deploying melodrama as an aesthetic mode for social commentary. The novel portrays their relationship as romantic but non-erotic, the film implies their shared romance and desire. In interviews done after the film's premiere, Shute protests the changes in the film, disagreeing with its watered-down depiction of radiation sickness. And the most egregious change lay in the depiction of Moira and Dwight's relationship as a sexual one. In the novel, Dwight remains chaste to honor his late wife whom he believes to have perished in the nuclear war while he was deployed. Kramer's choice to make the central romantic relationship one of desire speaks to the public's taste for filmic melodrama.[151]

Instead of the nuclear problem being at the center of critique, bourgeois loss—the loss of romantic love, the loss of safe homes to raise children, and the generalized loss of social reproduction—are made central. Towards the end of the first act of the film, Dwight and Moira, having established a potential romantic connection, address the nature of their romance.

> M: You know, I think I've discovered why you fascinate me. Shall I tell you?
> D: Uh-huh.

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[150] Marcus, "Reading as if for Death," 442.

[151] Kramer's wife, Karen Sharpe Kramer, defends her husband's choice adding "I don't think you can have a platonic relationship for two solid hours when you have the end of the world. You have to have *something* to give the audience to really care about those people." Quoted in Beverly Gray, "The Continuing Relevance of 'On the Beach'," *Bulletin of the Atomic Scientists* (3 August 2015), https://thebulletin.org/2015/08/the-continuing-relevance-of-on-the-beach/.

M: Because you take me for granted. I know women aren't supposed to like that sort of thing, but somehow I do. I've been treated in every other way—like a child and sometimes like… like things I've probably deserved. But I've never been pushed around in such a nice way, and treated something like a wife. I suppose what I mean is…like an American wife.
D: Moira, this isn't going to do us any—
M: No, hear me out. I was hurt at first when I realized you were mixing me up with Sharon. And then I realized that it was one of the nicest things that could happen to me. I wouldn't really mind if you could forget entirely who I am. I don't like myself very much anyway. Wouldn't you like to try?
They pause as if to kiss.
D: No.
M: It seemed like a good idea. I suppose it wasn't. There's a train leaving at 10:50. I think I'll take it.
Moira rushes off and Dwight chases her to the station, stopping her before she can leave.
D: You see, in the Navy, during the war, I got used to the idea that something might happen to me, I might not make it. I also got used to the idea of my wife and children safe at home. They'd be all right, no matter what. What I didn't reckon with was that in this, this kind of monstrous war, something might happen to them and not to me. Well, it did. And I can't cope with it.

During Dwight's emotional speech, the camera focuses closely on his facial expressions with Moira's face in the foreground. The camera pans away when Moira finally runs off to catch her train, Dwight never stopping her. Here, the love plot mobilizes the sense of emotional authenticity by averting the geopolitical context of a post-nuclear annihilation.[152] The melodrama's love plot allows the audience to "route its optimism toward affects and aesthetics as against the conventionally political."[153] In this moment, the factor denying Moira access to the good life is not the geopolitical situation but rather the emotional hang-ups of Dwight, weighed down by the emotional baggage of having lost his entire family. Through the melodramatic, the film upholds what Berlant would call the "promise of the good life" as the liberal form of social reproduction. Thus, the critique of nuclear annihilation is not that it has destroyed life but rather that it has destroyed the promise of the good life.

[152] Berlant, *Female Complaint*, 70. Here Berlant is writing about the love plot in *Show Boat*, but the generic uses of the love plot are just as relevant in the melodrama of *On the Beach*.
[153] Berlant, *Female Complaint*, 270.

For most of the film, the women shoulder the burden of melodrama's excess of expression.[154] Moira is depicted as a forward and passionate woman, juxtaposing Dwight's stoic authoritative masculinity. In fact, Moira is the only character to openly express her fear and say the words "I'm afraid." In the scene following their confrontation, Moira runs to her friend (and ex-lover) Julian Osborn (Fred Astaire), who will be heading the Navy excursion along with Dwight as the resident nuclear scientist.

> M: There have been men, lots of men. Every time one fell out, there was always a replacement. But not one of them meant anything to me. I can't pretend any longer, Julian. I'm afraid. I have nobody, and I'm afraid.

As soon as she utters her second "and I'm afraid" the soundtrack picks up her silent pause with a romantic orchestral bloom, the upper strings enter on a short melodic fragment that repeats as the lower strings and piano fill out the sound with a minor harmony. The music is like velvet that drapes the scene. As Moira continues her monologue, she reaches a high dramatic climax:

> M: Even if I could make him forget, there isn't time. No time to love… and nothing to remember. Nothing worth remembering.

With the words, "no time to love," a solo cello line breaks through the orchestral arrangement with a melody in counterpoint to the upper strings, a melodic line that carries Moira's downheartedness. The way in which music and text join together is not unlike the soprano's aria in a grand opera. The scene exemplifies what film critic Thomas Elsaesser writes about American melodrama: "this type of cinema depends on the ways 'melos' [melody/music] is

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[154] Linda Williams, "Film Bodies: Gender, Genre, and Excess," *Film Quarterly* 44, no. 4 (1991). Williams' discussion of the genres of pornography, horror, and melodrama details the gendered nature of bodily excess in these film genres. The melodrama specifically "jerks" the spectator into tears.

given to 'drama.'"[155] The scene builds cinematically along with Moira's dramatic expression. As she names her fear—the fear of loss with which any audience member could empathize—the camera's gaze tightens on her visage and a single tear falls with the same elegance as the cello's solo line. For Moira as well as those whom she symbolizes, love is the fulfillment of liberalism's values of freedom, equality, and justice. The nuclear problem is not merely one of global catastrophe but is above all a problem of the social.[156] Moira does not fear the end of the world due to nuclear war; she fears the loss of *her* world.

While the genre of tragedy understands justice as granted by the gods or fate, melodrama seeks a "better social justice."[157] In her work on the power of film melodrama, Linda Williams argues that the essential influence of melodrama is "the dramatic recognition of good and evil and, in that recognition, at least the hope that justice might be done."[158] Moreover, justice is enacted by social actors who are—especially in the case of the nuclear problem—your fellow citizens of the world. *On the Beach* closes with Dwight once again leaving Australia, captaining the Navy submarine headed back to the US. The last shots portray empty streets, the soundtrack

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[155] Thomas Elsaesser, "Tales of Sound and Fury: Observations on the Family Melodrama," in *Imitations of Life: A Reader on Film and Television Melodrama* ed. Marcia Landy (Detroit, MI: Wayne State University Press, 1991), 78. Elsaesser writes: "American cinema, determined as it is by an ideology of the spectacle and the spectacular, is essentially dramatic…this type of cinema depends on the ways 'melos' is given to 'drama' by means of lighting, montage, visual rhythm, decor, style of acting, music… In the Hollywood melodrama characters made for operettas play out the tragedies of humankind, which is how they experience the contradictions of American civilization" (89).

[156] Here I am drawing from Williams, who writes, "Melodrama, on the other hand, modernizes drama by confronting new and seemingly intractable social problems, to the melodramatic end of recognizing virtue and in that act recognizing an ideal of social justice unimaginable in tragedy." Linda Williams, "'Tales of Sound and Fury…' or, the Elephant of Melodrama," in *Melodrama Unbound: Across History, Media, and National Cultures*, ed. Christine Gledhill and Linda Williams (New York: Columbia University Press, 2018), 215.

[157] Williams, "Elephant of Melodrama," 215.

[158] Williams, "Elephant of Melodrama," 215.

now an orchestral arrangement of the Australian folk tune "Waltzing Matilda" set over a funeral march ostinato. A jump cut to the empty capital building and the banner crying "THERE IS STILL TIME…BROTHER" is accompanied by a sudden change in the orchestra, no longer the folk tune but rather the ominous conclusion not unlike the three hammerstrokes concluding certain classical symphonies. In its own way, *On the Beach* is glaringly apolitical, hence the moral the film closes with: "There is still time, brother." The hope for a just end to the nuclear problem hangs in the balance, and it is a hope shared by a brotherhood of humankind.

The director Stanley Kramer was an especially adept melodramatist.[159] Brought up in the industry as a producer, he worked for Columbia Pictures on major genre films like *High Noon* (1952) a classic Western film, the film adaption of Arthur Miller's *Death of a Salesman* (1951), and the archetypal military film *The Caine Mutiny* (1954). Through his work on these Hollywood industry standards, he honed a vision for the possibilities of genre film, specifically the possibility that a formalistically structured film could deliver both a message and entertainment. When he transitioned to directing, he zeroed in on making films with social commentary on issues of race (*The Defiant Ones* [1958], *Guess Who's Coming to Dinner* [1967]), fascism (*Judgment at Nuremberg* [1961], *Ship of Fools* [1965]), and the nuclear problem (*On the Beach* [1959]). According to Christine Gledhill, Kramer and such fellow mid-century melodramatists as Douglas Sirk relied on the genre's ability to move spectators to feel, specifically for spectators' emotions to align with culturally specific structures of feeling that

[159] Jennifer Frost, *Producer of Controversy: Stanley Kramer, Hollywood Liberalism, and the Cold War* (Lawrence: University Press of Kansas, 2017); Donald Spoto, *Stanley Kramer, Film Maker* (New York: Putnam, 1978).

supported "slow processes of individuation and democratization that would release the intellectual, entrepreneurial, and revolutionary energies of an evolving modernity."[160]

By the mid-twentieth century, melodrama had a history as a theatrical genre that was well over 150 years long. In his formative work on melodrama, Peter Brooks outlines the characteristics of the genre including: "the indulgence of strong emotionalism; moral polarization and schematization; extreme states of being, situations, actions; overt villainy, persecution of the good, and final reward of virtue; inflated and extravagant expression; dark plottings, suspense, breathtaking peripety. . . .psychological function in allowing us the pleasures of self-pity and the experience of wholeness brought by the identification with 'monopathic' emotion."[161] Arguing for the synchronic mode of politics and culture, Brooks later writes that political theater is itself an example of melodrama.[162]

Take, for example, Senator Joseph McCarthy's anti-Communist campaigns: one of several instances of containment with regard to political maneuvering, McCarthy's own aesthetic mode was one of excess. Reporting for the *New York Times*, James Reston in Washington D.C. writes:

> DRAMA-STARVED CAPITAL GETS GOOD SHOW IN RED HEARING
>
> …As a matter of fact, the current Communist hunt has produced more good fights among the Congressional brethren than anything since the Hiss-Chambers wrangle, and *if*

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[160] Christine Gledhill, "Prologue: The Reach of Melodrama," in *Melodrama Unbound: Across History, Media, and National Cultures*, ed. Christine Gledhill and Linda Williams (New York: Columbmia University Press, 2018), x. For more on the influence of Douglas Sirk on the genre of melodrama see: Laura Mulvey and Jon Halliday, eds., *Sirk on Sirk* (Edinburgh: Edinburgh Film Festival, The National Film Theatre, John Player and Sons, 1972).

[161] Peter Brooks, *The Melodramatic Imagination: Balzac, Henry James, Melodrama, and the Mode of Excess* (New Haven, CT: Yale University Press, 1995), 11-12.

[162] Brooks, *Melodramatic Imagination*, 203.
"The relevant aesthetic in most of these instances [of reality] may be less tragedy than melodrama… This is notably true in the case of the drama of public and political figures. As the modern politics of created charisma—inevitably a politics of personality—and self-conscious enactments must imply, we are within a system of melodramatic struggle, where virtue and evil are fully personalized."

> *anything more dramatic or theatrical is in progress around Times Square, Brooks Atkinson has failed to report it*. …The subject-matter of these hearings is *essentially dramatic. It deals as good theatre should, with conflict.* The fundamental questions of loyalty, treason and justice to accuser and accused run through every meeting, and the principals are as striking as the issues involved. Senator McCarthy is a young man of 40, with thinning black hair, heavy eyebrows and dark jowls that always seem to be several hours beyond 5 o'clock shadow. …In attack, he is approximately as deft as a bulldozer, and this quality has done him little good in the hearings so far. …The *feature performance* in the Caucus Room so far has been an Irish act between Senators McCarthy and McMahon, with both tossing verbal shillelaghs around the room and demonstrating that Rule 19 of the Senate cannot quell a Tipperary temper. "No Senator," says Rule 19, "shall directly or indirectly, by any form of words, impute to any other Senator any conduct or motive unworthy or unbecoming of a Senator." …Eventually the hearing will probably get away from this sort of thing and get down to the facts, but for the time being *it is primarily a good show, and the crowd loves it.* There are queues outside the Caucus Room every meeting. The newsreels are present with all their garish props, and every time they start whirring, *the Senators, not unmindful of the folk back home, give it their very best*.[163] [Emphasis mine]

Reston's riveting account gives his readers a sense of the excessive emotionality and melodrama during these hearings, comparing them to Broadway theater, on which the paper's theater critic Brooks Atkinson "failed to report." Moreover, Reston highlights the "fundamental questions of loyalty, treason and justice to accuser and accused," characteristics of melodrama as an ideological genre directing attention to good and evil. As "theater" and "performance," these Congressional hearings were well-suited to popular consumption because of the highly aesthetic mode. McCarthyism demonstrated the ubiquity of melodrama that infiltrated both the culture industry and political theater.

The formalistic similarities between mid-century melodrama and McCarthyism attest to the heightened sense of morality during this post-War/early Cold War era. The margins of "good" and "evil" or "us" versus "them" were continually being tested, not least because the power of nuclear weapons made it nearly impossible to evade repercussive fallout. The truth matter of

[163] James Reston, "Drama-Starved Capital Gets Good Show in Red Hearing," *The New York Times* (New York), 11 March 1950.

nuclear weapons could have given rise to the tragic genre, as a historical narrative with a dark conclusion about man's limitations in the face of self-imposed destruction.[164] And yet, melodrama prevails as nuclear spectacle's aesthetic mode precisely because it provides a means of social justice, however problematic its understanding of good and evil might be, giving meaning to post-War trauma and collective, if nationalistic understanding of the nuclear problem.

The History of Containment and Proliferation as National Security

> We must formulate and put forward for other nations a much more positive and constructive picture of the sort of world we would like to see than we have put forward in past. It is not enough to urge people to develop political processes similar to our own. Many foreign peoples, in Europe at least, are tired and frightened by experiences of past, and are less interested in abstract freedom than in security. They are seeking guidance rather than responsibilities. We should be better able than Russians to give them this. And unless we do, Russians certainly will.[165]

Many foreign peoples…are less interested in abstract freedom than in security. The dual forces of proliferation and containment were meant to secure the US and its citizens. Kennan's own stance delineated the mutual exclusivity of security and freedom, knowing that ordinary citizens would be ready to sacrifice "abstract freedom" for the sense of security—itself an abstract security for no policy could completely contain or control the growing nuclear problem.

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[164] Here I am thinking with Hayden White's philosophy of history, which he typifies through the four generic tropes of historical narrative, namely Comedy, Tragedy, Satire, and Romance in Hayden White, *Metahistory: The Historical Imagination in Nineteenth-Century Europe* (Baltimore, MD: Johns Hopkins University Press, 1973), 9.

[165] "George Kennan's 'Long Telegram'," February 22, 1946, History and Public Policy Program Digital Archive, National Archives and Records Administration, Department of State Records (Record Group 59), Central Decimal File, 1945-1949, 861.00/2-2246; reprinted in US Department of State, ed., Foreign Relations of the United States, 1946, Volume VI, Eastern Europe; The Soviet Union (Washington, DC: United States Government Printing Office, 1969), 696-709. https://digitalarchive.wilsoncenter.org/document/116178

Containment named a diplomatic policy aimed at suppressing Communist influence. George F. Kennan, a US foreign service officer, first conceptualized "containment" in the now-famous "long telegram" of 1946 that was published as an anonymous essay in *Foreign Affairs* a year later.

> In these circumstances it is clear that the main element of any United States policy toward the Soviet Union must be that of a long-term, patient but firm and vigilant containment of Russian expansive tendencies. It is important to note, however, that such a policy has nothing to do with outward histrionics: with threats or blustering or superfluous gestures of outward 'toughness.'[166]

US foreign policy took up Kennan's stance, and the metaphor of the "Iron Curtain" became common for imagining the border of Soviet influence.[167] The chief instrument of containment policy was the US Marshall Plan, bringing aid to rebuild continental Europe, and strategies of containment were drawn from imperialist measures like deploying troops abroad and colonizing militarily strategic land. Less overt measures included the spreading and defending of "democratic values," above all capitalism.[168]

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[166] X, "The Sources of Soviet Conduct," *Foreign Affairs* 25, no. 4 (July 1947): 575. Kennan originally published the article under the pseudonym "X"

[167] Gaddis, *We Now Know*, 20.

[168] Dudziak, *Cold War Civil Rights*. Dudziak opens her monograph with an anecdote featuring Jimmy Wilson, an African-American man sentenced to death in Alabama, notoriously the Jim Crow South, for stealing less than two dollars in change in 1957. As news circulated globally, an international crowd ranging from Ghana to Norway began to call and write US government officials for Wilson's pardon and release. Wilson's case, and other Civil Rights cases, became a test for the American democracy that the nation-state had touted abroad in their campaign to contain communist spread.

Frances Stonor Saunders, *The Cultural Cold War: the C.I.A. and the World of Arts and Letters* (New York: The New Press, 1999; repr., 2013). Saunders expansive historical account covers the cultural propaganda machine of the CIA, the Congress for Cultural Freedom, run by CIA agent Michael Joselson from 1950-1967. "Its mission was to nudge the intelligentsia of Western Europe away from its lingering fascination with Marxism and Communism towards a view more accommodating of 'the American way'" (Saunders, 1).

On the home front, "containment" became a policy synonymous with anti-Communist campaigns. Most famously, the crusade led by Senator Joseph McCarthy ended many careers, and forced many out of across federal offices as a result of the theatrical hearings of the House Un-American Activities Committee. The paranoia around Communist leanings engulfed many "Othered" identities, rooting out leftisms of any kind including those with "homosexual" inclinations.[169] The nation-state began to imagine its citizens as homogeneous patriots to "American democracy" and prevented outside influences from seeping into the pristine (and thus secure) US public.

When it came to the proliferation of nuclear weapons, political and military strategists committed themselves to deterrence. As nuclear weapons became more numerous and more powerful, they also became less usable; but if nuclear weapons were not used, a nation-state needed more of them to deter other nation-states who possessed them.[170] It was a baffling paradox: more weapons meant more security because they were less usable. The atomic bomb proved to be the great "unknown" for as leaders of these nation-states grappled with the inherent conflicts of international diplomacy, these weapons were being controlled by individual nation-states even as their effects were global. The atomic bomb posed an ontological question for military weapons science: were these weapons different in degree or in kind?[171]

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[169] David K. Johnson, *The Lavender Scare: the Cold War Persecution of Gays and Lesbians in the Federal Government* (Chicago: The University of Chicago Press, 2010). Johnson's monograph presents a political history of the Red Scare and its intersection with queer life in the mid-20th century. Johnson writes: "In an era known for the phenomenon of "naming names," the almost total anonymity of the thousands of gay men and lesbians touched by the purges is remarkable. This strategy of deliberate concealment served the purgers well. It allowed a fantastical image of sexual perverts to reign without the countervailing weight of any reference to reality. Gays, even more than Communists, were phantoms, ciphers upon whom could be projected fears about the declining state of America's moral fiber" (38).
[170] Gaddis, *We Now Know*, 101.
[171] Gaddis, *We Now Know*, 102.

> Clearly, then, the weeks and months following August 6, 1945, were a time of cultural crisis when the American people confronted a new and threatening reality of almost unfathomable proportions. Equally clearly, the dominant immediate response was confusion and disorientation. But interwoven with all the talk of uncertainty and fear was another, more bracing theme: Americans must not surrender to fear or allow themselves to be paralyzed by anxiety; they must rally their political and cultural energies and rise to the challenge of the atomic bomb.[172]

The public learned about both the existence and the lethality of nuclear weapons in the same moment—the moment when the US bombed Hiroshima—and were powerless as the proliferation of nuclear weapons became the central component of global diplomacy.

In geopolitical history, the atomic bomb presented an existential problem as nation-states grappled with the question of whether to dismantle or to deter nuclear weapons. When deliberating on means of war, the former indicated that the atomic bomb symbolized a difference in kind, the latter indicated a difference in degree.[173] Leaders of nation-states acted on the latter.[174] Nevertheless, the atomic bomb did prove to be a new kind of weapon of war, one that played on the politically charged feelings of hope and horror, a weapon that blew up the discursive stage. The US government championed nuclear tests as "the most visible, spectacular, and awesome demonstration of the power of nuclear weapons" and by extension the power of the nation-state.[175]

Historian Paul Boyer notes that what was ultimately traumatic about knowledge of nuclear weapons was the unexpectedness of US President Truman's announcement about the bombing of Hiroshima, Japan.[176] From that moment onward, news of the bomb and advances in nuclear technology instilled fear, which worked on two levels: on the level of geopolitical diplomacy and

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[172] Boyer, *Bomb's Early Light*, 25-26.
[173] Gaddis, *We Now Know*, 102.
[174] Gaddis, *We Now Know*, 108.
[175] Blades and Siracusa, *History of US Nuclear Testing*, xi.
[176] Boyer, *Bomb's Early Light*, 12.

on the level of the general public, whose fear was more diffuse yet still gripping. Joseph Stalin, then leader of the U.S.S.R., reportedly spoke about the atomic bomb as powerful because it "frightened those with weak nerves."[177] Stalin did not want to appear afraid of the bomb at the very same time that he feared the US would use the bomb. As a counter reaction, the US would only expand its nuclear arsenal after it no longer had the monopoly.[178] By the 1950s, both the US and U.S.S.R. had the means to experiment with nuclear fusion bombs, also known as thermonuclear bombs, which were exponentially more violent than the atomic bombs used on Hiroshima and Nagasaki.

In the years following the end of WWII, US policy makers launched a civil defense program, the aforementioned FCDA, established in 1951 under President Truman. Before the Soviet Union would acquire its own nuclear arsenal, the US was already cultivating a nuclear sensibility that included what Masco describes as "teaching citizens to fear the bomb as an imminent danger, giving them enough information about nuclear war and emergency measures to enable them to act at a time of crisis, and teaching them emotional self-discipline in the attempt to modulate the difference between fear (constituted as a productive state) and terror (imagined as an unsustainable, paralyzing condition)."[179] Security did not necessarily equate to material safety measures, but rather a mobilization of affective acculturation to potential disaster, the subjective acceptance that civil defense was the new American way of life.[180]

One of the most popular public service announcements to circulate was "Duck and Cover," which featured the relatable and adorable "Bert the Turtle." Funded by the FCDA and in

[177] Gaddis, *We Now Know*, 98.
[178] Gaddis, *We Now Know*, 99.
[179] Masco, *Theater of Operations*, 25.
[180] May, *Fortress America*.

consultation with the National Education Association, "Duck and Cover" was disseminated as a public service announcement (PSA) and a printed comic book, 3 million of which were distributed.[181] The PSA, first broadcast on 23 February 1952, had been circulated to millions of schoolchildren. It was declared "historically significant" by the US Library of Congress because of its popular reach and was selected for inclusion in the National Film Registry in 2004.[182] The PSA opens with an animated sequence of Bert the Turtle strolling through a pastoral scene. A chorus sings behind him, in a style that simultaneously conjures children's music and advertising jingles, with a snappy melody supported by simple harmonies. The musical setting allows the text to be memorable and easily accessible.

> There was a turtle by the name of Bert
> And Bert the Turtle was very alert
> When danger threatened him he never got hurt
> He knew just what to do
> He'd duck and cover
> Duck and cover
> He did what we must all learn to do
> Duck and cover!

As Bert strolls along, a stick of dynamite held by a monkey in a tree threatens his well-being. Bert, remaining ever alert, takes shelter in his own shell. In the following shot, the dynamite has exploded, the monkey ceases to exist, and the tree is burnt and split. Bert remains in his shell, even as the narrator addresses him, and the title card comes into sight—duck and cover, stay in the safety of the self-contained shell. The drill conditioned young children to take responsibility for their own safety but most importantly it indoctrinated children with a sense that danger from

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[181] Wissner, *Music and the Atomic Bomb*, 139.
[182] Wissner, *Music and the Atomic Bomb*. cites:
R. J. Mauer, Civil Defense for Schools (Duck and Cover) (Script, Archer Productions Incorporated, 1952), https://www.scribd.com/document/45799687/Duck-and-Cover-Script.
R. J. Mauer, "Ray J. Mauer Conelrad Interview," March 16, 2003, http://www.conelrad.com/duckandcover/cover.php?turtle=02a.

bad actors was close at hand. To avoid being hurt, one stayed alert, internalizing fear of the dangerous other or, so to speak, the bad monkey.

Security was thus undertaken in the form of mobilization. Funding went to FCDA programming but could not go as far as to finance a national fallout shelter program, and in fact the US Congress rejected proposals for shelter funding in 1951, 1952, and 1953.[183] The nation-state mobilized its citizens through structures of feeling and nuclear infrastructures such as the federal highway. One such act of civic mobilization was the FCDA's "Alert America" campaign, a traveling exhibition of Civil Defense propaganda that reached over one million people in 82 cities across the continental US.[184] Through this campaign, citizens learned about their own roles in the success of the nation's security. The image of the nuclear family became integral to this sense of security, and a familial ideology took shape in the post-War years that promised "practical benefits like security and stability to people who had witnessed the shocks and social dislocations of the previous two decades."[185] The nation-state further aided the mobilization of its idealized citizens through the creation of suburbs.

Post-War redlining and the G.I. Bill cultivated a standard of living for white middle-class families, and the suburbs became a place of privacy and safety.[186] As a result of so-called "white flight" to those suburbs, there was disinvestment in urban centers and cities.[187] In concurrence with other trends of containment, television brought leisure from the public space of the urban

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[183] May, *Fortress America*, Chapter 1.
[184] Davis, *Stages of Emergency*, 23-24.
[185] Lynn Spigel, *Make Room for T.V.: Television and the Family Ideal in Postwar America* (Chicago: University of Chicago Press, 1992), 2. Spigel relies on Elaine Tyler May's foundational work on domestic policy and family ideology. May, *Homeward Bound*.
[186] George Lipsitz, *The Possessive Investment in Whiteness: How White People Profit from Identity Politics*, 20th anniversary ed. (Philadelphia, PA: Temple University Press, 2018).
[187] Eric Avila, *Popular Culture in the Age of White Flight: Fear and Fantasy in Suburban Los Angeles* (Berkeley: University of California Press, 2004).

movie theater to the private space of the suburban home.[188] Studies showed that between 1948-1955 television ownership extended to nearly two-thirds of the nation's single-family homes.[189] Moreover, communication technology and the progress of broadcasting could disseminate liberal ideas and American values including security and stability.[190] Broadcasting changed the terms of communication from direct to social; instead of one person reaching another, one person (or producer) reaches many—with no return dialogue.[191] Television broadcast was especially reified and rigid because it did not open up dialogue, either between the audience and the producer (or broadcasting network) or the audience with one another.[192] Because of its ubiquity, television could not only provide an escapist medium but also inform and prepare the public about the atomic bomb and educate this specific public (that two-thirds of the nation with single-family homes and television sets) about nuclear technology and post-fallout survival.[193]

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[188] Spigel, *Make Room for T.V.*, 1.
[189] Spigel, *Make Room for T.V.*
[190] Spigel, *Make Room for T.V.*, 2. Tracy Davis also notes how important mass media was in coordinating public response in the event of imminent or ongoing attack. Davis, *Stages of Emergency*, 120.
[191] Raymond Williams, *Television: Technology and Cultural Form*, 2nd ed. (London; New York: Routledge Classics, 2003), 12.
[192] Theodor W. Adorno, "How to Look at Television," *The Quarterly of Film Radio and Television* 8, no. 3 (1954): 229-30.
[193] Wissner, *Music and the Atomic Bomb*. Reba Wissner's monograph considers the ways in which television, as a new technology of mass media, familiarized the American public with the bomb. For Wissner, television was very different from film and especially useful for mass inoculation, habituating the American public to "both the Bomb and the possibility of nuclear war to eliminate their fear." The psychological safeguard of television did more than eliminate American fear. It encouraged a sense of immunity if not superiority—which is to say that it encouraged a sense of American exceptionalism. Wissner's contribution to television studies is to "examine the ways that nuclear anxiety sounds musically on television," and to insist on the ability of television music not only to provide a soundtrack for the nuclear but to critique it. Wissner's study serves as a model of musicological work on the nuclear problem and, most pertinent to my work, the aestheticization of nuclear fear.

In the mid-1950s, then President Eisenhower saw to it that the national system of interstate highways would be completed.[194] He was especially influenced by his experience in the military, using Germany's Autobahn network of highways that enhanced the mobility of the Allied Forces. The 1956 Federal-Aid Highway Act was popularly known as the National Interstate and Defense Highways Act, the latter name emphasizing the role that highways played in mobilizing US military defense.[195] The highway was a necessary infrastructure for the deployment of nuclear weapons, but it also opened up the country to citizens who desired their own slice of the suburban haven. At the same time as he was promoting the highway act, Eisenhower was also dealing with a bloated nuclear stockpile. In a now declassified memo to his national security team, he wrote

> The United States is piling up armaments which it well knows will never provide for its ultimate safety. We are piling up these armaments because we do not know what else to do to provide for our security.[196]

By 1953, the United States had created and tested the thermonuclear bomb, also known as the "H-Bomb," the superlative iteration of the atomic bomb. Tested at the Pacific atoll of Eniwetok on 1 November 1952, the newest nuclear weapon struck fear into the world and posed existential questions that scientists behind the technology had to confront.[197] The aftermath of that H-Bomb test created a blast that was felt for an almost 200-mile radius, a blast crater 250 feet deep and a

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[194] Mark H. Rose and Raymond A. Mohl, *Interstate: Highway Politics and Policy since 1939*, 3rd ed. (Knoxville: The Univerity of Tennessee Press, 2012).
[195] "National Interstate and Defense Highways Act (1956)," accessed 4 Feb 2022, https://www.ourdocuments.gov/doc.php?flash=false&doc=88.
[196] Gaddis, *We Now Know*, 221. Gaddis' citation: Memorandum, NSC meeting, 26 Jan. 1956, FRUS: 1955-7 xx. 297.
[197] Gaddis, *We Now Know*, 224. Gaddis outlines an incident when Oppenheimer objected to the creation of the thermonuclear weapon. Angered by his dissent, his peers, including Edward Teller the principal sponsor of the thermonuclear bomb, sought to remove Oppenheimer from further research into nuclear weapons.

mile across, and, more importantly, fallout that caused human casualties, including 28 Americans, 236 Marshall Islanders, and a crew of Japanese fishermen.[198] With the H-Bomb in existence, the safety of the world could no longer be guaranteed, and apocalypse seemed nigh.

In this era, security became a central component of civic duty. With their nuclear families and the information provided by the FCDA, ordinary citizens were tasked with protecting their own. As government policies centered security over "abstract freedom," the American public lost access to true democracy. Elaine Scarry writes about sovereignty in the nuclear age as a "thermonuclear monarchy." Drawing on approaches from political theory, Scarry argues that the social contract—necessary for democracy—and the nuclear array are mutually exclusive.[199] She insists that a true democratic nation-state cannot wield a weapon of mass destruction because that weapon's infrastructure is built on an autocratic hierarchy. What nuclear weapons enable is instead an autocratic sovereignty. In the United States, for example, the president has access to the nuclear codes and is the only person who can initiate the sequence to utilize nuclear weapons. According to Scarry, this fundamentally puts the power of governance in the hands of a single person, which is antithetical to the social contract of a democracy.

And yet, rhetoric about securing American democracy prevailed. From the Iron Curtain to the Red Scare, the menaces of the cold war were kept at psychological bay through domesticated routines and at physical bay through military prowess, for containment in either form was supposed to guarantee, safety and seemed to mean that for US Americans. With the post-War population boom, more and more children were taught to "duck and cover," taught that they were responsible for their own survival. Under the program of containment, federal agencies like

[198] Gaddis, *We Now Know*, 225.
[199] Scarry, *Thermonuclear Monarchy*, Ch. 1.

the FCDA brought the ever-expanding influence of geopolitics to the ordinary individual, to the everyday level of daily routines and drills. Containment named what was and still remains the global problem of nuclear control, and the citizen was imagined in further distinction to an unseen enemy. Thus nuclear spectacles were more necessary than ever to instill political attachments to military supremacy. The citizen was not only one who could survive any nuclear threat but one who was a patriot to the nuclear empire. In these earliest years of the nuclear age, the *feeling* of security was more important than actual material safety. The FCDA alerts America, but it does not protect Americans with fallout shelters. The federal highways mobilize troops and support suburban "white flight," but they do not make the public secure. The proliferation of nuclear weapons looks threatening to US adversaries, but the technology leaves US citizens just as vulnerable to the reality of nuclear annihilation as they would be without it. The history of proliferation and containment for the sake of "security" has shown the rise of a nuclear biopolitics, a regime of control of life that promises safety while investing in weapons that undermine that promise.

The Spectacle as Security

This chapter has shown that the nuclear spectacle used the aesthetic modes of silence and melodrama in order to serve a distinctly ideological purpose. By comparison to the photography and personal narratives that documented the atomic bombing of Hiroshima and Nagasaki, the post-War nuclear spectacle turned security into a question of national ideology. It was necessary to make a public display of security, including the awe-inspiring nuclear threats, in a way that would impress and interest the ordinary citizen, who, according to polling and survey data after the end of the war, did not prioritize the threats of nuclear enemies in their daily life and instead

worried most about race relations, taxes, and education.[200] The spectacle tied security to fear in order to impress upon the citizenship the nuclear empire's priorities of proliferation and containment. And yet, fear had to be directed away from existential anxiety. A psychiatrist testifying to Congress stated,

> Civil defense is a psychological defense. Its most important function is to contribute to the system of belief that allows most citizens, including public officials, *to deny the realities of nuclear war, and to avoid the anxiety of thinking about the deaths of ourselves* and our families, the destruction of our Nation and of our civilizations, the possibility of extinction of humanity, and even the possibility of the end of life. . . . From a psychological perspective, therefore, civil defense defended not people, not their culture or way of life, but only concepts and institutions.[201] [Emphasis mine]

These spectacles were deployed in service of and served to form nuclear empire's hegemonic grip on ideology, which held that a foreign enemy was ready to destroy the American way of life. The genre of melodrama reinforced an affective attachment to the so-called good life, one free from nuclear annihilation and global war. The aesthetic mode of silence worked as a symbol of and a tool for hegemonic control. Covert missions and the forced migration of indigenous Pacific Islanders expanded the reach of the US nuclear empire.[202] Meanwhile, politically conservative movements silenced and essentially nullified collective actions on the domestic front.

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[200] Davis, *Stages of Emergency*, 32.
[201] Davis, *Stages of Emergency*, 125. fn. Jeffrey Klugman testifying before FEMA, "Oversight: Will US Nuclear Attack Evacuation Plans Work?" 97th Congress, 2nd sesion, 22 April 1982: 51.
[202] I have written about the Manhattan Project in this chapter, riddled with stories of espionage and covert missions. Outside of the scope of this project is the 1961 US-sponsored assassination of democratically elected Patrice Lumumba, then leader of the Democratic Republic of Congo. Nominally executed for his calls for a unified Africa, he was also opposed to the uranium extraction in the Congo. Ludo De Witte, *The Assassination of Lumumba*, trans. Renee; Wright Fenby, Ann (New York: Verso, 2002); Hecht, *Being Nuclear: Africans and the Global Uranium Trade*.

Over the course of two decades after the dropping of the atomic bombs, the nuclear spectacle made it possible for the American public to watch footage of nuclear tests as entertainment. No longer censored, video footage of explosions and mushroom clouds inundated the cultural sphere.

Various bits of nuclear bomb test footage play as the song "We'll Meet Again" is heard on the soundtrack. The juxtaposition of the video recording and the upbeat love song perfectly encapsulates the dark comedy of Stanley Kubrick's *Dr. Strangelove.* The film premiered at the heels of the Cuban Missile Crisis, which was a serious threat to the world in the hands of the US-U.S.S.R. nuclear brinksmanship. Turning away from the spectacular and melodramatic coverage of the Crisis, the film uses dark comedy and satire acting as a perverse fun-house mirror reflecting the absurdity of the spectacle as an aesthetic strategy.

Though now considered a timeless cinematic work, *Dr. Strangelove* did not premiere to such warm reviews. To the contrary, it had quite a mixed reception among film critics. On the one hand, critics found the dark humor especially apt for addressing the ineptitude of nuclear deterrence policy, but on the other, they found it a "sick joke" and a horrifying farce.[203] *Dr. Strangelove* was often compared to the contemporary film *Fail Safe* (1964) since both films addressed the shortcomings of nuclear policy and the valiant efforts of US leaders to rein in a disaster-in-the-making.

Yet the major difference between the films lies in genre—the former a comedy, the latter a melodrama. With different generic intents, each film produces different kinds of symbolic acts, differently framed. I bring up *Dr. Strangelove* both to pay homage to it and because it

[203] Henriksen, *Dr. Strangelove's America*, 329.

underscores by negation my point about spectacle as an aesthetic strategy, inasmuch as the film is an exception that proves the rule. Where the nuclear empire's aesthetic strategy of choice is the spectacle and its most poignant forms those of melodrama and silence, *Dr. Strangelove* is (and indulges in) neither. Rather it derives its force from the comedic but incisive critique of both nuclear policy and the foolhardy personalities of US leaders. Moreover, the film is a satire of the nuclear spectacle, as seen in the scene of Major Kong riding the nuclear warhead to his (and the world's) demise. Emotional tension is built, as these military men make a valiant effort to defend what is good (the nation), but in the last moments before the bomb's explosion we are left with an empty frame and silence.

Comedy reminds the spectator of an intersubjectivity rediscovered in the compulsion to laugh.[204] Unlike the spectacles of Guy Debord's critique, comedy points out the alienating effects of these nuclear spectacles. The comedic makes space for its generic perception as "a scene of affective mediation and expectation."[205] *Dr. Strangelove* reminds its audience that the horror of nuclear annihilation is not our own to bear. Rather, the larger institutions of nuclear empire have us under its systemic control. The film signals a kind of consciousness amongst the US public, an awareness that (especially in the wake of near nuclear disaster) it is impossible to foresee a democratic future with nuclear weapons. The overt Nazi-isms by the character Dr. Strangelove implicate nuclear empire through their reference to fascistic symbols, indicating the growing antagonism between US idealism and nuclear empire's ideology. By the 1960s, the overlapping hardships of nuclear control, economic instability, the Vietnam War, and racial and gender discrimination in the US would begin to tear at the fabric of the nuclear empire. The

[204] Lauren Berlant and Sianne Ngai, "Comedy Has Issues," *Critical Inquiry* 43 (Winter 2017): 235.
[205] Berlant and Ngai, "Comedy Has Issues," 239.

Cuban Missile Crisis certainly represented a turn in the Cold War, but it also marked a shift in the relation between the US citizen and its nation-state so that by the end of the decade the Crisis could no longer stand as a spectacle. Instead, by then the empire's spectacle would itself be in crisis.

Chapter Three

Einstein on the Beach and the Nuclear Event

Einstein, S.A.L.T., Test

A low-pitched drone ushers in the audience, but they seem oblivious to the music. It is another noise accompanying the sounds of audience members as they shuffle into seats, polite greetings as bodies squeeze past one another, a delighted "hm" as fingers page through the playbill. Nevertheless, the solo organ drones on—A, G, C—on paper it veers toward harmony but in the busy opera house the drone is barely heard as such. Two figures make their way onto the stage without disturbing the ambience.

The static of televised transmission underscores footage at Camp David, where men in suits have piled into a press room shoulder to shoulder.[206] They leave a path through which President of the United States Richard Nixon and General Secretary of the Central Committee of the Communist Party of the Soviet Union Leonid Brezhnev make their entrance. In accordance with proper theatrical etiquette, the audience applauds when the two world leaders take their place at the front podium. As Nixon and Brezhnev proceed to sign "The Scientific and Technical Cooperation in the Field of Peaceful Uses of Atomic Energy" and "The Basic Principles of Negotiations on the Further Limitation of Strategic Offensive Arms" (SALT), noisy feedback from televised transmission is again audible. Nixon and Brezhnev smile at the men surrounding them.

[206] Source: Navy Photographic Center Film Collection File ID: 1211-240-73 R6/11 Date: June 21, 1973. From the Richard Nixon Presidential Library, https://youtu.be/fBAo2Aky74Y.

Then, two figures, a white woman and a Black woman, seat themselves on stage. They too smile outward at the onlookers, similar smiles of diplomatic self-satisfaction.

Before dawn, a small group of scientists and security guards drive out to the "red shack," the trailer where they will electronically arm the nuclear weapon device being tested later in the day. Two scientists carrying special briefcases containing the proper codes punch in the numbers to enable the weapon, buried at the bottom of a 1,050-foot-deep hole somewhere within the Nevada Test Site. The two scientists must enter the same briefcased codes at another "red shack" before the weapon can be fully armed.[207] Weapons testing day brings the laboratory community together as they await the weapon detonation that causes a subterranean shock to rip through the earth. After the low rumble of nuclear power, the scientists measure the crater left by the bomb. "And that was really awesome, standing there with this thing which was at least a hundred yards across,…all of a sudden show up in this gigantic movement of the earth."[208]

The two figures begin to recite their own text, one of them reciting seemingly random numbers, the other, staring with a blank smile, reciting arbitrarily: "All these are the days my friends and these are the days my friends."

Over thirty years span the beginning of the nuclear age—dating from the US bombing of Hiroshima and Nagasaki (1945)—and the premiere of the opera *Einstein on the Beach* (1976), nominally the first opera with a nuclear subject.[209] During those thirty years, President Nixon had

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[207] Hugh Gusterson, *People of the Bomb: Portraits of America's Nuclear Complex* (Minneapolis: University of Minnesota Press, 2004). citing William Broad's remembrance, ethnographic research of weapons scientists

[208] A quote from Gusterson's interlocutor, Clark. Gusterson, *People of the Bomb*, 154.

[209] For this project, I have relied on this recorded broadcast from Le Festival d'Automne et le Théâtre de la Ville: Don Kent, "Einstein on the beach," ed. Philip Glass et al. (London: Opus Arte, 2016), Broadcast.

signed the SALT Treaty, aimed at curbing the proliferation of nuclear weapons among the nuclear world powers. Meanwhile, nuclear tests went from spectacular above-ground testing to underground testing, creating subterranean shocks in the US and U.S.S.R. Spanning those generations was the prominent human symbol that is Albert Einstein. A scientist turned celebrity, he brought his analytical breakthroughs to the mainstream, altering everyday understandings of space, time, relativity, and energy.

> The emphatic, if catastrophic, beginning of the nuclear age had made atomic energy the most widely discussed issue of the day, and the gentle, almost saintlike originator of the theory of relativity had achieved the 1940s version of superstar status. … For a time I, like many others of my generation, had been swept up in the Einstein craze.[210]

Philip Glass would remember Einstein as "one of [his] heroes," a testament to the physicist's stature in US culture. Glass's remembrance of Einstein linked the "gentle, almost saintlike" historical figure to the historical event of the "emphatic, if catastrophic, beginning of the nuclear age." Though Einstein passed away in 1955, twenty years prior to Wilson and Glass's collaboration, he remained an important touchstone, a figure through whom the public could imagine the advances of modernity in science and technology. *Einstein on the Beach* modeled its Einstein after the historical figure, including the popular anecdote that Einstein was an avid amateur violinist who turned to playing as a meditative activity.[211] Glass imbued Einstein with

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[210] Philip Glass, *Music by Philip Glass*, ed. Robert T. Jones (New York: Harper & Row, 1987), 29.

[211] Glass himself wrote: "Dramatically speaking, the violinist (dressed as Einstein, as are the performers on stage) appears as a soloist as well as a character in the opera. His playing position—midway between the orchestra and the stage performers—offers a clue to his role. He is seen, then, perhaps as Einstein himself, or simply as a witness to the stage events; but, in any case, as a musical touchstone to the work as a whole." Philip Glass, "Notes On: Einstein on the Beach," *Performing Arts Journal* 2, no. 3 (1978): 64.
Albert Einstein was an avid violin player. Anecdotes recall how Einstein used his violin playing as a sort of meditative or mindfulness activity. Reportedly, Bruno Nettl as a young boy would play chamber music with Einstein. It was often joked that Einstein could not count and was often

an ambivalent mythic persona, one that encompassed the opposed valences of catastrophe and gentleness.

This chapter analyzes Einstein on the Beach through the Einstein figure in order to understand how new rationalizations of nuclear time and space were aestheticized in the spectacle. The opera depicts Einstein with striking familiarity: a figure dressed in a white button-down short-sleeve shirt, khaki pants, and black suspenders, sporting the famous Einstein hair with wisps of white tufts that would not lie flat. Notwithstanding the decision of Glass and writer-collaborator Robert Wilson to project these well-known characteristics, they did not want the audience to empathize with their portrayal, nor to portray him sanctimoniously. Their portrait of Einstein is instead more subtle, and key to understanding their aesthetic intentions. Einstein here is a soloist, staged to speak to Wilson's conceptualization of space and to instantiate Glass's understanding of time through his meticulously notated solos.

In a review of the opera's premiere at the Metropolitan Opera in New York City, Mel Gussow writing for the *New York TImes* claimed:

> Symbolically, everyone is Einstein—dressed in suspenders and overalls—but there is one principal Einstein, a violinist in white wig and mustache, who sits for much of the play on the apron of the stage and obsessively fiddles. The opera could be happening in his mind; it accompanies his music. This is a dream of Einstein, an evolving exercise in time and space relation.[212]

Glass and Wilson's mythic hero, a dream of "an evolving exercise in time and space relation," is an Einstein of deep contemplation, exceptional in his spatial relation to the world he inhabits and

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"out of time" when playing with others. (Anecdotes shared with me from Philip Bohlman, private communication, 8 February 2021).

[212] Mel Gussow, "'Einstein' Is a Science-Fiction Opera-Play," *New York Times* (New York), 28 Nov 1976.

concentrated on the intricate workings of motion through time. The Einstein figure performs several violin solos throughout the opera, solos that move with a rational order, sounding out the arcs of melodic scales notated like sine waves in musical space.

Most famously, of course, Albert Einstein had won a Nobel Prize as a theoretical physicist for his theory of relativity in 1921. When in 1905, he published his first major contribution to the theory of relativity with the article, "On the Electrodynamics of Moving Bodies," he argued, "We have to take into account that all our judgments in which time plays a role are always judgments of *simultaneous events*."[213] Einstein's theory reconciled two previously contradictory statements, demonstrating that the laws of physics are consistent within the same frame of reference, and that the speed of light is unchanging regardless of reference frame. His later theory of general relativity created a comprehensive theory of spacetime, incorporating the massive influence of gravity to explain the interaction of space and time. But spacetime coordination had ramifications beyond theory, as it would ultimately determine the unity of railroads for empire building and military prowess.[214] And Einstein himself played a role in the acceleration of military weapons science. Having escaped Hitler's Germany in 1933, Einstein endorsed a letter written by his fellow physicist, Leó Szilárd, warning then President Franklin D.

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[213] Albert Einstein, "On the Electrodynamics of Moving Bodies," *Annalen der physik* 17, no. 10 (1905). Quoted in Peter Galison, "Einstein's Clocks: The Place of Time," *Critical Inquiry* 26, no. 2 (2000): 367.
The historian of science, Peter Galison, constructs a cultural history of Einstein's theory of relativity. He argues that studying the material histories around the theory prove the theory's real-world ramifications. For example, the infrastructure of railroads was crucial to the German government's deployment of their army. In order to coordinate better, coordinated time would synchronize nation-states and their modernizing endeavors (e.g., empire-building, etc.) Galison writes: "…the regulated coordination of *Einheitszeit* meant, alternately, imperial empire, democracy, world citizenship, and antianarchism. What they held in common was a sense that each clock signified the individual and that clock coordination came to stand in for a logic of linkage among people and peoples."
[214] Galison, "Einstein's Clocks," 364.

Roosevelt about the potential for Germany to develop atomic bombs.[215] He wrote another letter in 1939 urging the need for uranium mining in the United States.[216] These letters encouraged President Roosevelt to pursue the United States' own nuclear program in full, which produced the atomic bombs used to attack Hiroshima and Nagasaki, Japan. After the end of WWII, Einstein strongly rebuked the logic behind nuclear proliferation as a diplomatic stance, writing: "The idea of achieving security through national armament is, at the present state of military technique, a disastrous illusion. . . . This mechanistic, technical-military psychological attitude had inevitable consequences."[217] In sum, while he previously had had a hand in the beginning of the nuclear age, Einstein now lobbied to end it.

Wilson emphasized the fact that this was not a historical but rather a political, mythic representation of Albert Einstein.[218] Wilson and Glass relied on the associations that their audience would bring to the work instead of presenting their own explicit narrative. In another review for the *New York Times*, Clive Barnes revels at the symbolism of Einstein as "the affinity between mathematics and beauty."[219]

> The mind that caught the limitless theory of the expanding universe also sparked the atomic bomb. The space of this perfection was also a parameter for world destruction. Einstein was both creator and destroyer, god and man. And a violinist.[220]

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[215] Albrecht Fölsing, *Albert Einstein: A Biography*, trans. Ewald Osers (New York: Viking, 1997).
[216] Kelly, *Manhattan Project*.
[217] Albert Einstein, "Dr. Einstein's Address on Peace in the Atomic Era," *The New York Times* (New York City) 1950.
[218] Mark Obenhaus, "Einstein on the Beach: The Changing Image of Opera," ed. Brooklyn Academy of Music (USA: Direct Cinema, 1987), Film.
[219] Clive Barnes, "'Einstein on the Beach' Transforms Boredom into memorable theater," *New York Times* (New York), 23 Nov 1976.
[220] Barnes, "'Einstein' Transforms Boredom."

With *Einstein*, Glass and Wilson brought associations of this paradoxical type into sharp relief—highlighting a man who was "creator and destroyer, god and man." Furthermore, their Einstein demanded rethinking of the parameters of space and time. Taking the theory of relativity into the aesthetic realm, Glass and Wilson also tested opera's capacity to confront and contain such new parameters and indeed their boundary-pushing production invited analysis and critique from contemporary theatergoers to academic discourse.

Theater history, performance studies, musicology and music theory have all been attracted to *Einstein on the Beach* for its stylistic innovations.[221] These disciplines have focused on *Einstein on the Beach* in relation to an overarching historical narrative of postmodern aesthetics. Music historian Richard Taruskin titled the section of his *Oxford History of Western Music* on *Einstein on the Beach*'s premiere "Disco at the Met," comparing the stylistic effects of Glass's musical repetitions to that of Donna Summer's "Love to Love You Baby" and drawing attention to their contemporaneity in time (both were composed and released in 1975) and their impact on culture.[222] Robert Fink's study of musical minimalism offers a cultural critique of ways that musical minimalism emerged from late twentieth-century consumerist capitalism.[223] Even in

[221] Susan Broadhurst, "Einstein on the Beach: A Study in Temporality," *PERFORMANCE RESEARCH* 17, no. 5 (October 2012); Robert Fink, "*Einstein* on the Radio," in *Einstein on the Beach: Opera beyond drama*, ed. John Richardson and Jelena Novak (Abingdon: Routledge, 2019); Philip Glass, "25 Years after Einstein on the Beach," interview by Frank J. Oteri, *Dunvagen Studios*, 2001; Rob Haskins, "Another Look at Philip Glass: Aspects of Harmony and Formal Design in Early Works and Einstein on the Beach," *Jems: Journal of Experimental Music Studies* (2005); Stephanie Jensen-Moulton, Disability as Postmodernism: Christopher Knowles, Robert Wilson and *Einstein on the Beach*, Forthcoming, Book Manuscript; Jelena Novak and John Richardson, eds., *Einstein on the Beach: Opera Beyond Drama* (Abingdon: Routledge, 2019); Leah G. Weinberg, "Opera Behind the Myth: An Archival Examination of 'Einstein on the Beach'" (PhD Diss., University of Michigan, 2016).
[222] Richard Taruskin, *The Oxford History of Western Music* (Oxford; New York: Oxford University Press, 2005).
[223] Fink, *Repeating Ourselves*.

twenty-first century revivals, *Einstein on the Beach* continues to be flagged as the opera that changed opera history.[224]

This chapter addresses the ways in which spectators at the *Einstein* spectacle could confront the nuclear problem through the opera's depiction of Albert Einstein. Though still seeking a deep understanding of *Einstein on the Beach*'s aesthetic innovations, this chapter considers the messages the opera communicates and the kind of socially symbolic act *Einstein* stages. *Einstein on the Beach* perpetuates a story about Einstein and the nuclear age, even as it means to escape old narrative devices and structures in its pursuit of a new aesthetics. How has spectatorship changed since the early Cold War? And why does the nuclear spectacle begin to take the form of opera?

Einstein's Einstein is a symbolic key, I argue, to the United States' cultural fantasy of the nuclear age. Whereas nuclear spectacles on film dazzled and congealed affective ties affirming the atomic bomb, nuclear spectacle in the opera house will test the bodies of performers and spectators creating a space of contestation and relationality. Glass and Wilson push opera's capacity to confront and contain the new parameters of space and time challenged by techno-scientific progress. While the opera manages to stage these unbounded limits, it ultimately remains opera. It does not incite collective action for the dismantling of nuclear weapons. It does not offer an outright critique of nuclear technology. What it does do is to perform the fringes of space and time in an absorbing way, presenting a test of endurance for its audience in a guise that

[224] Mark Swed, "Philip Glass and 'Einstein on the Beach': How One Opera Changed Everything," *Los Angeles Times* (Los Angeles), 18 Nov 2020, https://www.latimes.com/entertainment-arts/story/2020-11-18/philip-glass-einstein-on-the-beach-opera Swed calls it "Easily the most important opera of the last half century."

is experimental but remains largely apolitical as it poses the question of how to exist in the nuclear age.

Einstein on the Beach mediated understandings of the nuclear problem of its day. Its image of Albert Einstein referred to rationalizations of ongoing crisis in the nuclear age. By 1976, diplomacy around problems of mutually assured destruction had engendered a geopolitical standstill—more weapons but less (direct) war. *Einstein* symbolized a political atmosphere that opera's intimate public might feel but accept without little to no question. *Einstein* told a story about its own nuclear moment, a moment when the strategy of non-proliferation had failed. It had not only to failed to rein in nuclear weapons science but had failed to act as a general stopgap in modernity's endless acceleration.

And yet opera's response to nuclear technology and this failed moment was considerably late. Although Wilson and Glass were the first to address the topic in American opera, *Einstein* premiered thirty years after the nuclear event. Furthermore, *Einstein* did not premiere in the US but rather in Avignon, France, before arriving at the Metropolitan Opera House in New York City later that year. Opera in the US prior to *Einstein* dealt with other hot-button topics of the day, including nationalism and Communism, which were largely conservative ones.[225] One potential explanation for the historical gap was that opera needed a new musical vocabulary, much as there was a need for new ways to think about time, space, and the rhythms of life in the nuclear age.

The chapter will first consider the opera's treatment of time, focusing on the temporalities of Philip Glass's musical language of minimalism. Glass's fixation on musical structures ultimately

[225] In personal correspondence with Joy Calico, I have discussed the midcentury US opera as being quite conservative with a musical language not unlike the U.S.S.R.'s socialist realism.

ties his music back to modernist aesthetics.[226] The chapter will continue with analysis of Robert Wilson's division of space to enrich the openness of narrative. The discussion of space will tie the opera to its postmodern aesthetic influences. Considering the opera's attempt to confront new limits of time and space helps us think about its desire to contain the contrasting aesthetic elements of modernist and postmodern style. The chapter's analysis of time and space will lead to conceptualizing the "event" of "the nuclear event," tying the opera to the histories that followed 6 August 1945. Further exploration of the opera will deal with issues of bodies-in-space, history and time, and uncanny repetition, closing with thoughts on opera after Hiroshima.

Time

Albert Einstein's theory of relativity exemplified modernity at its apex, giving as it did an account of measured space and coordinated time.[227] Einstein himself wrote: "If, for instance, I say, 'That train arrives here at 7 o'clock,' I mean something like this: 'The pointing of the small hand of my watch to 7 and the arrival of the train are simultaneous events.'"[228] The effort to coordinate time had both conceptual and material consequences. Clocks became important to cities, militaries, and the railroads that connected them. Moreover, clocks began to symbolize modernity's interconnected and sped-up world.

Einstein on the Beach features the image of clocks (and trains) alongside the visual representation of Einstein. In the nuclear age, new language was required to explain the novel

[226] This argument has also been made by Robert Fink in his analysis of the textual patterns of Christopher Knowles' poetry in *Einstein*. Fink is especially interested in the dialectical conflict between modern and postmodern ideals of representation with regard to identity and disability. Fink, "*Einstein* on the Radio."
[227] Galison, "Einstein's Clocks," 374.
[228] Galison, "Einstein's Clocks," 367.

temporalities introduced by the atomic bomb—the "shakes" of nuclear explosions, the centuries of radiation fallout. A "shake" lasts ten nanoseconds, or 1/100,000,000th of a second. A single step in a nuclear fission reaction spans one shake, with a complete chain reaction spanning 50-100 shakes.[229] Converting nuclear time into felt "human" time, all the 1,149 detonations of nuclear testing combined would not add up to a single second of clock time.[230] The "tick" of a clock's "tick-tock" lasts longer than all of the nuclear explosions that have ever occurred on US territory. Furthermore, the clock becomes a symbol of the nuclear event's existential dread. The Bulletin of the Atomic Scientists' "Doomsday Clock" counts down the seconds until "midnight"—a stand-in or euphemism, if you will, for the complete and total global annihilation caused by nuclear weapons.[231]

In addition to providing visual symbols of time, *Einstein on the Beach* deepens the representation of time through Glass's compositional style. Glass writes:

> My feeling is that composers have always had a different sense of time, … Music time and colloquial time are obviously very different. My music sets up its own kind of

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[229] Thomas B. Cochran, "Hydronuclear Testing or a Comprehensive Test Ban?," *Natural Resources Defense Council, Inc.* (1994). An article that first outlines the measurement of shakes.
[230] Masco, *Nuclear Borderlands*, 73.
[231] Martyl Langsdorf, "[cover illustration]," *Bulletin of the Atomic Scientists* 3, no. 6 (1947). From the *Bulletin*'s website: "Co-editor Hyman Goldsmith asked artist Martyl Langsdorf to come up with a design for the cover of the June 1947 edition of the Bulletin, the first issue published as a magazine rather than a newsletter. Martyl—as she was known professionally—was married to a physicist, Alexander Langsdorf, who worked on the Manhattan Project while at the University of Chicago. At first the artist considered using the symbol for uranium. But as she listened to the scientists who had worked on the Bomb, as they passionately debated the consequences of the new technology and their responsibility to inform the public, she felt their sense of urgency. So she sketched a clock to suggest that we didn't have much time left to get atomic weapons under control."
The Doomsday Clock currently stands at 90 seconds to midnight, the closest it has ever been to midnight in its 76-year history. Of note in the Bulletin's assessment for 2023 is the continued aggression of Russia's war on Ukraine, including several threats regarding nuclear weapons. In my own opinion, nuclear empire is the biggest threat to our kind. John Mecklin, "A Time of Unprecedented Danger: It Is 90 Seconds to Midnight," Web article, *Bulletin of the Atomic Scientists* (24 Jan 2023), https://thebulletin.org/doomsday-clock/current-time/.

> extreme in a way, but I think music structures itself in time as to create independent coordinates of its own. This business of metaphysical this and that—it's just a lot of words that don't mean anything. What happens is that one has an authentic experience of time that is different from the time that we normally live in.[232]

Glass's music can be described as repetition with very little difference. Glass and some of his colleagues have admitted that the most difficult part about the music is that "it doesn't change."[233] Glass appeals to the composer's "authentic" sense of musical time, and his style of repetition with little difference is meant to substantiate his point.

Instead of communicating through text, the Einstein figure communicates through the violin, which has several solos in the musical score. In the opera's second so-called Knee Play, the intermezzi between designated acts, the violin solo exemplifies Glass's obsession with repetition as a compositional tool of temporal orchestration. The violin solo seems easy on the page, with arpeggios followed by short scalar passages as the solo cycles between the two modes for less than ten minutes of playing time. And yet, the ten minutes it takes up by the clock feel like a musical hour, in keeping with Glass's assertion that "music time" and "colloquial time" "are obviously very different."[234] Part of the temporal discrepancy has to do with the lack of *telos* in the music's harmonic progression, the lack of cadential motion that leaves the trained Western ear feeling disorganized if not bereft. Glass describes his harmony as "structural harmony" linked with "rhythmic structure" in an attempt to offer "a new solution to problems of harmonic usage, where the evolution of material can become the basis of an overall formal structure intrinsic to the music itself (and without the harmonic language giving up its moment-to-moment content and 'flavor')."[235] The feeling of disorganization or chaos is generated by meticulous

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[232] Richard Kostelanetz and Robert Flemming, eds., *Writings on Glass: Essays, Interviews, Criticism* (New York: Schirmer Books, 1997), 164.
[233] Obenhaus, "Einstein: Changing Image."
[234] Kostelanetz and Flemming, *Writings on Glass*, 164.
[235] Philip Glass, "Notes On: Einstein on the Beach," *Performing Arts Journal* 2, no. 3 (1978): 67.

moment-to-moment planning and coordination. On the score's pages, these painstaking changes are clear; the music's notation invites comparisons to visualization of a neo-Riemannian kind.

In performance, however, these changes are felt as an incessant presence, what Glass Ensemble performers refer to as "present tense music," unfolding moment to moment.[236] Jennifer Koh, the violin soloist who played the opera's "Einstein" in the 2012 revival, remarked that Glass's music challenged and changed her concept of time. In an interview with the *Los Angeles Times*, she notes that the opera "has moments of forward motion and then moments of tremendous stillness."[237] Glass means for musical repetition to articulate Einstein's theory of relativity, claiming that the contrasting temporalities of musical time and "colloquial time" nod to the physicist's thesis that "when anything moves faster time itself slows down."[238] The violin plays through its solo at a hurried clip, and the minute changes make it difficult to process the differences between repetitions. Moreover, the violin solo accompanies the Knee Play characters' speeches; these speeches are fragments of poetry from the previous scenes that similarly lack *telos*. The violin and voices compete for the audience's attention, which is already tested by the opera's demanding style.

In his review of the 1976 premiere, Clive Barnes noted that the significance of temporality in Robert Wilson's works "depend for a great deal on time. Realistic time and theatrical time, the time for action and the time for symbols. He is a great believer in the art of boredom and the craft of reiteration."[239] Adding to his collaborator's ethos, Glass's musical sensibilities heighten

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[236] Greenaway and Guest, "Four American Composers."
[237] David Ng, "Violinist Jennifer Koh Turns Physicist for 'Einstein on the Beach'," *Los Angeles Times* (Los Angeles), 5 Oct 2013.
[238] Obenhaus, "Einstein: Changing Image." In the documentary, Glass is paraphrasing Einstein's theory.
[239] Barnes, "'Einstein' Transforms Boredom."

the opera's determination to test time, specifically to test how time is performed and perceived—the paradox of which is that the performers perform "fast" so that what the audience feels is "slow." It is this temporal paradox that emerges from late modernity and its obsession with speeding up that brings forth the desire to slow down, to feel leisure and rest—and, perhaps, the willingness to put up with boredom.

Glass never set out to radicalize musical time, preferring instead to utilize his compositional tools to present an ever-present temporality. In later writings, he coyly admits: "I realize that I must sound like a very conservative composer to you, and in many ways I am. … I never set out to change the musical world. I've just been trying to find a line that suited my particular needs."[240] Given the conservative nature of opera in the mid-twentieth century, *Einstein on the Beach* certainly felt new. Opera has historically always performed spectacular time. Nevertheless, with Glass's new musical vocabulary, *Einstein on the Beach* stages a contemporaneous temporality, one that was a new kind of time, felt in the nuclear age.

Space

Much as the Manhattan Project divided its nuclear labor throughout various laboratories and enrichment centers across the continental United States, Wilson divided his operatic labor throughout and across various performers and performance spaces. The divisions inherited from the long operatic tradition are present: the stage space, the orchestra space, and the audience space. The first Knee Play's stillness makes the stage and opera house feel large, risking the agoraphobic sense that the space might be too large. The stage is itself further subdivided. The proscenium area, at the anterior edge of the stage in front of the scrim, anchors the Knee Plays.

[240] Kostelanetz and Flemming, *Writings on Glass*, 258.

There is a light that marks off this area, and it gives the impression of a cube at the right-hand corner of the stage, what critic David Cunningham sees as a symbol of a "fourth dimension" because a cube = x^3.[241] On the left-hand corner of the stage, in this fourth dimensional space, sits a lone chair. Throughout the opera, the lone chair remains in sight and the Albert Einstein figure takes his seat there during his scenes. It gives the impression that the main-stage action behind Einstein depicts his cerebral operations.

Wilson and Glass represent Einstein as a liminal figure, never centering him in the action and leaving him speechless and songless. That dramaturgical liminality is also expressed spatially, with Einstein positioned in this fourth-dimensional space, edging the proscenium and spotlighted on his own chair throughout. No other figure crosses Einstein's stage space even when the Einstein figure is absent. Glass notes:

> Dramatically speaking, the violinist (dressed as Einstein, as are the performers on stage) appears as a soloist as well as a character in the opera. His playing position—midway between the orchestra and the stage performers—offers a clue to his role. He is seen, then, perhaps as Einstein himself, or simply as a witness to the stage events; but, in any case, as a musical touchstone to the work as a whole.[242]

The staging suggests a distance or detachment between the Einstein figure and the main stage of operatic action. Wilson and Glass want to represent what Einstein "meant," and they seem to understand Einstein as a contemplative fellow, a figure whose intricate mental workings are illustrated through the often frenzied action on the mainstage.

Wilson depends on lighting to demarcate these divided areas. He first constructed the work according to the three main styles of painting, "portrait, still life, and landscapes [sic]." For

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[241] Kostelanetz and Flemming, *Writings on Glass*, 154–55. Here, Cunningham makes the slippage between cube, an object in 3-dimensional space, and x^3 which indicates 4-dimensional space. The "cube" is created through spotlights on the stage.
[242] Glass, "Notes On: Einstein on the Beach," 64.

Wilson, these three styles offer different ways to structure and measure space, and he translates that into the boundaries, literal and generic, made for the various scenes: the Knee Plays as portraits, the trial scenes as still lifes, the dance scenes as landscapes. Wilson then imbues his spatialized visions with certain kinds of energies.[243] The Knee Plays have a certain tranquility to them, the kind of tranquility that might be associated with a swan on a lake or a person sitting for countless hours for a painting. Though placid on the surface, the bodies of the actors persist in a state of active physical engagement. *Einstein on the Beach* attempts to contain the contradictory features of modernist temporality, exemplified by the chaotic yet progressive unfolding of Glass's music, and of postmodern spatiality. The week after *Einstein*'s run in Avignon (August 1976), a critic at *Le Monde* wrote:

> The fragmented duration of Mozartian opera (via recitatives, pauses within arias) and the continuum of the Wagnerian ceremony have substituted a freed temporal flow, stressed only by limitations (beginning and end) of the show, limits which, in the [Ring] Tetralogy, tend to be blurred. The public must be able to leave the auditorium to eat and sleep: basic amenities granted to the body. With this, one could perhaps think that Einstein on the Beach, recently created at Avignon . . . is part of the Wagnerian heritage. More precisely: Bob Wilson has taken apart Wagner and split him in two. On the one hand, the theoretical contribution, to exploit; on the other hand (negligible), the dramatic variable. Wilson indeed shows, in the most concrete way in the world, that opera is nothing other than time and space.[244]

Wilson was showered with praise for his historical contribution to the operatic canon and considered a postmodern Wagner.

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[243] Obenhaus, "Einstein: Changing Image."

[244] A. R., "Trois temps dans l'espace du théâtre musical," *Le Monde*, August 5, 1976, 9, Series I, Box 123, Folder: "EOB Le Monde 8/5/76"; Claude Baignères, "Einstein rêvé par Bob Wilson: fascinante invitation au voyage," Le Figaro, July 27, 1976, Series I, Box 123, Folder: "E.O.B. 7/27/76, 'Le Figaro,'" Robert Wilson Papers. Quoted in Weinberg, "Archival Examination of Einstein," 94.

As with Einstein's theory of relativity, a given spatial relation to the event affects a viewer's understanding of the narrative onstage. Wilson arrives at a theory of space with an overtly postmodern style.

> If you take a Baroque candelabra and place it on a Baroque table, that's one thing; but if you take a Baroque candelabra and place it on a rock, that's something else. And maybe if you see the Baroque candelabra on the rock you can see it easier. In this theater, it's about "how do I see the rock? How do I see the candelabra?"[245]

According to Wilson, the placement of objects can produce meaning based solely on their spatial juxtaposition. Wilson's aesthetic goal harkens back to Einstein's platitude about the simultaneity between the hour hand of a watch and the arrival of the 7 o'clock train. But Wilson's obsession with space, however much it emerges from Einstein's observation about simultaneous events in time in terms of our ordinary meaning of time, speaks to a synchronic postmodern interest in space rather than to time. As Fredric Jameson notes, instead of the "high-modernist thematics of time and temporality, the elegiac mysteries of durée and memory," postmodern aesthetics are "dominated by categories of space."[246] The Baroque candelabra no longer have historical weight and can simply be placed on the rock. So too, Einstein and the Knee Plays are staged on the proscenium's edge while the main stage anchors the opera proper—the spatial relation demands that the audience ask: "how do I see Einstein? How do I see the bomb?"

Event

Attempting to synthesize the oppositional forces of modernist temporality and postmodern spatiality, *Einstein on the Beach* moves beyond them into a consideration of the event. Robin

[245] Obenhaus, "Einstein: Changing Image."
[246] Fredric Jameson, "Postmodernism, or the Cultural Logic of Late Capitalism," *New Left Review* 146 (1984): 64.

Wagner-Pacifici poses the crucial question: What is an event?[247] Wagner-Pacifici explains this through two opposing theories. Following Alain Badiou's theory, the event is a rupture, a kind of singularity. Badiou articulates four examples of an "event": in politics, a revolution; in love, the erotic liberation; in the arts, a performance; in science, the epistemological break.[248] Certainly, the use of the atomic bomb in an act of war represented a scientific event as it signaled an epistemological break and the creation of nuclear technoscience. And yet, the use of the atomic bomb does not necessarily signify a political event. The atomic bomb did not usher in a change in geopolitical relations but rather, I would argue, solidified political attachments to imperial logics. So one could argue, following Deleuze's theory of the event, the *use* of the atomic bomb is an event exemplary of an ongoing history, a perpetual "eventness," a sort of "becoming." I am interested in Deleuze's theory of the event as it pertains to the temporality of empire, a Deleuzian "eventness" that forges empire's past and future. As I've stated in the introduction, empire is always in process and the nuclear event allows empire to tie its ideological process to ongoing historical incidents.

Whether the atomic bomb was understood as a rupture or an ongoing event had political consequences. Defining the nuclear event as one of (specifically, scientific) rupture resulted in calls for immediate political action, including disarmament from one political side or expansion from the other. Nuclear weapons represented an epistemological break in the relation between "man and science" because now, more than ever, man's discovery and dominance over natural forces brought mankind to an existential brink. For example, the historical incident of the Cuban Missile Crisis led to more aggressive international policy aimed at nuclear non-proliferation. In

[247] Robin Erica Wagner-Pacifici, *What Is an Event?* (Chicago: The University of Chicago Press, 2017).
[248] Alain Badiou, "The Event in Deleuze," *Parrhesia* 2 (2007): 37.

contrast, emphasizing the atomic bomb as part of an ongoing nuclear event necessitated a round-the-clock "readiness" for nuclear war. The US military infrastructure persisted vigilantly, continually preparing and being prepared to authorize the use of nuclear weapons. This ever-readiness established the nuclear event as ongoing. Fourteen Ohio-class submarines, each carrying the equivalent of 4000 Hiroshima blasts, patrol the world's oceans at all times.[249] Everyday infrastructure, like the interstate highway, was built to accommodate the "apocalypse in progress."[250] The ongoing nuclear event has hit historically oppressed populations the hardest, with test sites emitting radiation that impacts indigenous lands and nuclear waste sites being built near poor communities.[251]

To this initial dialectic between "rupture" and "becoming," Wagner-Pacifci adds an analytic vocabulary for the emergence, formation, and mobility of events.[252] The "event" is made by social processes: rationalized narratives (to explain the event's emergence and formation) and political motivations (to mobilize events). Overall, the relation to an event is always *made* by

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[249] Scarry, *Thermonuclear Monarchy*, 7.
[250] Hurley, *Infrastructures of Apocalypse*, 2.
[251] As I've noted in the introduction, there are numerous instances of nuclear slow violence done onto Black communities in urban metropoles and Indigenous communities on their sovereign land.
Joseph Masco's anthropological work with the indigenous communities around the Los Alamos National Laboratory has emphasized the anti-nuclear activism of indigenous peoples in that area. Before the move to underground testing, aboveground testing was made a national spectacle with the bombing on the Marshall Islands. Masco, *Nuclear Borderlands*.
Jessica Schwartz's own anthropological and activist work has focused on centering these voices who continue to call for reparations. Jessica A. Schwartz, "A 'Voice to Sing': Rongelapese Musical Activism and the Production of Nuclear Knowledge," *Music and Politics* 6, no. 1 (2012), https://doi.org/10.3998/mp.9460447.0006.101; Schwartz, "Matters of Empathy and Nuclear Colonialism."
[252] Wagner-Pacifici, *What Is an Event?*, 9.

individuals, institutions, and other kinds of collectives.[253] The history of nuclear testing shows that nuclear empire mobilized the event as an ongoing one.

From 1945-1992, the United States averaged two nuclear tests per month for a total of 1,149 nuclear detonations on (and under) its soil.[254] Nuclear technoscience, while subject to geopolitical prohibitions, continued to accelerate, and diplomatic strategies of nuclear proliferation enabled a fetishization of production. Nuclear technoscience sublimated the traumatic spectacle of nuclear explosions by repressing the bomb, literally shoving it below the surface. Also known as underground testing, subterranean testing fundamentally changed the bomb's *aesthesis*—how the bomb was felt.[255] This era of underground testing, lasting three decades from 1963 until 1992, has been characterized by anthropologist Joseph Masco as "embracing complexity" and "fetishizing production."[256] Masco proposes the term "technoaesthetics" to understand the relation between the scientists and their technology. In the era of aboveground testing, nuclear weapons scientists could be blinded by light and burned by the heat of an atomic bomb. But in the era of subterranean testing, nuclear weapons scientists experienced a different corporeal relation to their work. Instead of witnessing the weapon's detonation firsthand, the scientists learned about the efficacy of the bomb in its aftermath. The nuclear explosion might go off in a shake (ten nanoseconds), but the scientists could not know the yield of the weapon's detonation until days later, after soil samples were subjected to

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[253] Wagner-Pacifici, *What Is an Event?*, 16.
[254] Masco, *Nuclear Borderlands*, 68.
[255] Masco, *Nuclear Borderlands*, 4. "To approach nuclear technologies from the quotidian perspectives of tactile experience, focusing on how people experience an orientation in time and space, and an individual relationship with a national-cultural infrastructure, is to fundamentally rewrite the history of the nuclear age. …interrogate the national-cultural work performed in the act of making so enormous a national project reside in the 'unthinkable.'"
[256] Masco, *Nuclear Borderlands*, 68.

radiochemical analysis and the sizes of craters left by the bomb were measured. The subterranean testing contributed to the sense that nuclear testing was "routine" or, as anthropologist Paul Gusterson writes, "ritual."[257] The routinzation of scientific procedure gave the scientists a sense that nuclear weapons science was ordinary work. The general public also became desensitized with regard to nuclear technology. Historian Paul Boyer offers four reasons why the atomic bomb declined in public discourse and awareness by the 1970s: the perception of reduced danger, the growing remoteness of the nuclear reality, the tranquilizing effect of the "peaceful atom," and the arcane reassurance of nuclear strategy.[258] Geopolitical trends explain the perception of reduced danger and the reassurance of nuclear strategy. After narrowly avoiding nuclear war during the Cuban Missile Crisis, relations began to thaw between the US and the U.S.S.R. Furthermore, Robert McNamara (Secretary of Defense) postulated a deterrence theory, colloquially known as Mutually Assured Destruction. The rise of technocratic discourse around nuclear weapons and strategies seemed to assure the public that all was under rational control.[259]

Boyer's theory of the "remoteness of nuclear reality" relates to the shift toward underground testing but also speaks to the diversification of nuclear weaponry—there was more than the

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[257] Gusterson, *People of the Bomb*.

[258] Boyer, *Fallout*, 114-17. Boyer notes that there were other significant issues that took hold of the American public, especially the Vietnam War. The rise of the New Left did not bridge the generational gap in such a way that the younger generation would take up the mantle of the National Committee for a Sane Nuclear Policy (SANE). Instead, the New Left was focused on anti-War measures. Meanwhile, India tested a nuclear device in 1974, which alarmed most Western nations with nuclear weapons—but it only stirred up a small resurgence in anti-nuclear activism.

[259] Lorraine Daston, "Rationality and the Rules of the Cold War Game" (Paper presentation, Social Thought Lecture Series, University of Chicago, 3 May 2021); Paul Erickson et al., *How Reason Almost Lost Its Mind: The Strange Career of Cold War Rationality* (Chicago: University of Chicago Press, 2013).

atomic or thermonuclear bomb to comprehend, there was also a growing infrastructure and system of technology around weapons science. Experts assured the public that technocrats had authoritative control over nuclear weapons and that nuclear technology would benefit society. President Dwight D. Eisenhower launched the "Atoms for Peace" program in 1953, and the first nuclear power plant was founded in 1957. By the 1970s (before the 1979 crisis at Three Mile Island), citizens had the use of nearly one hundred nuclear power reactors in the continental United States. Nuclear weapons science involved research and development funded by the government, and only after the fact of its military use did the government make a concerted effort to return the technology back to civilian production. Nuclear power plants would now generate electricity for market consumption. The depoliticization of the nuclear problem was made possible because nuclear technoscience was institutionalized in the form of commodities.

Einstein on the Beach directly confronts the nuclear event by downplaying it. One could consider *Einstein*'s acceptance into the Metropolitan Opera as itself an event in the history of operatic canon. Paradoxically, in order to break into the institutional mainstream, *Einstein* broke from traditional opera. In this way, *Einstein* evolves as a kind of anti-opera—specifically, anti-Wagnerian opera.[260] Where Wagnerian opera sought a totality of the artwork experience, an experience where all the media are coordinated toward a unified meaning, *Einstein* fragments the operatic work into its component parts, exploding the unity of theatrical spectacle and doing no more than hint at a hermeneutic convergence. This new strategy for the operatic spectacle allowed for ambiguous and ambivalent messaging, leaving the spectator to make meaning out of the symbolic act. In his published recollections, Glass reminisces about the penultimate scene of the *Einstein on the Beach* called "Spaceship" (Act IV, Scene 3).

[260] Special thanks to David Levin for this insight.

> In the penultimate scene of *Einstein on the Beach*, there is a spaceship and a huge explosion that Bob wanted, and I wrote a piece of music to go with it. We were aiming for a big finale that was apocalyptic, which, by the way, is followed immediately by a love story written by Mr. Samuel Johnson, the actor who played a judge and also the bus driver at the end. Bob juxtaposed the most horrible thing you could think about, the annihilation that happens with a nuclear holocaust, with love—the cure, you could say, for the problems of humanity.[261]

Wilson and Glass wanted a big explosion that was apocalyptic, only to undercut the intensity with actor Samuel Johnson's self-written soliloquy about love. This kind of tonal wavering indexes the creators' ideological ambivalence, with "Spaceship" offering the most overt critique of the contemporaneous nuclear age. It confronts the audience with the reality of the bomb's present, reminding them that the nuclear problem is reality, a history in the making rather than the past. The unthinkability of the nuclear age requires mediated reckonings. In *Einstein*, the capacity of nuclear technoscience for complete destruction cannot be reckoned as a whole. Instead, it is alluded to in fragmented images—the rocket, the bomber plane, the blindingly brilliant flash. Through these snapshots, *Einstein* confronts the audience with glimpses of the Real, the unthinkable. The weapon at the foundation of an American national identity has the capacity to destroy all of America.[262] Being at the center of an event means the definition of the event as ongoing or rupture remains in flux, as fractures and fissures unfold in real time, which is also *felt* time.

At a nondescript moment, amid "Spaceship's" sweeping chaos, the character of Albert Einstein takes his seat in his designated space, which borders the main stage. This creates a depth of perspective—Einstein in the foreground, stage action in the background—that in turn suggests

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[261] Philip Glass, *Words without Music: A Memoir* (New York: Liveright Publishing Company, 2015).

[262] During the Cold War, nuclear weapons determined a nation's sovereignty. I am glossing the idea of nuclear diplomacy and national identity from cold war historians such as Gaddis, *We Now Know*; Scarry, *Thermonuclear Monarchy*.

a relation in the register of a fantasy or dream. When Einstein begins playing, the music shifts, the chorus drops out and the instruments begin playing in unison with the violin solo. The music is no longer bound to the anchoring repetitions of the previous section. Instead, the ensemble plays a scalar pattern centering around the tonality of A minor, music that sounds like an étude exercise. It seems that Einstein's entrance introduces a rational order, one that works to symbolize Einstein as a "goodly" (if not godly) technocrat.

The curtain falls. The voices drop out, and only Einstein's violin solo and his accompanying ensemble carry on. Their unison playing, up and down the scalar pattern, demands unwavering attention, all ears directed to the numbing effects of the repetition. A desire to find the event's central rupture leads to desperate attempts at meaning-making. The stark emptiness of the stage relieves the hyper-activity, and all eyes fall on Einstein. Behind him, a rocket-shaped figurine rises. A spotlight follows the rocket's trajectory as it soars across the stage. The rocket evokes images of contemporary weapons science, including especially nuclear weapons. There is a dark irony in the figurine's size—small rocket, big stage—that calls attention this symbolic evocation. On the one hand, the bomb commands the audience's full attention as it ascends and crosses the stage. On the other hand, the bomb figurine is cartoonishly small and toy-like. Einstein appears like Gulliver: the stage is too big, the rocket is too small and never in the space at quite the right scale.[263] Unlike Major Kong in *Dr. Strangelove* who rides the rocket to the world's demise, *Einstein* presents the rocket in its path without a sense of teleological narrative. The centralizing

[263] Jean-François Lyotard, "Defining the Postmodern," in *The Cultural Studies Reader*, ed. Simon During (London; New York: Routledge, 1999), 144. Lyotard's original quote: "Our demands for security, identity and happiness, coming from our condition as living beings and even social beings appear today irrelevant in the face of this sort of obligation to complexify, mediate, memorize and synthesize every object, and to change its scale. We are in this techno-scientific world like Gulliver: sometimes too big, sometimes too small, never at the right scale. Consequently, the claim for simplicity, in general, appears today that of a barbarian."

image is the rocket in its trajectory, and the audience must reckon with the reminder that the nuclear problem subsumes chaos into complete nothingness; the nuclear bomb forecloses all imaginings of order and chaos, leaving nothing but emptiness.

When the rocket figurine has cleared the stage, the curtains rise again, throwing the audience back into the chaotic stage action. The large ensemble's music overtakes the soundscape, and Einstein's violin solo ends. He unceremoniously vacates his seat. The action continues at full tilt, and the instruments alone continue with a chromatic scalar passage played very quickly in unison. The frantic Flight-of-the-Bumble-Bee-esque musical line causes the lights on the stage to flicker and flash. The chorus re-enters briefly, and almost immediately all music comes to an abrupt close as "Spaceship" ends. Chaos outlasts order, and the rationalizing desire for meaning remains but in vain.

The initial scene of "Spaceship" presents disorderly mayhem, with schizo-vocalic utterances overlaying frenzied stage action and methodical musical progression. The return of that setting indicates the working of a kind of narrative of the event, ordering unfolding time into understandable history. A kind of rounded form—chaos scene, Einstein solo, return of chaos—marks the time that has passed as "eventful" time. By repressing the collective's disorder, a political narrative presents itself: Einstein thinks the bomb, he reflects on its worldly presence, he broods about its material impact. Quieting the fantasy of the main stage—the visions of order and disorder, the perpetual motion of peoples and things—enables the allegorical reading of Einstein. He represents the American individual's contemplation and reckoning of the nuclear event. The overt sign of the rocket, a metonym for nuclear technoscience, enables an anagogic

reading of *Einstein on the Beach*.[264] It serves as a reminder that the nuclear problem cannot be solved by individuals alone and that we are not yet out of the woods, so to speak. The nuclear problem remains the present reality, and yet it seems all we can do is to attune ourselves to its presence. Like devout worshippers waiting for the apocalypse, we attend to the technology that brings about the end of masses.

"Spaceship" transitions into the next scene, "Knee Play 5." The lights on the stage fade, underscored by an organ drone, and the Knee Play characters remain foregrounded on the stage. With some theatrical stage magic, the scrim is lit up to reveal an image behind the Knee Play characters. The image is the second and final representation of nuclear technology—a picture of the explosion's epicenter with a bomber plane in the top corner. Text around the image reads like nuclear pseudo-science: "Bomber withdraws 10 miles; black goggles protect crew's eyes from blindingly brilliant flash" and "molecules broken up into their constituent atoms, when the matter they comprised ceases to exist as such: called 'vapourising' or 'atomising.'" This moment of symbolic representation is again relegated to the status of an iconic sign. In an ironic relation to the nuclear event, the opera's engagement here registers as a kind of "non-event," pointing to the mundanity of the nuclear problem.

Nuclear technology appears to us phantasmatically in its most destructive or creative forms—because it is *made* to appear to us as such, with images like the mushroom cloud and the robust nuclear power plant. It may be more useful to approach nuclear technology, and especially nuclear war, as phantasmagoria, what Masco glosses as "a spectral fascination that distracts

[264] Here I am thinking about Jameson following Althusser following the four levels of medieval reading (literal, allegorical, moral, anagogical). To think the anagogical reading, in my understanding, is to commit to the political reading or the collective meaning of history.

attention from the ongoing daily machinations of the US nuclear complex."[265] The infrastructures built around weapons science, the highways, nuclear waste protocols, and dumpsites, are examples of what Jessica Hurley calls the "nuclear mundane."[266] Highways have historically segregated cities, nuclear waste protocols have taken place on Native American lands. Hurley argues that "the nuclear mundane is the slow violence of the atomic age; like all slow violence, it distributes its damage unevenly."[267]

While efforts like "Atoms for Peace" were meant to restructure nuclear technology for the masses, the masses will never have authority over nuclear technology. Technocratic gatekeeping distances the populous from truly grasping the immensity of nuclear technology—its destructive and creative potential, but also the less "phantasmagoric" and mundane technologies of non-destruction and non-creation. These less spectacular technologies—these infrastructures of and around nuclear weapons science—impact our everyday lives, though we are typically made to remain ignorant of their effects. While we are kept at a distance from the technologies that always already destroy us, we fantasize about their promise. This promise of a utopian, technologically grounded future lay at the heart of modernity's scientific impulse. Yet in the realization of the postmodern age, the desire for nuclear technology to fulfill society's utopian desire dissipated, only to be remembered in nostalgic fragments and spectacular images. *Einstein on the Beach* was one such cultural object that attempted to represent the nuclear event and confront the nuclear problem.

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[265] Masco, *Nuclear Borderlands*, 4.
[266] Hurley, *Infrastructures of Apocalypse*, 7.
[267] Hurley, *Infrastructures of Apocalypse*, 14.

Bodies in Performance

In an episode of her podcast *Helga: The Armory Conversations*, Helga Davis speaks with Jennifer Koh about their shared experience performing with the 2012 revival of *Einstein on the Beach*.[268] In the revival, Davis plays one of the Knee Play characters, representing the character that Sheryl Sutton had created in the original production while (as noted above) Koh—a renowned violin virtuoso in her own right—appears as the Einstein violin soloist. Their conversation covers myriad topics about living as a performing artist in the twenty-first century, from choosing to pursue art instead of motherhood to the ideal of presence in performance. Their time performing in *Einstein* raises the question of the shared impact on their physical bodies. Koh admits that she had been injured the entire time they were performing and touring. She talks about being "physically destroyed" after fourteen hours of rehearsal and about experiencing severe neck injuries as a result of the performance, injuries that would leave her immobilized to the point where she could not hold her own head up.

In an interview about that same revival, Lucinda Childs, the Knee Play character who played opposite Sheryl Sutton in the original production, recounts her own experience about the physical demands of the opera: "I was on stage for three hours dancing and performing, and working with a [dancing] partner Sheryl Sutton in five knee plays. It was hard but it was wonderful."[269] Nearly forty years after the original production, these women recall the excruciating nature of *Einstein*'s performance on their physical bodies but remember their

[268] Helga Davis, *Helga: The Armory Conversations*, podcast audio, Interview with Jennifer Koh, 2016.
[269] Lucinda Childs, "Stay out of the Way of Bob Wilson When He Dances," interview by Jelena Novak, *Einstein on the Beach: Opera Beyond Drama*, 2017, 142.

experience with wonder, with a profound respect for the work necessitated by this "total work of art."

In the documentary *Four American Composers*, instrumentalists and singers of the Philip Glass Ensemble give an account of their involvement in performing his music.[270] Soprano singer Dora Ohrenstein describes her strategy for learning Glass's music as "learning by doing." She had to build stamina in order to perform the music well—with special attention to the kind of breathing necessary to produce the affected, vibrato-less sound that Glass desired. Furthermore, she claimed that "a lot of opera singers couldn't do it." We might extend her claim to conjecture that a lot of opera singers *wouldn't* do it because of the physical demands on the singer's body, which included strict corporeal discipline and a denial of the voice's individuality (e.g., "no vibrato"). With the same commitment to the physical demands of the musical performance, the instrumentalists in the documentary relate similar problems with regard to the breath. The woodwind players Richard Peck, John Gibson, and Jack Kripl all had different survival strategies according to their individual needs. For example, one relied on circular breathing, which is a technique in which one creates a pocket of reserve air in the cheeks while intaking air through the nose. In this way, the wind player could continuously play the music without breaking Glass's unabating rhythmic patterns. The downside, however, was a loss of sound intensity. Despite Glass's instruction for circular breathing, another wind player prioritized a consistent sound, which would require breaks for breathing. To stop for breath, he had to make the break sound imperceptible; yet he asserted: "I take a breath when I need a breath." These accounts reveal the difficulty in learning and then performing this music. The labor that the performers give to the production is indeed physical labor.

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[270] Greenaway and Guest, "Four American Composers."

Einstein on the Beach has fascinated its audiences for the bodily trials it demands of them as well. Spectators must choose whether to endure the entirety of the opera, which is performed without intermission, or break from their stupor to address simple bodily needs. The program notes encourage audience members to come and go as they please.[271] Nevertheless, as several reviewers noted, audience members were instead inclined to endure the entirety of the opera without pause.[272] Not unlike the performers on stage, the audience subjects itself to a code of strict bodily conduct.

Reviewers of the 1976 premiere remarked on Robert Wilson's desire for performance endurance, testing the limits of the audiences' own facility. Wilson's previous opera, *The Life and Times of Josef Stalin,* had run for twelve hours, and critics expected and anticipated as much for *Einstein*. Clive Barnes, writing for the *New York Times*, noted Wilson's theatrical works and their dependence on time, especially "in the art of boredom and the craft of reiteration."[273] Mel Gussow, writing for the *New York Times*, recalled:

> When dawn broke over Wilson's 12-hour spectacular 'The Life and Times of Joseph Stalin' at the Brooklyn Academy of Music, it was as if we in the audience, in league with the actors, had survived the holocaust. 'Einstein' is considerably shorter and less demanding than 'Stalin' (next to it, it might be considered austere), but it still needs a certain indulgence and suspension of traditional theatrical expectation.

Gussow's drastic analogy speaks to the bodily trials that the audience members themselves must undergo. Given Wilson's theatrical background, expectations were high regarding the physical demands on performers and audiences. In many ways, Wilson favored the somatic over the semantic. Instead of making sense, per se, his operas made meaning through the senses.

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[271] Weinberg, "Archival Examination of Einstein," 39.
[272] New York Times critics Clive Barnes and Mel Gussow both note that no one took up the offer to move up and about during the premiere performance at the Met. Barnes, "'Einstein' Transforms Boredom."; Gussow, "'Einstein' Is a Science-Fiction Opera-Play."
[273] Barnes, "'Einstein' Transforms Boredom."

These intense corporeal pressures express the opera's biopolitical commitments. By the mid-1970s, the Cold War had taken its toll on US citizens' minds and bodies. Having been drilled to duck and cover in childhood, the US public understood that political power was directly tied to nuclear technology's ability to give and take life. Defining biopolitics in the US context, Kyla Schuller writes,

> …biopolitical regimes deem white, normative members of a population to be assets and attempt to further improve their lives by granting them more and more state resources—for example, cutting-edge health care and education designed to optimize their potential. At the same time, biopolitical regimes dismiss people of color as disposable material who threaten the population's stability and are thus useful only as exhaustible labor.[274]

The exhaustion of bodies is a symptom of what we might call, echoing Jameson, the opera's political unconscious, one that understands state violence—the constant threat of nuclear annihilation—as fundamental to modern democracy. In the nuclear age, statecraft taught citizens how to discipline their bodies in preparation for an apocalypse.

Likewise, *Einstein*'s performers and spectators learned how to discipline their bodies in preparation for and through performance. They gained an understanding of how to breathe properly, how to mask their injuries, and how to attune one's self to the overwhelming stage spectacle and deny biological needs. Davis and Koh insist on their commitment to the opera in solidarity with their fellow performers and in pursuit of reaching "absolute presence."[275] *Einstein* provided a space for "habitus," the synthesis of "time" and "bodies," where and when bodies could physically practice ways of being and knowing their nuclear world. Habitus is theorized by scholars of anthropology and phenomenology as the social conditioning of the individual body. Wilson and Glass aestheticize habitus, in a way that denaturalizes the somatic regime and yet

[274] Kyla Schuller, "Biopolitics," in *Keywords for American Cultural Studies*, ed. Bruce Burgett and Glenn Hendler (New York: New York University Press, 2020).
[275] Davis, *Helga: The Armory Conversations*.

affords acclimatization of corporeal expectations. Societal demands on the body are understood as universal despite their alienating effects. Habitus is accepted to such a degree that even in the conversations among performers who suffered through the performances, giving an account of the self can be surprising. As Jennifer Koh recounts the physical pain and hours of therapy, Davis interrupts her, "So you hid that? You did because I had no idea." Koh simply replies, "I'm not gonna put my stuff on the other performers."[276]

History: Modernity on Trial

In opera's history, trial scenes have offered contained settings for excesses of emotion and interrogations of character. In Verdi and Gislanzoni's *Aida* Amneris pleads with the tribunal to save her beloved. Robert Ward's *The Crucible* heightens the melodrama of Arthur Miller's original play by means of the trial. Benjamin Britten and E.M. Forster's *Billy Budd* and Britten and Montagu Slater's *Peter Grimes* use the struggle of the trial to question who is truly good and bad when society has already condemned you. The courtroom in *Einstein on the Beach* gestures at such narrative conventions: there is law and order, there are prosecutors and defendants, clear winners and losers; and there is the closure of justice offered by the trial, which inclines toward justice. Central to *Einstein*'s dramatic unfolding, the Trial scenes contain the most "action," involving all the performing forces and integrating the courtroom drama as a crucial narrative conceit. Indeed, not one but two trial scenes, Act I, Scene 2 and Act III, Scene 1, lead to a "prison" scene. But why trial scenes? Who or *what* is on trial?

In the trial scenes, the Einstein figure's relation to the main stage's courtroom hints at what is on trial. The eponymous figure occupies neither dimension. He is not part of the courtroom, so

[276] Davis, *Helga: The Armory Conversations*.

he is not directly entangled in the frenzy of symbols conjured there, nor is he part of the audience. Given that, we might say that Albert Einstein is not himself on trial, but is rather a witness to the trial. What is depicted is his staged fantasy of a trial in which he confronts his past. He cannot state his case, he simply witnesses. When you are Einstein, witnessing what you have wrought is like looking at your own nuclear "Pandora's box."

In *Einstein,* modernity itself is on trial. Modernity is what Einstein knows, what he himself has lived through. Roland Barthes writes of Einstein's "brain" as "the greatest intelligence which constitutes the image of the world's most perfected machine…there is always something reified about a superman."[277] Above the law, Einstein can only hope that the court will reveal the truth about modernity. In an essay titled "The End of Modernity," philosopher Henri Lefebvre writes: "Modernity was promising. What did it promise? Happiness, the satisfaction of all needs. This promise of happiness—no longer through beauty but through advanced technology—was supposed to be realized in the everyday."[278] In Einstein's time, modernity exemplifies the progress of scientific knowledge, technology and engineering, the steady clip of industry, and the ever-expanding vice grip of an invisible hand. According to Lyotard, the idea of modernity is closely bound up with the principle of novelty, of new ways of living and thinking. The work of the "post" in postmodernity, then, is not one of temporal after-ness, but rather the work of *ana*mnesis, *ana*lyzing, and reflecting.[279] Instead of the therapist's office where one remembers and reflects, Glass and Wilson present the courtroom.

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[277] Roland Barthes, *Mythologies*, trans. Richard Howard and Annette Lavers (New York: Hill and Wang, 2013), 100.
[278] Stuart Elden, Elizabeth Lebas, and Eleonore Kofman, eds., *Henri Lefebvre: Key Writings* (New York; London: Continuum, 2003), 94.
[279] Here, Lyotard is playing on the suffix because "ana-" in the Greek means "back, going back, recalling back." Lyotard, "Defining the Postmodern," 143.

The first trial scene opens with stagehands arranging the scene's set pieces. Bleacher stands made of industrial metal piping are arranged on stage right, where the "jury" played by the chorus members will be situated. A similar structure sits at upstage left,, where the witness will eventually sit. Then, the characters file in like a ritualistic processional. The judges' bench is positioned upstage center, illuminated by a horizontal beam of light. The "fourth dimensional" spaces of the Knee Play square and Einstein's seat remain on display. Establishing a somber tone for the mise-en-scène, the music features a long organ drone on a low C with the flute arpeggiating an A-minor chord above. The chorus intones two notes, E and A (on solfege syllables "mi" and "la"). The dirge music accompanies the characters' entrances like an introit at a requiem mass. The courtroom becomes a sacred space, where truth illuminates and justice can prevail. The two judges make their own entrance. As they take their seats, the Einstein figure takes his in his "fourth dimensional" space. The ceremonial entrances mark the scene as significant, as if marking an important ritual, and yet the emptiness of the characters' signification obfuscates meaning.

When the dirge ends, the Einstein figure begins a new series of musical utterances, and the "Lawyer" begins to recite Christopher Knowles' text "Mr. Bojangles."[280] This kind of layering recalls typical operatic style where the orchestral music accompanies traditionally sung text. In

[280] Fragments of the text quote the song, "Mr. Bojangles" made popular by the Nitty Gritty Dirt Band—a song about a down-and-out man that Knowles likely heard on Top 40 radio. Fink, writing on the influence of popular radio on Knowles's libretto, observes: "The music-text relation in a 1970s-era theater where Einstein on the Beach was being performed was structurally similar to that obtained on a 1970s-era Top 40 station like WABC: in both, a stream of rhythmic, repetitive music met a stream of allusive, rhythmic, only indifferently signifying speech, the music and the talking each an independent creation, meant to be layered together only at the point of performance." Fink's proposition assumes that text overlaying music constitutes a kind of "simultaneity event," the kind of event that Einstein had theorized about with the coordination of clocks and time. Fink, "*Einstein* on the Radio," 34.

this sense, the audience can imbue this character with the operatic convention of the aria. Though the content remains confounding, the Lawyer's "aria" gives rise to a structure of feeling through which the audience can experience optimism about the spoken truth. They can sense the gravity of justice in this courtroom.

If the ceremonial entrance marks this ritualistic space, then this first Trial suggests the carnivalesque. In the carnival's topsy-turvy undoing of social order, the Old Judge might be played by a jester or a fool. Certainly, the tone of his speech marks him as a zany figure. Wilson's dramaturgical choices continue to question the urgency of the opera's social critique, marking Wilson as thoroughly postmodern. There is a certain coldness or detachment in his criticism of the nuclear event. The scene has set up the possibility of truth and justice in this courtroom, but the trial undermines any optimism about it because of the Old Judge's parodic tone when reciting women's liberation speeches and the near meaninglessness in the Young Judge's text. The audience must decipher the level of sincerity in both judges' assertions of truth. To lose faith in a justice system seems all too familiar to us now, but the Trial stages this radical pessimism for bourgeois audiences in 1976 Avignon and New York City—audiences for whom the ideal and sanctity of a just court may still have existed.

The continuation of the Trial in Act III focuses on the courtroom spectacle. This scene contains the "Witness" solo created and performed by Lucinda Childs, titled "Prematurely Air-Conditioned Supermarket."

> I was in this prematurely air-conditioned supermarket and there were all these aisles and there were all these bathing caps that you could buy which had these kind of Fourth of July plumes on them they were red and yellow and blue I wasn't tempted to buy one but I was reminded of the fact that I had been avoiding the beach.

Like the Lawyer's speech in the first Trial scene, the Witness's speech is suggestive of the aria form without being one. Here, we see a white woman dressed in white giving testimony in a

courtroom. The image has echoes of Schoenberg's *Erwartung*, where we delve into the hysteria of womanhood brought about by an oppressive modernity.[281]

In her recollections, Lucinda Childs talks about the resemblance of the Witness character to Patty Hearst.

> The day that we worked on that scene also happened to be the day of the Patty Hearst trial. And there was a cover of her on the front page of the New York Post with handcuffs – a beautiful photo actually. Bob talked about it in that scene of the sequence at the end, where she transforms herself from debutant into a robber into a beauty queen.[282]

The sequence to which Childs refers and Wilson had envisioned occurs after the twenty-eighth repetition of the "supermarket" text. The Witness begins a dance not unlike that of Salomé's "Dance of the Seven Veils," and her dance gestures toward the femme fatale narrative: a desire for worldliness, a succumbing to the male gaze, a gambling away of one's own life, and, finally, losing the bet. As she finishes the forty-first repetition of "Prematurely Air-Conditioned Supermarket," she proceeds to move off stage without much embellishment apart from a lollipop. *Einstein* follows operatic tradition and tragic convention, sacrificing the femme fatale in order to restore societal order. Yet in this postmodern reflection, the opera projects the narrative arc of the femme fatale while subverting its sacrificial gesture. It seems only tragedy is possible in modernity.

The Einstein figure does not return to his fourth dimensional space during this episode. He appears as the courtroom is being deconstructed, leaving only the Witness seated alone and distanced from the audience's gaze. By comparison with the previous courtroom trial scene, this one is barren. The visual concept evoked here is reminiscent of a Mark Rothko painting: a wash

[281] Seth Brodsky, "Waiting, Still, or Is Psychoanalysis Tonal?," *Opera Quarterly* 32, no. 4 (2016).
[282] Childs, interview.

of flat gray in the background on which a beam of horizontal light is projected. The Witness begins to recite a new text, "I Feel the Earth Move," also by Christopher Knowles. The text opens with a strong assertion, "I feel the earth move," with its conventional subject-predicate structure in the affirmative present tense. The speech act here, that of a declaration, magnifies the speaker's gravity. The Witness, after testifying about the "Prematurely Air-Conditioned Supermarket," signals to the audience that individuals seeking justice against the criminality of modernity will end up losing, jailed, and ostracized from the collective that is society.

Einstein himself remains an unclear witness to the Witness. He is seated and lit with a spotlight, but he does not play his violin. Perhaps he is meant to identify with the Witness, the figure finally put behind bars. Or perhaps he is meant to be mourning the Witness, who testifies to the emptiness of the courtroom proceedings. Did the Trial lead to justice? Did the Trial reveal some sort of Truth? The Trial staged a complex simultaneity of events that amounted to no "history," no overt political narrative of the courtroom's winners and losers. The narrative arc of the Trial scenes confronts the audience with the possibility that a fantasy of justice concludes not in justice nor with truth, but only with stillness and a void. An event without meaning is not history, but rather a trial of time. The Trial stages for the audience what it might feel like to "simply exist in time," as the audience attempts to formulate a history, desperately trying to impose meaning onto the rupture of events unfolding.

Repetition

At center of both the embodied performances and the narrativizing of history is repetition. Repetition saturates *Einstein*, from Glass's musical style to Childs' choreography, and at the core

of it is Robert Wilson's repetitive vision of theater and drama. Regarding such automaton-like repetitions in performance, Wilson asserts:

> I'm the kind of director that's not afraid of repeating something over and over and over. . . I think the more mechanical we are, the more we do it, the more we understand about it. Many people think that it loses life, but I don't think so, I think you become freer. In this work, it's very formal. The gestures are counted repeated and rehearsed. People are afraid of that, counting numbers and learning it. But once one learns it and can do it without thinking so much about it, then one is free to think about other things.[283]

For Wilson, this manner of rehearsal and performance opens up the possibility of access to a sort of transcendent truth: repetition *ad nauseam* until the body becomes numb to the nausea.

The repetition of Glass's minimalist music similarly posits a perpetual present.[284] Instead of a continuity of musical matter evolving into a teleological whole, minimalist music can be considered a series of singularity events. Glass's notation suggests this kind of musical logic: he indicates repetitions of measures or short phrases with "x2" "x4" "x8" (etc.) where measures in succession will have different amounts of repetitions—for example, the first four measures of "Dance 1" (Act II, Scene 1) are repeated "x8, x2, x8, x2" respectively. The rationale behind Glass's minimalist music focuses on the scale of the atomized measure, rather than the scene as a whole. Writing on the signifying logic of minimalist music, Robert Fink characterizes minimalist music or process music as a "recombinant teleology," one in which motion is driven to repeat rather than to conclude. The repetition of process music is not, he claims, "the negation of desire, but a powerful and totalizing metastasis. Minimalism is no more celibate than disco; processed desire turns out to be the biggest thrill of all."[285] The recombinant teleology is a repetition unto

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[283] Obenhaus, "Einstein: Changing Image."
[284] Fink, *Repeating Ourselves*.
[285] Fink, *Repeating Ourselves*, 9. We might want to think about the difference between Fink's posited "recombinant teleology" and Althusser's own adage that "history has no telos." i.e., what is the difference between a teleology unto itself and a lack of telos? A certain kind of

itself—measures are repeated with seemingly no overall logic ("x8, x 2, x8, x2, x2, x2") subject to the *feel* of the music in its perpetual present. Fink argues that a "true cultural hermeneutic of minimal music must do more than describe or analyze minimalism: it must attempt to make its emptied-out formal language *signify*."[286] Minimalist music, like disco, desires desire. It is an affective gambit that has no political outcome.

In an interview discussing her choreographic intent, Childs emphasized the importance of the everyday movements within a totally conceptualized dance.[287] In her work prior to *Einstein*, she based her choreography on spoken text and sometimes prop objects, but most important to her was the apparent disconnect between text, object, and gesture. With these elements, she employed repetition to take very simple material and rearrange it in such a way that "you constantly present it anew."[288] For Childs and other performers, the repetitiveness of the music and dance opened up the possibility of presence. Repetition was understood as denaturalizing, in a way that allowed the performers to lose themselves in the vacillations of repetition and *différance*.

Reviewers in 1976 were also gripped by the aesthetics of repetition. Tom Johnson, writing for the progressive newsweekly, *The Village Voice*, was invited to participate in a rehearsal. He wrote about the difficult counting that was required to perform Glass's music.

> It is obvious just from listening to the long repetitions and quick pattern shifts that there has to be a lot of counting involved. But what kind of counting? Is it tricky, difficult counting that requires heavy concentration? Is it dull drudgerous [sic] counting that bores the hell out of you? Is it the kind of counting that can alter your consciousness, as in so

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rationalization make it possible to think both of these things are happening in postmodernity, and whatever that rationalization is seems to have the texture of musical minimalism.

[286] Fink, *Repeating Ourselves*, 18.

[287] Lucinda Childs, "Pew Center for Arts and Heritage Interview Footage," interview by Eric Franck, *Pew Center for Arts and Heritage*, 1978.

[288] Childs, interview.

> many yoga and Zen exercises? It's really none of the above, though it's a little like each[289]

In his own review for the *New York Times* Mel Gussow wrote about the feeling of repetition for an audience member.

> A word about time: Wilson's body clock is slow. Minutes equal hours. This is…slow motion. Repetition can be enervating, particularly when the dialogue is intentionally banal. Our brains survive this ennui because there is a calculated design (the opera is a suspension bridge) and because of the professionalism of the performance.[290]

These reviewers touch on repetition in a similar way, as boring and enervating, as a profound ennui. Dick Higgins, an experimentalist performer working with the Fluxus group, had written on this very kind of boredom prevalent in works of the era. Writing in 1968, he considered "boredom and danger, not as a new mode," but as "implicit in the new mentality of our time."[291]

The automaton-like performance in *Einstein on the Beach* is an instance of the uncanny. The progress of modernity, with its promise of a technocratic utopia, left an uncanny aftershock: Technology could bring new life into being, but it could also bring new forms of death, and at a scale, spatial and temporal, never before experienced in human history. Nuclear technology brought with it the possibility of unprecedented mass death. Though the immediate terror that the Manhattan Project wrought subsided, a sense of technological uncanniness and its ability to summon up death remains. The utopian promise of technology to provide a better life for civilization ignores (or represses) the dark underbelly of the promise of this "better life" as one in which people are brought together through ruin. Nuclear weapons fundamentally restructured

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[289] Tom Johnson, *The Voice of New Music: New York City, 1972-1982: A Collection of Articles Originally Published in the Village Voice* (Eindhoven, Netherlands: Het Apollohuis, 1989). Jan 26 1976 Tom Johnson *The Village Voice*

[290] Gussow, "'Einstein' Is a Science-Fiction Opera-Play."

[291] Dick Higgins, "Boredom and Danger," *The Something Else Newsletter* 1, no. 9 (1968): 6. For more on Fluxus and their artistic commitment to experimental repetition see: Hannah Higgins, *Fluxus Experience* (Berkeley: University of California Press, 2002).

political sovereignty, as democratic nations become authoritarian "thermonuclear monarchies"—above all, the United States of America.[292] Furthermore, the nuclear problem engendered new forms of political consciousness, from which US society produced new understandings of what it meant to live in a world under constant nuclear threat. The levels of operatic mediation can numb or awaken the audience to the critique of the nuclear problem; at its best the opera does both.

Einstein on the Beach is one representation among many of the nuclear event. Wagner-Pacifici theorizes the event as singular, as we have seen, but its singularity depends on the paradox that "recognition of an event *requires* recurrence and repetition through the aegis of representation."[293] Everyday, "clock" time continues on. A desire to find the event's central rupture leads to futile attempts at meaning-making. The scene of rupture is made into an event through distance—literally a spatial distance from "ground zero"—and through the chronicling or narrativizing of time. *Einstein* is one reiteration of the nuclear event, and its utterance is another representational transformation and yet another narrative repetition. Given its relative lateness with respect to any actual nuclear event (over thirty years after Hiroshima, and nearly fifteen years after the Cuban Missile Crisis), *Einstein* seems temporally out of sync. Yet the historical distance allows Wilson and Glass to tell a history of the nuclear age as an ongoing event, a perpetual "eventness," in a Deleuzian sense. *Einstein* offers opera's intimate public an historical narrative without conclusions, but it provides that public with commentary on what it takes for them to live amidst these existential vacillations. The opera's repetitions are musical, choreographical, and dramaturgical expressions of Lyotard's critique of postmodernity's relation with the past, where he argues that breaking from the past constitutes "a manner of forgetting or

[292] Scarry, *Thermonuclear Monarchy*.
[293] Wagner-Pacifici, *What Is an Event?*, 69.

repressing the past. That's to say of repeating it. Not overcoming it."[294] *Einstein* presents its audiences with one such way to live in the nuclear age: by simply being present in it and attending to the repetitions of incessant nuclear threat.

The nuclear age proposes a new rationalization of time and space that has ramifications for the temporal and spatial possibilities in cultural formations like opera, to which *Einstein on the Beach* attested as it entered elite opera houses and performance venues. The distortion of time and space in the nuclear age is dramatized by the phenomenon of radiation because radiation sickness appears long after initial exposure. Joseph Masco calls this a "temporal ellipsis" that breeds an affective atmosphere of anxiety.[295] He adds that "radiation paranoia" is a result of the diminution of space in the nuclear age, because radiation can travel far distances following global weather patterns. These new regimes of temporal and spatial reality lead to a profound repression in the nuclear age, and "individuals either numb themselves to the everyday threat or are conditioned to separate themselves from their own senses." Masco further identifies the correlation between theoretical space and time and geopolitical machinations.

> If securing "time" was the objective of the Cold War weapons program, Los Alamos weapons scientists pursued this goal through a complicated logic of technological determinism, in which the future was increasingly foreshortened in the name of producing a present-oriented space for political action. As explicitly a temporal project, the technoscience of nuclear deterrence simultaneously collapsed global space so efficiently during the Cold War that living on the brink of nuclear conflict quickly became naturalized as the very foundation of national security.[296]

It takes only a "shake" to set off a nuclear explosion, but it takes a millennium to clear nuclear radiation. The future is defined by the shakes, but the present is destroyed for millennia. With an

[294] Lyotard, "Defining the Postmodern," 143.
[295] Masco, *Nuclear Borderlands*, 32.
[296] Masco, *Nuclear Borderlands*, 48.

unfinished ending, the history of the nuclear age befits the aesthetics of minimalist music. The repetition of both process music and the nuclear problem means a political stake with no material outcome. Political action determines nuclear policy according to nation-state boundaries, but fallout knows no bounds. Furthermore, nuclear policy has excluded the voices of those whose land and health are destroyed by nuclear tests. A policy of mutually assured destruction built infrastructure to enable the apocalypse, infrastructures that would amount to totalizing doom. Thus, the infrastructure is always at the ready to trigger the end of the world as we knew it—the end has been made our present.

Einstein on the Beach influences the relation to the nuclear event through its narrative arrangement and social critique. It offers a way to make meaning in the aftermath of events that preclude meaning. Its understanding of society and technology conveys ambivalence, toggling between the ideological understanding that technology both creates and destroys. Albert Einstein's role as the mythic figurehead of technoscience gives Glass and Wilson numerous symbols with which to understand technologies of non-creation and non-destruction. *Einstein*'s representation of technology does not take an overt ethical stance. Jürgen Habermas blames a "technocratic consciousness" for the "repression of 'ethics' as a category of life.'"[297] Moralizing in such a way would put *Einstein* in a category of historical narrative, describing good and bad; instead, *Einstein* deviates from such Manichean tropes.

Wilson and Glass's explicit aesthetic project aspires to a non-narrative representation of Einstein in the nuclear age. *Einstein* attempts to understand the event in its time rather than the event as the past—what Jameson considers the "postmodern artistic singularity-effect" because

[297] Jürgen Habermas, "Technology and Science as Ideology," in *Toward a Rational Society* (Cambridge, UK: Polity Press, 1987), 112.

the event remains a rupture, a not-yet-historicized moment. Through its spectacular form, opera can mobilize the spectators' affect so that they can work through the problems of the nuclear age together. Opera proposes a certain utopia: one in which we can feel our way through the nuclear event together. The ideology laminated to that utopic envisioning is a kind of sentimental liberalism, an idea that getting someone to feel a certain emotion (be it dread or overwhelming intensity, boredom, or danger) might move someone in a political way. There is also a sense of a bourgeoning neoliberalism, one in which the individual body must learn to adapt and endure the incessant repetitions of modernity's demands.

In the history of opera, historical spectacles reign—spectacles that narrate incidents in the lives of kings and queens, tell legends of the gods, and restage myths of the human condition. But when opera addresses the nuclear problem, it is bereft of speech, bereft of narrative. To be sure, the nuclear problem poses interesting and intervening issues for all cultural forms.[298] How can you tell a story without a future archive, when its ending is the end of everything? Taking on Theodor Adorno's incisive axiom that "to write poetry after Auschwitz is barbaric," perhaps we might say that to write and stage opera after Hiroshima is barbaric.[299] Adorno, writing specifically on cultural criticism and its indebtedness to the dialectic of culture and barbarism, demands that cultural critics of various literary formations, writing in the wake of the great human atrocities of World War II, remember the barbaric culture from which their criticisms grow. Confronting the great human atrocities of WWII, the genocide of modern warfare, also requires confronting the ideas, science, and technology that made those atrocities emergent.

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[298] Jacques Derrida, "No Apocalypse, Not Now (Full Speed Ahead, Seven Missiles, Seven Missives)," *Diacritics* 14, no. 2 (1984).
[299] Theodor W. Adorno, *Prisms*, trans. Samuel Weber and Shierry Weber (Cambridge, MA: MIT Press, 1997; repr., 9th ed), 34.

Opera after Hiroshima is especially barbaric as it attempts to tell a story of its time, claiming a truth of the human condition that is severely problematic given how modernity culminated in alienation and dehumanization. In this way, opera after Hiroshima continues its tradition of serving as a medium of statecraft—hopeless endeavors to recover modernity's fantasy of the nation as fundamental to the political and everyday life of its citizens.[300] Even while knowing what violence an imperialistic nation-state is capable of, *Einstein on the Beach* attempts to narrate the nuclear event. Certainly no "high art" could capture the collapse of space and time in the explosion of the nuclear bomb. There is no convention of dramatic narrative that could fully encapsulate the essence and horror of instantaneous mass death and destruction. *Einstein* cannot really mediate the impossible narrative of the nuclear event, but its attempt to do so provides a rich tableau vivant of its nuclear moment.

By 1976, this kind of grasping-for-the-present had taken hold in numerous branches of life—from new globalized financial markets to discotheques, from old ideas of the collective to new conceptions of the individual. Nuclear technology demanded constant attention to the past and future. The whiplash of history would come to a caesura in the era when nuclear technology would be repressed, literally consigned to the subterranean level. In that moment of pause, *Einstein on the Beach* took up space, re-coordinating time. Albert Einstein's desire to end the proliferation of nuclear weapons science would remain a wish, an aspiration never to be fulfilled. The next nuclear event will pose another kind of collapse of space and time, and until then the nuclear age marches on to the beat of the imperialist drum. Foregrounding the essential relation to the power of nuclear technology, *Einstein* depicts the ordinariness of life amid global threats.

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[300] Lauren Berlant, *The Anatomy of National Fantasy: Hawthorne, Utopia, and Everyday Life* (Chicago: University of Chicago Press, 1991), 4.

It centers a relative time, when modernist time and postmodern space vie for control of the opera house, when bodies and history repeat *ad nauseum*, when Einstein himself could symbolize both the magus and the machine, and when the pointing of the small hand of the clock to 7 and the arrival of the train are simultaneous events.

Chapter Four

Nuclear Myths in the American Frontier: *Doctor Atomic* in New Mexico, 2018

In a press conference announcing the Santa Fe Opera's 2018 Season, artistic director Charles MacKay introduced two special guests: the renowned stage director and creative, Peter Sellars, and (a director of a different sort) the director of Los Alamos National Laboratory (LANL), Charles McMillan. The three directors represented the collaborative vision of this new revival of the opera *Doctor Atomic*. Over a decade distanced the original production from Santa Fe Opera's (SFO) ambitious revival. The opera had first been commissioned and premiered by the San Francisco Opera in 2005 with music by John Adams and libretto by Sellars himself. The Santa Fe revival would be aesthetically progressive and historically emplaced.

Bringing the opera home to New Mexico, site of LANL, meant bringing the figure of Robert Oppenheimer (1904–1967), its wartime leader, back to the mythical desert frontier. Sellars declared at that press conference:

> I think it's very important that the land itself testifies. The land of New Mexico is so eloquent. These incredible mesas—yes, they can tell stories. And if you're in New Mexico and you're not hearing what the land is saying, you should stop and listen.[301]

From the SFO's vantage point, "audiences looking through the open back of the theater stage can practically see Los Alamos, site of the secret city."[302] In this new production, not only would the land testify but also the people of the land would be called in as witnesses.

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[301] Megan Kamerick, "Doctor Atomic," *Local Flavor*, July, 2018, 17. For more on listening in the North American Indigenous context see: Nadia Chana, "To Listen on Indigenous Land: Method, Context, Crisis" (PhD Diss., The University of Chicago, 2019).
[302] Kamerick, "Doctor Atomic," 17.

The indigenous populations around Los Alamos—these native spectators and stewards of the land—were impacted by the Manhattan Project. Staging *Doctor Atomic* in Santa Fe and engaging its people to conjure up the legendary figurehead, Robert Oppenheimer, suggests a ritual that brings myth to life.[303] For the first time in the opera's institutional history, there would be delegations from the San Ildefonso, Santa Clara, and Tesuque Pueblos brought together to perform. The three pueblos would come together as a Tewa people to contribute a version of the Corn Dance, a sacred dance specific to pueblo ritual. Sellars envisioned the Corn Dance as an acknowledgement of the Tewa's history and presence at Los Alamos during the Manhattan Project. Additionally, representatives from the Tularosa Basin Downwinders Consortium would stand (figuratively and literally) in the opera to represent the generations affected by nuclear testing and mining. The production reminded its audience of the nuclear power that continues to dominate the Southwestern frontier.

This chapter contributes to an ongoing discussion in opera studies and musicology about the relation of opera to myth, story-telling, and historical narrative.[304] Staging *Doctor Atomic* at SFO

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[303] On ritual and myth, see: Bell, *Ritual Theory, Ritual Practice*; Alfred Gell, *The Anthropology of Time: Cultural Constructions of Temporal Maps and Images* (Oxford: Berg, 1992); Beeman, "The Anthropology of Theater and Spectacle." These works are cited in Feldman, *Opera and Sovereignty*. For more on the specific ritual practice of the Tewa people: Jill Drayson Sweet, "Ritual and Theatre in Tewa Ceremonial Performances," *Ethnomusicology* 27, no. 2 (1983); *Songs of the Tewa*, trans. Herbert Joseph Spinden (1933).

[304] I am leaning on the work of many pillars in opera studies, including: Carolyn Abbate, *Unsung Voices: Opera and Musical Narrative in the Nineteenth Century* (Princeton, NJ: Princeton University Press, 1991); Abbate, *In Search of Opera*; Carolyn Abbate and Roger Parker, *A History of Opera*, 2nd ed. (New York: Norton, 2015); Naomi A. André, *Black Opera: History, Power, Engagement* (Urbana: University of Illinois Press, 2018); Olivia A. Bloechl, *Opera and the Political Imaginary in Old Regime France* (Chicago: The University of Chicago Press, 2017, 2017); Joy H. Calico, *Brecht at the Opera* (Berkeley: University of California Press, 2008); Dizikes, *Opera in America*; Feldman, *Opera and Sovereignty*; Kreuzer, *Curtain, Gong, Steam: Wagnerian Technologies of Nineteenth-Century Opera*; Jonathan Sterne, "Afterword: Opera, Media, Technicity," in *Technology and the Diva* (New York: Cambridge University Press,

was in that sense comparable to staging the Orpheus legend in Florence. Place can add a ritualistic valence to the opera's myth. At its inception, opera retold and remade classical myth, and over the course of more than four hundred years, it expanded this story-telling mode to include historical event and reality. Musicologists deem Adams, Sellars, and Alice Goodman's *Nixon in China* (1987) the first successful political and historical American opera.[305] A postmodern opera, it tells recent history *as* myth, depicting the US president Richard Nixon's 1972 visit to Chairman Mao Zedong in the People's Republic of China. Its cast of characters includes historical figures who were still alive at the time of the premiere, including US Secretary of State Henry Kissinger and Jiang Qing then wife of Chairman Mao. Because of the chronological proximity between the historical event and the opera's mythological rendering of it, *Nixon in China* garnered mixed reviews. Detractors found it a cheap and sentimentalizing political take, while admirers found it invigorating precisely of its timeliness. Regardless, *Nixon* made an impact on American opera history for its directly political subject.

In a certain way, John Adams's career can be traced from *Nixon* onward as an attempt to return to *Nixon*'s form (opera as historical myth) and success. The trio of Adams, Sellars, and Goodman went on to create *The Death of Klinghoffer* (1991), which depicted the murder of Jewish-American Leon Klinghoffer at the hands of the Palestine Liberation Front in 1985. Allegedly, the bitter public reception of the opera ultimately soured the relationship between Adams and Goodman. Between 1991 and the initial discussion of *Doctor Atomic* in 2002, Adams did not write opera. Instead, he had commissions for orchestral works, chamber ensemble,

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2016); Emily Wilbourne, *Seventeenth-century Opera and the Sound of the Commedia Dell'arte* (Chicago: University of Chicago Press, 2016).

[305] Timothy A. Johnson, *John Adams's Nixon in China: Musical Analysis, Historical and Political Perspectives* (Surrey, England; Burlington, VT: Ashgate, 2011).

oratorio and chorus. Working only with Sellars, Adams returned to opera to refine their mythic storytelling capacity.

This chapter focuses on the 2018 revival of *Doctor Atomic*, staged and produced by the Santa Fe Opera with Sellars acting again as artistic director. I am interested in the ways the production ties myth to land and the work of cultural institutions in reproducing narratives of nuclear hegemony. The SFO worked in consort with other cultural institutions to create "extramusical" programming, including a symposium and a guided historical walking tour. In June 2022, I visited a number of these sites, including The Los Alamos Historical Society and Museum, the National Museum of Nuclear Science and History, the Bradbury Science Museum, the New Mexico History Museum, and the Institute of American Indian Arts. Following ethnographic approaches in the field of museum studies, I place the museum alongside the opera house as spaces of contact, where stakeholders (directors, composers, curators) and visitors encounter each other.[306] I claim that the network of cultural institutions continues to uphold hegemonic narratives of nuclear empire.

Opera Myth America

In an upcoming collected volume edited by Kevin M. Kruse and Julian E. Zelizer, *Myth America: Historians Take on the Biggest Legends and Lies About Our Past* (Basic Books, 2022), several historians band together to tackle the effects of "bad history" or the mythical proportions (and distortions) of recent historical narratives, especially as they have emerged in the hands of

[306] Rhiannon Mason, "Cultural Theory and Museum Studies," in *A Companion to Museum Studies*, ed. Sharon MacDonald (Oxford: Wiley-Blackwell, 2011); Roberto J. González, Laura Nader, and C. Jay Ou, "Towards an Ethnography of Museums: Science, Technology and Us," in *Academic Anthropology and the Museum: Back to the Future*, ed. Mary Bouquet (New York: Berghahn Books, 2006).

"the conservative media."[307] I bring opera studies into conversation with American studies because the long history of myth-telling in opera can inform how we address mythmaking in contemporary US history. The historians gathered under *Myth America* aim to replace "myths with research and reality," as if the proposed myth-busting of misinformation in the American public would make an impact on the structuralist function of American myth. Opera reminds us that *fact* sometimes makes good *fiction*, and the work of myth continues to structure social and political attachments today. Myth-making, whether in the opera house, the museum, or public media, can function as a hegemonic narrative force—or make space for counter-narratives.

Opera's history helps us understand how the mythic form progressed from the strictly monarchical hegemony to the bourgeois public sphere, and it can shed light on how myth continues to function to obfuscate these social and political dynamics. As Roland Barthes writes: "Myth hides nothing: its function is to distort, not to make disappear. . . There is no myth without motivated form. . . . From the point of view of ethics, what is disturbing in myth is precisely that its form is motivated."[308] The myths that Kruse and Zelizer (et al.) intend to "debunk" include narratives of the New Deal, immigrants, and feminists, but their methodology (fact beats fiction) falls short of deconstructing myth as a "motivated form." The rise of myth in public discourse—or, in the case of opera the resurgence of myth—signals a symptomatic desire to make meaning of what is felt as self-evident. Instead of debunking or deconstructing, I want to consider a critical tracing, mapping out the paths that led to our reified social condition.[309]

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[307] Quotation taken from the blurb of the recently published book.
[308] Barthes, *Mythologies*, 231, 36.
[309] Here I am referring to Eagleton. "This autonomous, self-determining artefact of a world then rapidly takes on all the appearances of a second nature, erasing its own source in human practice so as to seem as self-evidently given and immobilized as those rocks, trees, and mountains which are the stuff of mythology. . . . If myth is thus symptomatic of a reified social condition, it is also

I have much company in the effort to analyze opera's relation to myth and political allegory. Yayoi Uno Everett theorizes the ways in which postmodern and contemporary opera appropriates mythic elements through nonlinear narrative frameworks and symbolic characters drawn from historical subjects.[310] Everett's analysis of *Doctor Atomic* focuses on the production history and the opera's historical subjects. Relying on description and musical analysis, Everett's study of *Doctor Atomic* raises questions about the aesthetic efficacy of the opera as a tome of history. My chapter will contribute to the existing discussion around *Doctor Atomic* by thinking about the operatic institution. How does the cultural geography of northern New Mexico shape SFO's understanding of the nuclear empire? And how does the aesthetic strategy of spectacle shape this particular production?

I describe the SFO as a cultural institution with missions similar to those of local museums and historical societies. These institutions function as "charitable or benevolent" establishments, focusing on intellectual, spiritual, and aesthetic development that serve the public.[311] I follow methods from opera studies, which have long availed themselves of institutional history to understand the machinations of opera in social life. For example, Martha Feldman's study of *opera seria* in various eighteenth-century Italian cities lays out a methodology for analyzing how sociopolitical issues are worked out within the institutional space.[312] Though eighteenth-century Italian opera seria featured myths of sovereign figures more explicitly than twenty-first century

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a convenient instrument for making sense of it." Terry Eagleton, *The Ideology of the Aesthetic* (Oxford, UK: Blackwell Publishers, 1990), 317-18.

[310] Yayoi Uno Everett, *Reconfiguring Myth and Narrative in Contemporary Opera: Osvaldo Golijov, Kaija Saariaho, John Adams, and Tan Dun* (Bloomington, IN: Indiana University Press, 2015), 10, 126.

[311] Raymond Williams, *Keywords: A Vocabulary of Culture and Society*, 3rd ed. (Oxford: Oxford University Press, 2015), 121, 52.

[312] Feldman, *Opera and Sovereignty*, 6.

operas, the latter maintained these residual tropes of genre. Moreover, opera houses then and now constitute and are constituted by a specific collective, the spectators that define and find meaning out of the spectacle. By describing the SFO's production of *Doctor Atomic* amidst its network of cultural institutions, I hope to trace the nuances of artistic intent and reception while maintaining a commitment to the multiplicities of (mis)interpretation.

Cultural institutions in northern New Mexico constitute an especially rich network for study because histories of the nuclear empire continue to be a vivid reality in the present day. Joseph Masco argues that the "atomic history sites are … highly politicized spaces, ideologically charged in how they engage the past, present, and future of nuclear nationalism through practices of erasure and selective emphasis."[313] Evaluating highway billboards, the White Sands Missile Range, and repurposed nuclear silos, Masco examines "how emotions and fantasies become as infrastructural in the nuclear age as missiles, plutonium, and command and control systems."[314] He calls the tourists and docents of these sites "Cold Warriors" who remember the histories of the Cold War with as much "amnesia and repression as recognition and commemoration."[315] These atomic history sites use cultural memory in particular ways, often reiterating narratives that serve and support nuclear empire.

In the promotional material for their 2018 production, SFO advertised programming with the Atomic Heritage Foundation, the New Mexico History Museum, Los Alamos Historical Society, the National Museum of Nuclear Science and History, White Sands Missile Range Museum, and the Northern Rio Grande National Heritage Area.[316] The programming included a symposium

[313] Masco, *Future of Fallout*, 47.
[314] Masco, *Future of Fallout*, 126.
[315] Masco, *Future of Fallout*, 134.
[316] The SFO no longer hosts the webpage consisting of this promotional material, but the Atomic Heritage Foundation has archived their involvement in the so-called Atomic Summer (2018) at

and a “Ranger in Your Pocket,” which was a virtual guided hike. My own research led me to the Santa Fe Opera, the National Museum of Nuclear Science and History, the Bradbury Science Museum, and the Los Alamos Historical Society. I encountered folks fitting Masco’s definition of so-called “Cold Warriors” and wondered how I myself did or did not play into that stereotype. Nevertheless, my fieldwork grounded the research.

Rhiannon Mason’s interdisciplinary interpretation of critical museum studies defines the museum as a contact zone wherein “the museum functions more as a permeable space of transcultural encounter than as a tightly bounded institution disseminating knowledge to its visitors.”[317] Mason likens the critical museum study to literary theory, which has theorized the so-called death of the author, and she understands the museum visitor to be like a deconstructionist reader.[318] Museums are beholden to their publics, but they do not function in a utopian vacuum situated between stakeholders and visitors. The museum, like the spectacle as I have theorized it earlier in this dissertation, remains a site of contestation.[319] Among my own case studies, there is a distinction to be made regarding the range of visitors that these museums anticipate will attend. The Santa Fe Opera, Bradbury Science Museum, and the Los Alamos Historical Society are cultural institutions that serve residents and visitors of Santa Fe and Los Alamos, two of the wealthiest cities in New Mexico according to the 2019 census. The National Museum of Nuclear Science and History serves locals and tourists in Albuquerque, the most densely populated city of New Mexico. My case studies involve different publics, but one thing

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their website. "*Doctor Atomic* Coming to the Santa Fe Opera," Atomic Heritage Foundation, 2018, accessed 23 March, 2023.

[317] Mason, "Cultural Theory and Museum Studies," 25.

[318] Mason, "Cultural Theory and Museum Studies," 27.

[319] Mason, "Cultural Theory and Museum Studies," 24. Here Mason is reflecting on Bourdieu’s theory of taste—cultural taste as evidence of social hierarchy.

uniting them is their dependence on the contemporary non-profit model in order to keep their doors open to the public.

John Adams's account of the place of contemporary art in the marketplace provides an interesting critical insight into the limitations of market-driven art.

> The 'democratizing' of art, particularly in the hands of Americans, has resulted in a deadening repetition of the same familiar 'products': endless, Beethoven festivals, Mahler cycles, traveling art shows, tacky 'theme' programs, and the personality cult of big-name artists and performers. This creates a hectic, market-driven environment in the 'nonprofit' world, where the big institutions behave like vacuum cleaners sucking up all the available funding, leaving only crumbs for small community or radical art. And those out-of-the-way 'fringe' organizations, of course, are where the seeds for real creativity take place.[320]

His cynicism about art's contemporary place in the "marketplace" extends to his own understanding of its power to be politically efficacious.

> Social responsibility—that's an interesting area on which Peter and I don't always agree. He believes deeply in the social responsibility of art and artists, and I've noticed often that the music that he talks about most enthusiastically is music which he can construe as having a social message. I am uncertain about what kind of a dynamic exists between encountering a work of art and then transferring that experience into social action. For sure, an artwork's aesthetic value has nothing to do with its social impact.[321]

Adams's view speaks to the systemic pitfalls of a cultural institution that is dependent on benevolent gifts from wealthy patrons.

The Santa Fe Opera's own institutional history provides evidence of the shift in opera's mode of production from the twentieth to the twenty-first century. John O'Hea Crosby, a composer and conductor, founded the SFO in 1956 with a driving vision to present world and American premieres. New works were considered risky ventures so they would be underwritten by

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[320] John Adams, "John Adams on *Doctor Atomic*," interview by Thomas May, *The John Adams Reader: Essential Writings on an American Composer*, 2006, 236.
[321] Adams, interview.

mounting canonic repertory.[322] The SFO was part of a post-War boom in regional operas and productions: from 1962–1987, the number of US opera companies with budgets exceeding $100,00 grew from 27 to 154, attendance grew from 4.5 million to 13 million, and performances increased from over 4,000 to over 13,000.[323] Crosby's attachment to the northern New Mexico landscape animated his determination to make the SFO a nationally recognized cultural institution.[324] In the company's first years, nearly seventy percent of the audience had never heard opera let alone seen a live opera performance.[325] Crosby strategically timed the SFO opera season to the seasonal trend of summer tourism, drawing in cosmopolitan audiences from metropoles without summer performances.

Today, the SFO has moved to the non-profit model having received its 501(c)(3) status in 2015.[326] Like its museum counterparts, the SFO no longer relies on public sales to maintain its obligations as a cultural institution. This allows the cultural institution to continue serving the public's aesthetic and intellectual needs. Yet, as John Adams has attested, this change in the mode of production means that the cultural institution is especially dependent on wealthy patrons who become stakeholders in the cultural institution's offerings.

SFO's *Doctor Atomic* exists amidst this network of cultural institutions buoyed by overlapping stakeholders from northern New Mexico; indeed, it emerged in the same moment

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[322] In personal discussions, Emily Richmond Pollock and I have thought about the SFO as an institution working toward a canon of American opera. She has also written about SFO's production of *Doctor Atomic*, considering its relation to SFO's early repertoire.
[323] Dizikes, *Opera in America*, 510.
[324] During the Los Alamos Historical Society walking tour, I learned about Crosby's interesting tie to the Manhattan Project: he was an alum of the Ranch School for Boys in Los Alamos, which would later be seized by the national government for the top-secret Manhattan Project.
[325] Dizikes, *Opera in America*, 511.
[326] A major grant from the Ford Foundation, a powerful non-profit organization, saved the SFO after its building suffered a fire in 1967.

that the not-for-profit status was consolidated. Nuances of artistic intent as seen against the reception history help illuminate opera's place in this nuclear context. The rest of this chapter therefore organizes itself around the main characters in the opera: Robert Oppenheimer (Opie), Kitty Oppenheimer, the desert landscape, and finally Pasqualita. I consider these characters to be metonymic with respect to questions around cultural institutions, the preservation of (nationalized) memory, and the continued power of myth in the public sphere.

The Cultural Institutions that Remember Robert Oppenheimer

J. Robert Oppenheimer, the first director of the Los Alamos Laboratory and de facto leader of the weapons science division of the Manhattan Project and the hero of *Doctor Atomic* fascinates in his operatic role because he was a public figure who was intensely private about his personal life. Precisely because he failed to disclose his emotions, he raised questions about the potential guilt or shame he felt regarding his public role as "the father of the atomic bomb."

Oppenheimer catapulted into the public eye shortly after the war-ending bombing of Hiroshima and Nagasaki, and thus became synonymous with the atomic bomb. After the war, he wanted to use his stature to advance the policy of nuclear disarmament, but he fell prey to the House Un-American Committee's line of questioning. Because of his pre-War ties with the Communist party, he lost his top-secret clearance in 1954 and was essentially dismissed from political life. He spent the last decade of his life advocating for anti-nuclear policy but failed to reclaim his public influence.[327]

[327] Kai Bird and Martin J. Sherwin, *American Prometheus: The Triumph and Tragedy of J. Robert Oppenheimer* (New York: Alfred A. Knopf, 2005).

The decision to center *Dr. Atomic* on Oppenheimer was made by Pamela Rosenberg, director of the San Francisco Opera, who approached Adams in 2002 to write the opera as an "American Faust." Even in its genesis, the opera already had a genealogy in the mythological tradition. Adams reportedly recoiled at the idea of Oppenheimer as an American Faust.

> First of all, I don't see a close analogy here. These physicists working overtime to build the bomb thought they were in a race to protect us against the Nazis. They had reliable information to think that the Germans were working on their own nuclear bomb. Imagine if Hitler actually had such a weapon to hurl at the English or even at us. I don't see anything Faustian about that endeavor at all: *I think it was a heroic race to save civilization.*[328]

In the legend made famous by Goethe, Faust bargained away his soul with the devil in exchange for unlimited knowledge. Rosenberg's initial idea was not far off from that of Oppenheimer's biographers, who dubbed him the American Prometheus, the classical Greek god punished for bringing the knowledge and power of fire to humankind.[329] Because of his fairly public rise and fall, Oppenheimer was a historical figure with a conveniently mythic aura. Adams's denial of Oppenheimer's Faustian status speaks to the distinctly American folkloric tradition of hero-making and worship in contrast to that of the Germans or ancient Greeks. From Paul Bunyan to John Henry, the heroes of the American past were not making deals with the devil or defying gods, they were hard-working men in patriotic service to the nation. Though Adams might deny that his Oppenheimer is mythic like Faust or Prometheus, Adams' Oppenheimer is arguably as mythic as the American Frontier.

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[328] Adams, interview. Emphasis mine.

[329] "He was America's Prometheus, 'the father of the atomic bomb,' who had led the effort to wrest from nature the awesome fire of the sun for his country in time of war." Bird and Sherwin, *American Prometheus*, Preface.

In the latter decades of the twentieth century, the US nuclear complex underwent several changes, foremost of which was the declassification of information.[330] These documents shed light on the growing ambivalence among the Manhattan Project scientists, especially in the days leading up to the Trinity Test. After the surrender of the Germans, major figures like Leo Szilard began to doubt the efficacy of utilizing the weapon in an act of war. Historians now claim that nuclear weapons prolonged the Cold War, the end of which made possible the end of nuclear threats—or at least the imagined end.[331] In reality, nations around the world continued to invest in nuclear arsenals and allies during the 1990s, the decade following what is typically deemed the end of the Cold War (1989). In fact, in a post-Cold War, post-9/11 geopolitical context, public concern about the global nuclear problem had a moment of resurgence. Politicians and pundits alike stoked fears around terrorist organizations and "rogue" states, questioning and specifying which states could have a legitimate claim to a nuclear arsenal. The impulse to reanimate the mythic trope of an American Faust is symptomatic of the reified condition that considers scientific knowledge (i.e., nuclear technology) as key to national power. This line of thinking equates scientific progress with a Western definition of the nation-state. The study of mythic narrative helps to make sense of the ideological investments in nuclear supremacy.

The memory of Robert Oppenheimer and his time at Los Alamos is preserved at the Los Alamos Historical Society's (LAHS) museum. Located on the street "Bathtub Row," the museum consists of the Manhattan Project's former buildings. The museum acts as a physical repository for the LAHS, which has a distinct mission to preserve the history of the city and in particular the Manhattan Project. LAHS aims to acquire all the homes of Bathtub Row as part of

[330] Wellerstein, *Restricted Data*.
[331] Gaddis, *We Now Know*, 291-92.

its historical conservation project. Currently, they are raising funds to preserve Robert and Kitty Oppenheimer's former home, which was gifted to the society by its last owners.

I arrived at the LAHS museum on a Monday morning in June, having driven the hour up the mesa from Santa Fe. The docents, a husband-and-wife duo, greeted me and the other visitors. As they began our walking tour, they proudly proclaimed that they were long-time Los Alamos citizens: the husband worked at the laboratory and the wife raised their family (she joked about how the building of Los Alamos' own shopping center changed her life).

Theirs is a recurring story—husband works at the lab, wife raises the family—that not only describes these docents but all of the scientists of the Manhattan Project. As they tell us stories of the Manhattan Project on Bathtub Row, they inadvertently make these historical resonances. They see their lives in this geographically isolated, demographically homogenous place as being ordinary. The comparison presumes an ordinariness that Oppenheimer and his compatriots sought during their time "on the mesa"—long before there was a local Subway.

The walking tour led us through Fuller Lodge, which served as a recreation building for the men and women working on the Manhattan Project. At our various stopping points, our docents shared stories from the Manhattan Project and the boys' ranching school that came before it. They pointed out the famous scientists' homes on Bathtub Row (so called because they were the only houses in the area with indoor plumbing), and they made a special stop at an ancestral Pueblo site. My fellow visitors included those of us from out of town (I remember especially the man who wore an "A-BOMB" shirt and seemed to know as much as our docents did, to the extent that they suggested he volunteer for LAHS) and a young mother who had just moved to the city because of her husband's work (he was not on the tour since he was already at the lab). We made our final stop at the former Oppenheimer home.

The house has an eerie quality. Because it is not yet open to the public, we are encouraged to peek through the windows to the staged interior. The LAHS had begun to furnish the home in keeping with archival records. To add to this spectral quality, old photos of the Oppenheimers in the home are strategically placed near the windows so that guests can imagine for themselves the shadowy figures that filled the room (Figs. 1-3).

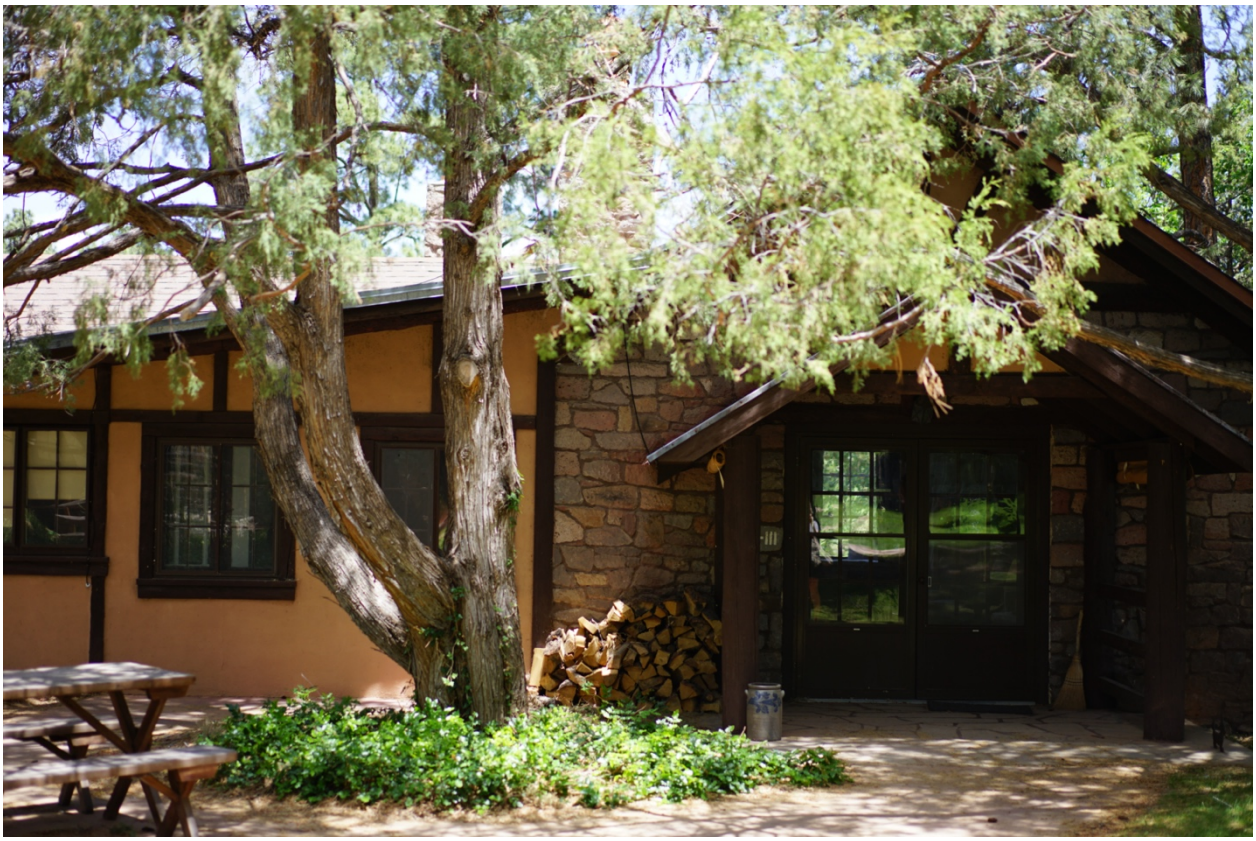

Figure 1. The Oppenheimer house on Bathtub Row. (Photograph by Anna B. Gatdula)

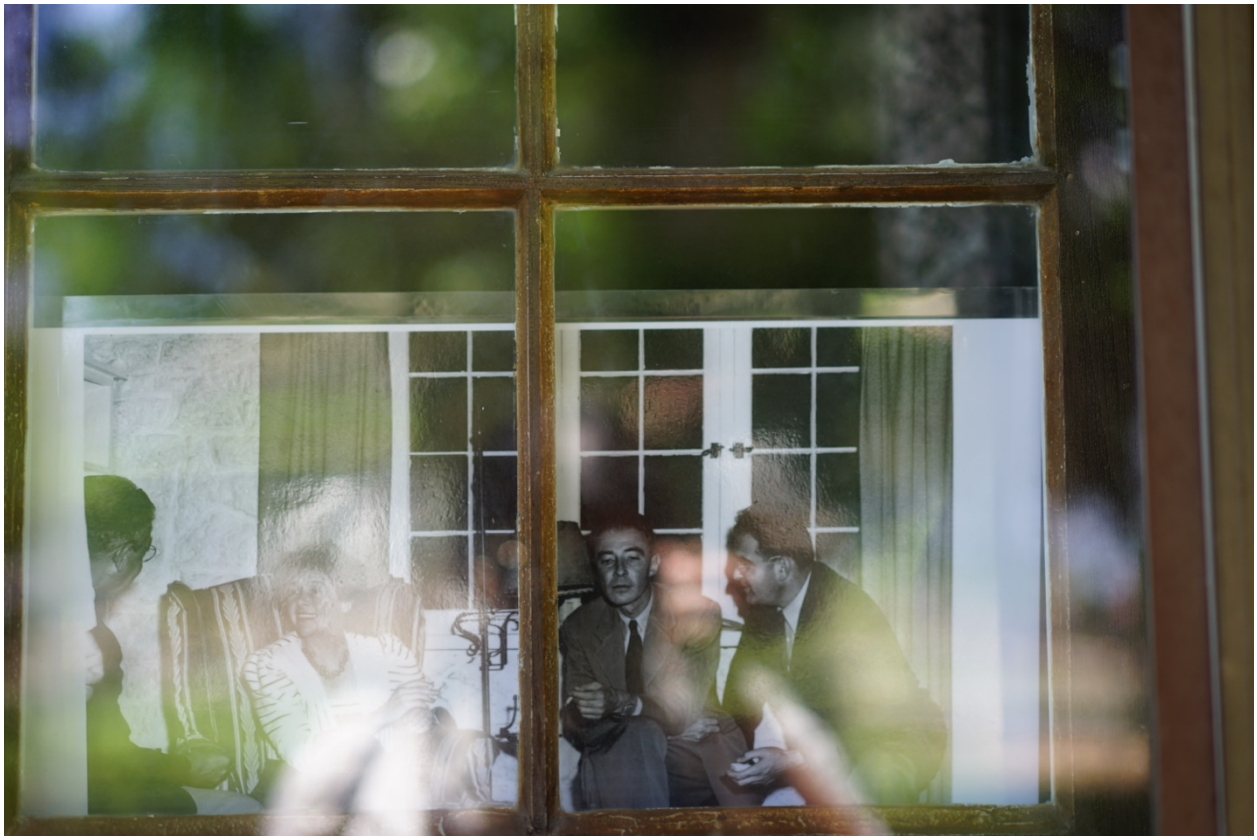

Figure 2. A photo of the Oppenheimers hosting a party placed inside the window of their home. (Photograph by Anna B. Gatdula)

Figure 3. The Oppenheimer home staged with furniture. (Photograph by Anna B. Gatdula)

I leave the walking tour with many more anecdotes about people like Oppenheimer than facts about Oppenheimer himself. The memory of him is preserved in various material forms, including the bronze statues and busts displayed around LAHS grounds and the house he occupied. I return to the LAHS gift shop to appreciate what kind of "historical tourism" is for sale: numerous books, many self-published by the LAHS, shirts and hats, and, in a nod to Oppenheimer's vices, a martini glass and cocktail shaker ornamented with symbols of the atom and directions for the Oppenheimers' famous martinis.[332] Beyond monuments and martini makers, Oppenheimer's legacy is invoked through the continued work at the Los Alamos

[332] Marita Sturken, *Tourists of History: Memory, Kitsch, and Consumerism from Oklahoma City to Ground Zero* (Durham, NC: Duke University Press, 2007).

National Laboratory. The top-secret institution continues to determine the life and livelihoods of this otherwise small, isolated town. The LAHS preserves and retells the history that made Los Alamos a viable city. Though it serves tourists and out-of-towners, it feels much more like a service to the city itself and to its current and future residents. The LAHS declares: History was made here, perpetuating through this virtual speech act the belief that scientific discovery makes for powerful history.

Doctor Atomic similarly emerges as a kind of cultural institution that remembers (or, following theorists like Bruce R. Smith, re-*members*) Oppenheimer as emblematic of the drive toward nuclear supremacy. Gravitating toward the blurred boundary of myth and history, Sellars' libretto compiles historical documents in an archival pastiche. For example, the opening chorus includes text from the pamphlet "Atomic Energy for Military Purposes" (1945). Adams wrote of this process:

> *Doctor Atomic* was more extensive and much more of a challenge because we were dealing with information from all sorts of sources: firsthand accounts, memoirs, journalistic narratives, declassified government documents, and, in one case, a detailed description of the construction of the plutonium sphere I'd found on an internet site, and which I set for women's chorus. And then, of course, there was the poetry, verses that Oppenheimer, an immensely literate individual, loved: Baudelaire, Donne, the Bhagavad Gita. Peter introduced me to the work of Muriel Rukeyser, a socially committed poet who lived at the same time as Oppenheimer and whose work expresses that special tone of wartime consciousness so powerfully.[333]

Sellars' libretto challenged Adams' capacity to set non-lyrical text but still left room for poetry that was meaningful to Oppenheimer and thus compliant with the desire to assemble historically relevant text.

Adams and Sellars' "Oppie" toggles back and forth between poetic verses from Baudelaire and the Bhagavad Gita to documented spoken language. The historical mixed with the poetic to

[333] Adams, interview.

elevate Oppenheimer's symbolic potential. Scholars and critics often cite Oppie's aria on the John Donne sonnet "Batter My Heart" as a scene that exemplifies the blurriness between historical character and lyrical / mythic characterization.

A specific moment in the 2018 production stages friction between Oppie as myth and the nuclear problem as reality. In a scene change in Act I scene 4, we encounter a new enemy—not the German Nazis or the Japanese empire but the weather. The men of both science and military contemplate the weather's unrealized power to affect radiation fallout, evoking the classic mythic trope of Man versus Nature. The orchestra features a driving almost relentless rhythmic pulse meant to represent an electrical storm as horns interject thunderously. General Groves then exclaims, "What the hell is wrong with the weather?" to which Oppie replies flatly, "The weather is whimsical." In time, we find out that a thunderstorm is brewing over the desert plains. The orchestra continues to paint the scene, with orchestration figures reminiscent of Wagner: strings articulating the motion of the climate, low horns setting the harmonic and atmospheric foundation.

Adams sets the dialogue in fragments, breaking up full sentences into syntactical components. Throughout the scene, Oppie toggles between dialogue and lyrics from the Bhagavad Gita. The first time he does so punctuates the exchange between General Groves and the meteorologist Lieutenant Hubbard. As if in a trance, Oppie sings:

> I am the heat of the sun;
> and the heat of the fire am I also:
> Life eternal and death.
> I let loose the rain, or withhold it.
> Arjuna, I am the cosmos revealed,
> and its germ that lies hidden.

The musical and poetic lyricism separates Oppie's melodious lines apart from Groves and Hubbard's recitative-like vocal lines. The citation of the Bhagavad Gita contributes to the mythical valence of the scene, as if these are gods contemplating their control over nature.

In the 2018 production, this mythic scene was interrupted by the entrance of the Downwinders when a group of Downwinders walks onto the stage. The actors were not actors at all but members from the Tularosa Basin Downwinders Consortium, a group of New Mexican activists who had testified to Congress about their exposure to radioactivity and who now present themselves on stage as living testimony to the Manhattan Project's legacy.[334]

Oppie switches back to dialogue: "If we postpone, I'll never get my people up to pitch again. I hear Fermi just rushed into the mess hall pleading for postponement. A sudden wind shift could deluge the camp with radioactive rain after the shot. The evacuation routes are inadequate. It could be a catastrophe." The Downwinders walk onto center stage behind Oppie as he sings "deluge the camp with radioactive rain." The timing of their stage entrance makes obvious the symbolic register, and the pronounced gesture suits the quality of excess appropriate to opera. The Downwinders stand in line like a background stage prop as the scene continues between Oppie and Grove, but their presence speaks to the real effects of the opera's subject—embodied history confronts historical myth. The 2018 production attempts to stage the long durée of trauma, challenging the quarrel between Oppie and Groves as impotent if not just plainly in vain. The updated staging allows Sellars to critique his own opera, pointing out the futility of these historical myths when history continues to live through and affect individual bodies.

[334] James M. Keller, "Going Nuclear at Santa Fe Opera," *Santa Fe New Mexican* (Santa Fe, NM), 15 July 2018.

Historical Fictions: Re-membering Kitty Oppenheimer

"Am I in your light?"

The first words Kitty sings succinctly identify the kind of position she assumes in the opera. She is Oppie's shadow. In a distinctly softer instrumentation—with no horns or percussion, the strings lush and chorale-like—the sound world of her aria envelopes the skin like soft light illuminating night. Violas and cellos, with their darker color, signify the dimness of light, as their feather-like melody belies their timbral darkness. Her vocal lines have a distinctly melodious quality that reminds us that this is in fact opera, where voices indulging in lyricism are not excess per se but expression. Through Kitty we are meant to feel Oppie as human; her en-voicing makes him so.

Rather than representing the mythical, Kitty functions as fantasy—the fantasy that we can truly know one another, the fantasy that we can cast shadows onto each other's worlds, the fantasy of "eyes / splitting the skull / to tickle your brain with love / in a slow caress blurring the mind."[335] That Kitty functions as something beyond human is in fact the point. Adams, when comparing Kitty to Oppie, refers to "*das Ewig-Weibliche*" or "the eternal feminine" at the end of Goethe's Faust Part II.

> So, by and large, you have to imagine the sound of men, male energy, male thinking, male voices, the violence that this male energy is going to produce. The two women in the cast—Kitty Oppenheimer and her Tewa Indian maid, Pasqualita—almost by default become prophetic voices, in contrast to the men and their science. Do you know the term *das Ewig-Weibliche*? [The end of Faust?] That's right. The "eternal feminine," sort of a German equivalent to "Gaia knowledge." The phrase das Ewig-Weibliche appears at the very end of Goethe's Faust Part II. In Doctor Atomic, Kitty Oppenheimer assumes the role of eternal feminine, a Cassandra, channeling human history in her long soliloquies. She carries a deep moral awareness of the consequences of what is being done there on the mesa, an awareness that apparently only came to the men much later.[336]

[335] A quote from Kitty's aria.
[336] Adams, interview.

Adams refers to the women as prophets who function to humanize or at least authenticate the life of Oppenheimer.

In Kitty's opening scene, she makes Oppie "a natural man" (so to speak) by arousing his sexual desire. She sings sensuous text with unctuous melismas, melodies of a kind the men are not given: "blurring the mind, kissing your mouth awake, opening the body's mouth, stopping the words." (My italics indicate text scored with melismas.) Will the "eternal feminine" ever cease to take on this kind of work? To bear the weight of feeling?

The 2018 staging of Kitty's first aria further grounds her in the sensual. She approaches a sleeping Oppie while a gust of wind blows through the SFO's semi-outdoor stage, and her flowing white costume adds to the erotic atmosphere. In this production, Julia Bullock's commitment to a naturalistic acting style gives Kitty a depth that is otherwise unwritten. Bullock humanizes what is meant to be a beyond-human fantasy of the "eternal feminine."

A profile for the Santa Fe *New Mexican* lauds Bullock for her talent for "drawing in the listener with her opulent voice, turning a song into an intimate world."[337] Of Adams' music, she says,

> It's so strange; when the music becomes all crystalline, it's truly some of the most beautiful lyrical material you've ever heard. I think with *Doctor Atomic*, John [Adams] taught me to sing coloratura really well, because it has the most difficult melismatic material. . . . I don't have time to hesitate. It's just all sort of unfurling and whorling [sic] into the next phrase.[338]

The relation between Adams and Bullock, as composer and his muse, further builds out Adams' infatuation with *das Ewig-Weibliche*.

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[337] Richard Scheinin, "The Atomic Soprano: Julia Bullock," *Pasatiempo* (Santa Fe, NM), Jul 13 2018.
[338] Scheinin, "The Atomic Soprano: Julia Bullock."

The melismatic moments, for both the performer and her audience, grant us pleasure, but as critical theorists often note, there is an ideology in pleasure. I follow Jameson when he claims: "So finally the right to a specific pleasure, to a specific enjoyment of the potentialities of the material body—if it is not to remain only that, if it is to become genuinely political, if it is to evade the complacencies of hedonism—must always in one way or another also be able to stand as a figure for the transformation of social relations as a whole."[339] In the warmth of the untexted voice, a certain kind of pleasure ensues—not so much a desire for logical meaning, but more so a desire in the desiring self.[340] This pleasure functions as an operator between performer and audience, spectacle and spectator. Later, in an aria following the romantic duet with Oppie, Kitty sings:

> Those who most long for peace
> Now pour their lives on *war*.
> Our conflicts carry
> Creation and its *guilt*,
> These years' great arms
> Are full of death and flowers.
> A world is to be fought for,
> Sung, and built.
> Love must imagine the world. [Emphasis on text with melisma]

Only Kitty among all the characters names outright "guilt," though Oppie's characterization leaves room for that interpretation. She then makes the turn to "love" as the act of absolution for guilt and war. She falls victim to the "business of sentimentality" that sells the fantasy of a social world where, if people could feel the right things (love rather than guilt), they could make things

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[339] Fredric Jameson, *The Ideologies of Theory* (London: Verso, 2008), 385.
[340] I am drawing here on a deep body of work in voice studies, especially in its material turn. The voice, as Feldman and Zeitlin write, is always already "aesthetic, political, ethical, literary, and musical." I am indebted to them and their colleagues discussions—which happened viva voce and then collected in this sumptuous edited volume: Martha; Zeitlin Feldman, Judith T., ed., *The Voice as Something More: Essays toward Materiality* (Chicago: University of Chicago Press, 2019).

better.[341] We relish in the vocal allure, all the more distracted by Kitty's affective and "sentimental business." In Kitty's voice, and especially when the voice eclipses the speech act, we are lost to the fantasy—what Lacanian psychoanalysts would refer to as the psyche's realm wherein an individual can attach to a universal, and this "psychoanalytic formalism stands as training in thinking about the drive to become unhistorical, to become general through repetition into convention."[342] Through Kitty, we are asked to relive the emotional stakes of the Manhattan Project, what Peter Sellars refers to as reigniting "the genuine, high stakes of the global risks."[343] Kitty is the fantasy that art can be political, and she is burdened with delivering the (poetic, lyrical) criticism amidst the male characters who narrate the historical event or are narrated as mythical heroes. Love imagines and builds the world that Kitty longs for, a world without guilt, a world where her husband's livelihood is not dedicated to war. Kitty's fantasy is an ideological feature of US liberalism that depends on the affective belief that as long as there is apology or absolution then we can forgive but most of all *forget*.

With an aria that concludes on the subject of remembering and forgetting, Kitty opens the second act of the opera. The aria uses text from Muriel Rukeyser's "Easter Eve," written on the Easter Eve of 1945, about a month before May 8, 1945, or Victory over Europe day. The music evokes a richness often saved for Kitty, but its melodic angularity distinguishes it from Kitty's first, "Am I in your light?" Her aria directly contrasts the aria that immediately preceded it,

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[341] Berlant, *Female Complaint*, 2.
[342] Berlant, *Female Complaint*, 14. The voice and psychoanalysis have been in tension as concepts either synonymous or antagonistic, depending on who is writing and thinking. Jacques Derrida, *Voice and Phenomenon: Introduction to the Problem of the Sign in Husserl's Phenomenology*, trans. Leonard Lawlor (Evanston, IL: Northwestern University Press, 2011); Mladen Dolar, *A Voice and Nothing More* (Cambridge, MA: The MIT Press, 2006). Dolar in Feldman, *The Voice as Something More: Essays toward Materiality*.
[343] Jon H. Else, "Wonders Are Many," (PBS International, 2008).

Oppie's "Batter My Heart" aria. Whereas Oppie's aria provided a space for melodramatic introspection, Kitty's abstracts the internal struggle of the desire to do good and expands it to the realm of the ethical.

Adams achieves this kind of thematic precision by formalizing the aria in a conventional way, with a beginning section in the manner of a recitative and then the aria "proper" structured like a nineteenth-century *scena* or double aria, including a slower tempo *cantabile* and a contrasting *cabaletta*. The aria form follows the emotional progress in Rukeyser's poem, giving a sense of development and finality.

The recitative begins:

> Wary of time
> O it seizes the soul tonight
> I wat for the great morning of the west
> Confessing with every breath mortality.

Though still fully orchestrated, the texture is reminiscent of recitative as the instruments hold chords for long periods sustaining the harmony over which the singer can artfully declaim. In the "cantabile" section of the aria, the text centers around the image of a "glow of life." Adams projects this glow through sustained notes in the strings "senza vibrato" while the woodwinds share a melody with contours that the outline a hilly horizon. The "cabaletta" proper begins with a lively tempo, including a rhythmic pulse that feels quintessentially John Adams—rhythms that are built on steady triplets, but broken up like hocketing voices. It gives a certain drive that underscores Kitty's text:

> Now I say there are new meanings;
> Now I name death our black
> Honor and feast of possibility
> To celebrate casting of life on life.

The formal turn, in both music and poetic grammar, signals a personal agency—"Now I say… Now I name…" Then, once again, Kitty's vocal line diverts us into the lush, fantastical melisma.

"Now I say that the peace / the spirit needs is peace, not lack of war, / but fierce continual *flame*" (emphasis on text with melisma).

The symbol of the flame of peace evokes the Messianic end times of which Walter Benjamin writes. In Benjamin's philosophy of history, the so-called Angel of History looks toward the past "where *we* see the appearance of a chain of events, *he* sees on single catastrophe. . . . But a storm is blowing from Paradise, . . . The storm drives him irresistibly into the future, to which his back is turned, while the rubble-heap before him grows sky-high. That which we call progress, is *this* storm."[344] The rapturous voice again ensnares us in the fantasy, now the fantasy of History. Again, through Kitty we glimpse the ideological backbone of the opera that claims that enough correct feelings will get us to understand the historical weight of this moment.

In American ideology, there is no room for literality—the annals of death and violence. Instead history takes "control of a memory, as it flashes in a moment of danger."[345] Sellars himself admits to the aspirations of his art to convey history, and he claims that art will not match the suffering but can become at its best sincere.[346] Adams and Sellars re-*member* Kitty not as her own self but as the *eternal feminine*, the vessel through which we can feel absolution for historical violences—and this is both the fantasy and the fiction of history.

Conquering Nature: Myth in the Southwestern Frontier

Myths are tied to the land, our cultural memory externalized onto the environment. In the US, stories of the frontier dominate the national imagination: Daniel Boone expanded the borders of

[344] Walter Benjamin, "On the Concept of History," in *Gesammelten Schriften* (Frankfurt am Main: Suhrkamp Verlag, 2005), IX.
[345] Benjamin, "On the Concept of History," VI.
[346] Else, "Wonders Are Many." He also admits that at its worst it becomes obscene.

the Thirteen Colonies by conquering the western frontier,[347] John Henry the African American steel-driver defeated the steam-powered machine as they broke through mountains to make way for the westward railroad. Staging *Doctor Atomic* in Santa Fe, NM returns the mythic Oppenheimer figure to the Southwest frontier. Oppie sings of the "affairs that are heavy on the heart" in a city only thirty miles down the mesa from Los Alamos, a city only 200 miles north of the White Sands National Monument that commemorates the Trinity Test site. Staging *Doctor Atomic* in Santa Fe occasions a ritualization further cementing the mythic elements of the opera.

In his essay on the 2018 production, local critic James M. Keller remarks on the resonances between the opera and its surrounding environment.

> When the back of the opera house's stage is opened to the elements, as it is throughout this production, the view leads to Los Alamos, nestled in the Jemez Mountains. This is an opera redolent of our region's history, the story of an event that continues to resonate vividly seventy-three years after the fact. Its main characters are the stuff of local legend, including project director J. Robert Oppenheimer, Army commander Gen. Leslie Groves, and physicists Edward Teller and Robert Wilson. The nuclear conundrum is an international anxiety, to be sure, but New Mexico makes special claim on its origin.[348]

Megan Kamerick, another local critic, points out the geographic proximity that adds a special context to the production, writing that "audiences looking through the open back of the theater stage can practically see Los Alamos, site of the secret city."[349]

The production team, including Sellars, could not help but emphasize the impact of this geography. At the press conference announcing the *Doctor Atomic* production, Sellars made a prophetic declaration about the land "testifying."[350] In the same press conference, then-director of the Los Alamos National Laboratory McMillan added: "Scientists today are facing the same

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[347] i.e., murdering and displacing the indigenous nations on the colonial US border
[348] Keller, "Going Nuclear at Santa Fe Opera."
[349] Kamerick, "Doctor Atomic," 17.
[350] Kamerick, "Doctor Atomic," 17.

ethical issues that Oppenheimer and his colleagues were facing, and that is something important for all of us to understand."[351] These characterizations claim that the frontier is unbounded by historical time and geographical space. The production ties Oppenheimer to McMillan, opera house to weapons laboratory.

The frontier setting evokes the ideology of American exceptionalism. In an influential study of the American frontier myth, historian Richard Slotkin argues,

> In American mythogenesis the founding fathers were not those C18 gentlemen who composed a nation at Philadelphia. Rather, they were those who…tore violently a nation from the implacable and opulent wilderness—the rogues, adventurers, and land-boomers; the Indian fighters, traders, missionaries, explorers, and hunters who killed and were killed until they had mastered the wilderness. . . . It is by now a commonplace that our adherence ot the 'myth of the frontier'—the conception of America as a wide-open land of unlimited opportunity for the strong, ambitious, self-reliant individual to thrust his way to the top—has blinded us to the consequences of the industrial and urban revolutions and to the need for social reform and a new concept of individual and communal welfare.[352]

Doctor Atomic characterizes Oppenheimer as mythic hero, "Oppie," and moreover ties the mythic hero to the longstanding tradition of "American mythogenesis." The desert frontier symbolizes "unlimited opportunity for the strong, ambitious, self-reliant individual," who in this case is Oppie. He conquers the atom and the desert with the Trinity test, thus representing the myth of man conquering nature.

As part of the production's community outreach programming, there was a two-day symposium titled "Atomic Summer." In an op-ed to the local newspaper *The Santa Fe New Mexican*, a symposium organizer Lois Rudnick described the symposium:

> I am honored to have been one of the organizers of the two-day *Doctor Atomic* Symposium, planned under the aegis of the Santa Fe Opera. Some of our nation's most brilliant and renowned journalists, artists, social activists, historians and anthropologists

[351] Kamerick, "Doctor Atomic," 18.
[352] Richard Slotkin, *Regeneration through Violence: The Mythology of the American Frontier, 1600-1860* (Middletown, CT: Wesleyan University Press, 1973), 4-5.

> came together to focus on the history of the Manhattan Project and its political, economic, social and cultural "fallout," through the precarious times of today's increased nuclear threat.[353]

The symposium included critics of the nuclear complex, including anthropologist Hugh Gusterson and environmental justice activist Beata Totsie-Pena (Tewa). Artists "reflecting on the damage nuclear weapons have inflicted" included Meridel Rubenstein, Peter Goin, Steven Okasaki, and Will Wilson (Diné). By all measures, the symposium did not put forward a pro-nuclear agenda, yet it was protested by local activists.

According to local coverage, protesters demonstrated outside of the New Mexico History Museum located in downtown Santa Fe expressing disapproval of the symposium as "a propaganda campaign for people in New Mexico to feel positively about nuclear activity."[354] Rudnick's op-ed was written in response to the protest coverage, as she defended the symposium for "embracing all events, including those the protesters created."[355] Though the symposium was not the "propaganda campaign" that protesters claimed, it still represented an ideological commitment. In its bid for intellectual erudition, the symposium was sponsored by and catered to the Santa Fe Opera's intimate public. The organizers did not make the symposium free to the public and held the various events at private entertainment spaces, like the Lensic Performing Arts Center. While the content of the symposium may very well have aligned with the protesters' political calls, the formal presentation—in private spaces, sponsored by private corporations and donors—signaled exclusivity. This institutional gatekeeping is symptomatic of opera's intimate public, whose bourgeois composition can make it inaccessible for the wider public.

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[353] Lois Rudnick, "The Myth behind the Myth Regarding 'Atomic Summer'," *Santa Fe New Mexican* (Santa Fe, NM), 21 July 2018, Opinion.
[354] Elayne Lowe, "Demonstrators Take Issue with Museum's Focus on N.M.'s Atomic History," *Santa Fe New Mexican* (Santa Fe, NM), 13 July 2018.
[355] Rudnick, "Regarding 'Atomic Summer'." Rudnick accuses the protesters of not attending the symposium events, from where they would have heard from critics and artists.

The distance between those with institutional access and those without is analogous to the geographic distance between those who lived on the mesa and those whose livelihoods depended on the land. During the Manhattan Project, the city of Los Alamos was nicknamed the "city on the hill."[356] Even after the war, the nickname stuck and took on more symbolic weight as the phrase "city upon a hill" underwent an ideological change during the Cold War. As Daniel T. Rodgers has written, it was only during the Cold War that American writers used the term "city upon a hill," a phrase extracted from the colonial Reverend Winthrop's lecture "Model of Christian Charity," and

> It was the need for a national civic renewal at a time of unprecedented global challenge. In these explicit reuses of the Model's language, the "city upon a hill" was the United States as a nation. The "eyes of all people" were the hearts and minds of the nonaligned world. From "A Model of Christian Charity" the speechwriters [for President Ronald Reagan in the 1980s] drew proof that a sense of world-historical mission ran back to the imagined beginning point of American history, that seamless bands of time welded the summons of the present to deep resources in the past.[357]

Those quipping about Los Alamos as the city on the hill during the Manhattan Project were inadvertently feeding into the myth of American exceptionalism, and the ethos of the "city upon a hill" would be further entrenched during the height of Cold War nationalism.

Being a city on a hill, Los Alamos was also geographically exempted from the aftereffects of the Trinity Test and future nuclear exploits in the Southwest. As the Downwinders of the Santa Fe Opera production attested, the effects of fallout from nuclear tests were far-reaching and uncontainable. Nuclear weapons scientists, from Oppenheimer and his colleagues to the present, are deeply aware of this and continue to plan tests in geographically distant places that become known as "sacrifice zones." These national sacrifice areas are rendered literally uninhabitable

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[356] Richard Rhodes, *The Making of the Atomic Bomb* (New York: Simon & Schuster, 1986).
[357] Daniel T. Rodgers, *As a City on a Hill: The Story of America's Most Famous Lay Sermon* (Princeton, NJ: Princeton University Press, 2018), 233.

through deliberate elimination of water supplies, extraction of irradiated material (uranium), and essentially rendering indigenous nations land*less* because more than one-half of all US uranium deposits underlie American Indian reservations.[358]

Activist-scholars Winona LaDuke (Anishinabe) and Ward Churchill (Creek/Cherokee) deem the hegemonic relationship to land as "internal colonialism."[359] The practice of internal colonialism epitomizes "necropolitics," what Achille Mbembe theorizes as "the ultimate expression of sovereignty [that] resides, to a large degree, in the power and the capacity to dictate who may live and who must die."[360] He further asserts that "the colony represents the site where sovereignty consists fundamentally in the exercise of a power outside the law and where 'peace' is more likely to take on the face of a 'war without end.'"[361] On these internal colonies, energy companies dictate the working conditions of the indigenous miners, who suffer the slow violence of radiation exposure. Those who live hundreds of miles away, "on the hill," require these dangerous materials for their experiments, yet they receive a level of protection afforded to them due to their privileged working positions and the simple fact of geographic distance. In the quest to conquer nature, scientists propagate the necropolitics of internal colonialism. The myths central to *Doctor Atomic* remind audiences of the way nuclear technology materially affects indigenous lives. Specifically, SFO's production reminds the spectator of their geographical proximity to the center of nuclear empire.

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[358] LaDuke and Churchill, "Political Economy of Radioactive Colonialism," 107.
[359] LaDuke and Churchill, "Political Economy of Radioactive Colonialism," 110.
[360] Achille Mbembe, "Necropolitics," *Public Culture* 15, no. 1 (2003): 11.
[361] Mbembe, "Necropolitics," 23.

Myths of Inclusion, on the Matter of Representation

The Santa Fe Opera knew the importance of the land in the spiritual practices and material livelihoods of its neighbors, namely the Tewa people of the San Ildefonso, Santa Clara, and Tesuque Pueblos. The institution intended to build ties to its surrounding communities, and its method was to bring their neighbors into the opera house and onto the operatic stage. James Keller's review commended SFO's inclusionary gesture.

> That in itself is enough to justify why any opera-inclined New Mexican should seize the opportunity to see Doctor Atomic. Attendees should be in their seats 35 minutes before "curtain time," when delegations from the San Ildefonso, Santa Clara, and Tesuque Pueblos join to perform a shortened version of the Corn Dance onstage — the first time those three nations have collaborated in this sacred enactment. The participation of Tesuque dancers is particularly heartening given tensions attached to that pueblo's current construction of a casino at its boundary with the opera. These dancers reappear twice in the opera itself, reprising the Corn Dance in a crowded Act Two dream sequence and then standing as witnesses at the end. Their presence is effective and apropos since the development of and access to Los Alamos was achieved partly on tribal land. Another group of New Mexicans also figures in this production: a group of "downwinders," residents from near the test site whose exposure to radioactivity has led to grave health issues. They, too, take their places onstage, living testimony to the legacy of what happened seven decades ago.[362]

Zachary Woolfe's own review spoke to a critical ambivalence about the inclusion of the Corn Dance.

> To Mr. Sellars's credit, the involvement of these local communities is stirring but not exactly uplifting. It was presumably unintentional, but telling, that the solemn pre-performance Corn Dance, a ritual rarely given outside the dancers' pueblos, took place as much of the audience noisily took its seats, air-kissed, and chatted: thousands of rich white people, ignoring the natives as they always have.[363]

[362] Keller, "Going Nuclear at Santa Fe Opera."
[363] Zachary Woolfe, "Review: 'Doctor Atomic' Brings the bomb home to New Mexico," *The New York Times* (New York), 15 July 2018.

Deeply embedded in opera's intimate public, these reviewers reflect some (if not most) of the audience values—that inclusion in theory is good, but in practice might not meet expectations.[364]

Cultural institutions like the SFO have started to center these questions of diversity and inclusion, but their answers to systemic problems often play into liberalism's narratives of a universalizing multiculturalism. For some, the belief in multiculturalism represents a utopic promise, but for many others multiculturalism falls short of material liberation and change. In this section, I read the Pasqualita character as integral to the fantasy of multiculturalism and then amplify the voices of Native women activists who work against nuclear empire.

If the Oppie character stands for the mythic hero, then Kitty and Pasqualita, the women who occupy his domestic life, constitute the opera as myth. Kitty is the vessel of "*das Ewig-Weibliche*" or "the eternal feminine," and Pasqualita corroborates the mythic elements with her "native" voice. She symbolizes the colonized Other, albeit one tied not to the periphery but to the center of empire. The opera introduces Pasqualita in the second act, depicting her in relation to domestic life by responding to a baby's cry in the "Cloud-flower Lullaby."

> In the north the cloud-flower blossoms,
> And now the lightning flashes,
> And now the thunder clashes,
> And now the rain comes down![365]

Pasqualita's music includes extended melismas that resemble to Kitty's musical characterization as "*das Ewig-Weibliche*" or "the eternal feminine." But unlike Kitty's music, Pasqualita's melismatic passages err more on the side of folksong rather than operatic fanfare. The folk-like

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[364] I did not have the privilege of attending the 2018 production for myself. I have had a handful of conversations with folks who were in the audience for the SFO's run. They expressed feelings ranging from discomfort to confusion—the latter due to the lack of information given with regard to the proper or respectful way to attend to the first Corn Dance that was performed when the house opened. Audience members didn't know how to comport themselves as they found their way to their seats.

[365] *Songs of the Tewa*.

characteristic of Pasqualita's music plays into her representation of the "native" in Los Alamos who serves the scientists' families, one who symbolizes the "noble savage."[366] Her singular inclusion erases the many workers who served the scientists and military personnel during the Manhattan Project.

This Tewa text, as collected and published by Herbert Joseph Spinden, repeats according to all the cardinal directions (north, south, east, west). Adams sets the repetitions so that Pasqualita's voice interjects throughout the scene, as the men portray the conflict at the Trinity test site. Adams composes the repetitions of the Cloud-flower Lullaby so that Pasqualita's voice interjects throughout the second act. In this production, Pasqualita remains on the stage holding the child while the characters of Robert Wilson and Frank Hubbard ascend ladders and machinery around her. They attend to "the gadget" that looms behind them all. As Hubbard makes an announcement about radioactive fallout, the orchestra explodes into the foreground overwhelming the scene. The music initially sounds cacophonous, substantiating the intense news of fallout. Then we are left with a new musical concept, a more ethereal and dreamlike orchestration as Wilson admits to dreams of the experiment's failure.

> I've dreamed the same dream
> Several nights running.
> I'm almost at the top of the tower

[366] This is a figure longstanding in American myth. From Charles Dickens' account of "the Noble Savage" to the present, as outlined in Ter Ellingson, *The Myth of the Noble Savage* (Berkeley: University of California Press, 2001).. And as Patrick Wolfe writes, the noble savage stands a testament for the European bourgeois self: "Ideologically, the production of the European bourgeois self relied significantly on the colonized (savage or barbarian) not-self in a manner congruent with the way in which the productivity of Manchester cotton mills relied on the coercion of labor in Louisiana, India, and Egypt. . . .On the one hand, it [the European bourgeois self] strove to domesticate—to assimilate—the native; on the other, it was undone—deauthorized, disavowed—by the partial resemblance, the 'difference between being English and being Anglicized' that was thus produced. Sincere or not, sly or not, imitation was a profoundly threatening form of flattery. . . . Recognizable in a brown skin, Englishness broke down." Wolfe, "History and Imperialism," 413-16.

And then I misstep,
And I'm falling,
A long, slow fall,
And each time, before I strike the ground,
I wake up sweating.

Interjecting Wilson's reverie, Pasqualita remains in the domain of the unreal, not part of the men's historical achievements but part of the dream and myth around it. The opera's dependence on Pasqualita as the mythic "Other" performs a kind of violence, a symbolic harm in the form of erasure. As Jennifer Marley (Tewa, San Ildefonso Pueblo) asserts, "The production of Doctor Atomic and its depiction of Tewa people and ceremony is no more than a contemporary rendition of this glorification and mockery that Los Alamos National Laboratory has been using to justify its operations for decades, seeing Tewa people as mythic props while materially sacrificing our bodies and lands."[367]

Criticism against SFO's production argues that the inclusion of the Tewa Corn Dance represents assimilation rather than collaboration.[368] Marley states, "The way in which Indigenous authenticity has become imposed by outsiders as something unchanging, primitive, or ancient has been one of the primary reasons people are forced to perform identity in such a way that de-politicizes Indigenous identity."[369] The opera can be said to have "de-politicized" Indigenous culture by unmooring the Corn Dance from the land of the Pueblo. In an early ethnographic account of the Corn Dance, Robert Smith notes the importance of ritual preparation,

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[367] Jennifer Marley and Kayleigh Warren, "'Doctor Atomic' And Nuclear Colonialism in Northern New Mexico: A Tewa Perspective," *The Red Nation* (26 July 2018).
[368] "The opera couples the depiction of Tewa ceremonial practices and imagery with the celebration of the nuclear weapons industry to sanctify the presence of LANL and the so-called benefits of nuclear development. The message is that the atomic bomb holds a position of sanctity on par with the holy lifeways of Tewa people. The kinds of moves that celebrate Native culture in tandem with that which actively kills Indigenous people and other racialized populations is not new–they have been the selling points of New Mexico's tourist industry for generations." Marley and Warren, "'Doctor Atomic' And Nuclear Colonialism."
[369] Marley and Warren, "'Doctor Atomic' And Nuclear Colonialism."

intergenerational community, and above all the connection to sacred land.[370] Another ethnographic study points to the intentional separation between ritual dances performed at the Pueblo and those performed at non-Tewa places. For these commercial dances, the Tewa understand the theatrical valence of the occasion and production, and therefore present the dance as spectacle rather than ritual.[371]

To be fair, the Tewa dancers of the production were said to have "enthusiastically participated" in the operatic spectacle—though Marley frames their enthusiasm through the lens of tourism as a necessary means of capital.

> When talking about the distinct way that capitalism operates in northern New Mexico, it is crucial to discuss how it has operated historically. Santa Fe was one of the first hubs of capitalist expansion in the western hemisphere, and the primary industry that upheld this foreign economic system was a massive slavery network that fed the growth of settlements throughout northern New Mexico up to the 1800s (Correia 2013). The present day art industry still exploits Native artists for their craftsmanship, and obviously ties the labor of the art to the people themselves, as if to buy not only an object but to objectify the people and culture from which art and artifacts come. It is apparent why the two main industries that have kept northern New Mexico afloat–tourism and nuclear development–depend on the objectification and dehumanization of Native people and lands.[372]

Being on an operatic stage may be an exhilarating experience but as Dylan Robinson notes, in order not to "conflate our own strong hope for change with the realities of struggle faced by Indigenous peoples, it is also imperative that we acknowledge the crudeness of empathy and affect alone."[373]

Certainly representation creates a sense and feeling of community, and in the context of this production of *Doctor Atomic* the inclusion of the Tewa Corn Dance was meant to bridge the gap

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[370] Robert L. Smith, "A Graphic Interpretation of Four Pueblo Indian Corn Dances" (PhD Diss., University of New Mexico, 1950).
[371] Sweet, "Tewa Ceremonial Performances."
[372] Marley and Warren, "'Doctor Atomic' And Nuclear Colonialism."
[373] Dylan Robinson, *Hungry Listening: Resonant Theory for Indigenous Sound Studies* (Minneapolis: University of Minnesota Press, 2020), 232.

between the Santa Fe Opera's elite patrons and their indigenous neighbors. The production's choreographer Emily Johnson, who herself identifies as Indigenous, envisioned the integration of the dancers as an "acknowledgement and symbolic healing of the 73 years of damage caused by the Manhattan Project and Los Alamos National Laboratory."[374] But symbolic healing does not equate to actual healthcare, especially for those most affected by the continued extraction of radiated material. As Dylan Robinson further argues, "utopian performatives of reconciliation…may equally act to foreclose change. They may sustain the equilibrium of a daily life that allows settler audiences to remain settled."[375]

In the years since the SFO's inclusion of Tewa people, the institution has continued its outreach programming to the Pueblo community. According to their website, the Pueblo Opera Program reaches out to Pueblo children to help them experience opera's "universal themes and emotions."[376] In all likelihood, the 2018 production of *Doctor Atomic* was the first and last time the Pueblo children saw themselves represented on the SFO stage. The opera company has premiered new works since, but none with the same community-facing intentions as *Doctor Atomic*, which persists as a mythic placeholder for Indigenous portrayal. Major opera institutions (perhaps especially in a our COVID pandemic era) turn again toward a canonical repertoire and "remain settled."[377]

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[374] Rudnick, "Regarding 'Atomic Summer'."
[375] Robinson, *Hungry Listening*, 231.
[376] "Pueblo Opera Program," Santa Fe Opera, 2023, accessed 6 Oct, 2022, https://www.santafeopera.org/community/pueblo-opera-program/.
[377] There are notable exceptions to this generalization. Gundula Kreuzer has written on a contemporary version of Puccini's *Madama Butterfly* and the opera *Sweet Land*, produced by LA-based company "The Industry." Gundula Kreuzer, "Butterflies on Sweet Land? Reflections on Opera at the Edges of History," *REPRESENTATIONS* 154, no. 1 (2021), https://doi.org/10.1525/rep.2021.154.6.69. On a separate note, I have received questions in response to presentations of my work (specifically this section on Pasqualita). The questions ultimately boil down to: "Can we do an ethical representation of the other in opera or classical

Cultural institutions throughout northern New Mexico grapple with a struggling economy in the wake of our global pandemic crisis. It used to be the case that institutions like the SFO and the National Museum of Nuclear Science and History (NMNSH) could make the cross-institutional connections that brought in diverse thoughts and interests. The SFO's "atomic summer" symposium was one such case. For another "pre-pandemic" example, the NMNSH hosted an international symposium for stakeholders of nuclear science including weapons science, nuclear medicine, and alternative energy. The museum has ambitious goals to continue this kind of programming and further build out on the land that they own in order to create exhibition space for all the weapons bequeathed to them by the US military. Instead, these artifacts remain in a private warehouse.[378] Leaders of the museum use these concealed objects to lure more investment and donation to their cause.

These cultural institutions, the opera house and the museum alike, depend on mythic enchantment. They remind us that the narratives we tell have material ramifications.[379] In our

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music?" My honest answer is ambivalent—yes and no. No, something of this sort (white men depicting Indigenous woman) will never reach an ideal ethical value (this is the standard set by liberal value). But also yes, we have to keep trying—otherwise, what would we be left to us? Non-political, toothless works. I might also argue that spectacle could never be "apolitical"—any opera company's claim to an "apolitical" (often, "race blind") production is already a political claim.

[378] Jennifer (Deputy Director & Director of Communications Hayden, The National Museum of Nuclear Science and History), "in Discussion with the Author," interview by Anna B. Gatdula, 14 June, 2022.

[379] I was lucky to find a counter narrative to nuclear empire at the Institute of Indian American Arts (IAIA). At the end of my field work about *Doctor Atomic* in Santa Fe, I strolled over to the IAIA museum to check out their exhibits. It was serendipity. The IAIA's main exhibit during my visit was called *Exposure: Native Art and Political Ecology*. It featured anti-nuclear art installations, from Indigenous artists all over the world—a kind of inclusion that highlighted the global context of nuclear empire and its violences on ordinary bodies (people and land alike). I hope to expand my work to better encompass this exhibit—an important and timely reminder of the spectacular/unspectacular strategies for critiquing nuclear empire.

contemporary moment, the spectacle of the Southwest frontier feeds tourism. Local activists in New Mexico call this "atomic tourism," which attracts all sorts of people but especially those "Cold Warriors." Scholar-activist Eileen Shaughnessy argues,

> New Mexico's atomic tourist sites are almost exclusively run by military, government, or corporate interests. These parties have a vested interest in promoting a sanitized national narrative about the atomic bomb by filtering the violence associated with the bomb through notions of patriotism and US exceptionalism. It follows that New Mexico's atomic tourism industry has a prerogative to sell a palatable (and consumable) version of the atomic bomb to tourists via exhibits, souvenirs, and written narratives.[380]

Atomic tourism promulgates a paradoxical narrative: the bomb is exceptional (being the pinnacle of Western technoscience), and yet bomb is unexceptional (banal or even kitschy). At the opera house, myths get dressed up as spectacle. The SFO's production of *Doctor Atomic* embraces the aesthetic excess of opera, and in doing so legitimates the pleasure of the apolitical.

[380] Eileen Clare Shaughnessy, "The Un-Exceptional Bomb: Settler Nuclearism, Feminism, and Atomic Tourism in New Mexico" (MA Thesis, University of New Mexico, 2014), 2.

Epilogue

Nuclear Empire's Utopia

What is the world that nuclear empire promises? Each spectacle narrates a different version of this world. The work of this dissertation has been to put these spectacles together in a constellation of sorts, to trace the shape of that world. It is a world that has been imagined and built for the now many decades that make up our atomic age.

During the Cold War, nuclear empire continued to promise the bourgeois good life, a life secured by liberal forms of social reproduction. Melodrama as an aesthetic mode reproduced this promise, so that in Stanley Kramer's *On the Beach* spectators were moved toward feelings rather than politics: It was enough to feel as if nuclear empire would build a world safe for liberal social reproduction without demanding it through conventional political approaches or concrete material ones. The melodramatic mode contributed to the containment of fear. With ironclad boundaries of "good" and "evil" or "us" versus "them," nuclear empire (or empires, if we include the U.S.S.R.) worked to contain fear and proliferate patriotism. In an era of postcolonial nationalisms, nuclear empire insisted on the order of the First, Second, and Third Worlds. Rodgers and Hammerstein's *South Pacific*, for example, though nominally a musical critiquing American miscegenation laws and prejudices, helped to imagine worlds of proper order. The musical's female love interests symbolized the political stakes of silence and voice. The aesthetic mode of silence was both a symbol of and a tool for hegemonic control, keeping the World Orders in a hierarchy shaped and organized by nuclear empire.

Three decades into the atomic age, Philip Glass and Robert Wilson's *Einstein on the Beach* premiered to an audience including the experimentalist art world and the established opera world. The opera demanded a bodily endurance intrinsic to the very survival of nuclear empire.

It demanded the kind of body that might endure the constant threat of annihilation that the atomic bomb poses. For three decades, the Federal Civil Defense Administration taught citizens how to discipline their bodies in preparation for an apocalypse. In numerous drills—what Tracy C. Davis designates as "rehearsals" for nuclear war—bodies were made into nuclear empire's citizens through the repeated tryouts for nuclear events. Having been drilled to duck and cover since childhood, the US public understood that geopolitical power was directly tied to the capacity of nuclear technology to give and take life. *Einstein* provided a space for "habitus," the synthesis of "time" and "bodies," where and when bodies could physically practice ways of being and knowing their nuclear worlds.

In our contemporary moment, a post-1989 and post-9/11 world, the supremacy of US nuclear empire is again tested. In John Adams and Peter Sellars' *Doctor Atomic*, we again return to a world in which "wrong" feelings are made right through melodramatic deliberation. Through specific characters, and especially female characters, spectators can identify themselves, and thus identify with the moral stakes of the Manhattan Project. In their opera, the world of nuclear empire achieves reconciliation, perhaps even redemption, for its violent historical past. Specifically, reconciliation is achieved through love: as long as we can love ourselves again—"we" the Oppenheimers and General Groves of the world—then we can receive absolution. More broadly, *Doctor Atomic* attests to the continued power of myth in structuring political attachments to nuclear empire. Myths are our cultural memory externalized onto our environment. In an atomic age of continued aggression, geopolitical borders once again toughen in spite of the fact that nuclear fallout makes these boundaries pointless. Uranium is bought from former colonies by nuclear superpowers, indigenous lands are irradiated due to testing fallout, radiation follows global atmospheres, not national borders. The myths we tell and retell about

nuclear empire shape our political perspectives and test the scale at which we can imagine a livable nuclear empire.

The world that nuclear empire promises assures the social reproduction of liberalism, determines the order and proper place of postcolonial subjects, disciplines citizens' bodies to endure and survive any nuclear threat, and expunges feelings of moral wrong. It is a world in complete denial of (or completely removed from) the reality of the violence that nuclear technology wreaks on peoples and lands. The scientists of Los Alamos live on top of the mesa, while their experimental tests are done at a safe distance away on sovereign native lands, on civilian bodies. Nuclear empire maintains its ideological force (its utopic vision of a world) through the aesthetic strategy of spectacle.

Spectacle as Aesthetic Strategy

Throughout this dissertation, I have focused on specific instances of spectacle to understand intent of nuclear empire. I turn again to the ur-spectacle to think about the ways the bomb was *made spectacular* through aesthetic *strategy*, rather than being inherently spectacular, something that falls into an aesthetic *category*. Historian Michael D. Gordin reconfigures the historical frame of the originary nuclear event, the 6 August 1945 bombing of Hiroshima. He claims that our received understanding and historical narrative around this event is largely built by a "post-surrender" narrative.[381] We are taught that the atomic bomb was always going to change history, that it was a weapon unlike other weapons. Essentially, we are taught that the atomic bomb amounts to a difference in kind rather than a difference in degree. Gordin argues that, especially

[381] Michael D. Gordin, *Five Days in August: How World War II Became a Nuclear War* (Princeton, NJ: Princeton University Press, 2007), 13.

as Manhattan Project documents become declassified, our historical understanding needs to consider a new narrative. He focuses on the change in discourse during the post-bomb and *pre*-surrender timeline: "It was surrender that selected the Awe-Inspiring Bomb as the proper mode of thinking about these weapons—this designation was not and is not an inevitable corollary of the hardware of the bomb itself."[382] The bomb was not inevitably awe-inspiring, it was the way the bomb was presented to the world and the actions of the Japanese Empire's surrender that made it awe-inspiring.

Recall that the Target Committee listed the psychological factors in choosing Japanese targets.

> It was agreed that psychological factors in the target selection were of great importance. Two aspects of this are (1) obtaining the greatest psychological effect against Japan and (2) making the initial use *sufficiently spectacular* for the importance of the weapon to be internationally recognized when publicity on it is released.[383]

At this time, scientists and military leaders generally agreed that the atomic bomb fit into the wartime strategy of firebombing civilian cities in order to deplete enemy morale. Making the initial use "sufficiently spectacular" followed the logic that the atomic bomb's function was similar to every bomb's function but more efficient in its explosive capacity. Gordin points at two ways that the atomic bomb's spectacularity rested on its delivery and not on its technology. First, Manhattan Project scientists grossly underestimated the effects of radiation fallout—so much so that when the first reports of radiation sickness came out of Hiroshima and Nagasaki Oppenheimer told General Groves that it was "of course lunacy," implying that the reports were

[382] Gordin, *Five Days*, 14.
[383] US National Archives, Record Group 77, Records of the Office of the Chief of Engineers, Manhattan Engineer District, TS Manhattan Project File '42-'46, folder 5D Selection of Targets, 2 Notes on Target Committee Meetings.

over exaggerating based on their own test in New Mexico.[384] The leaders behind the atomic bomb insisted on the weapon as *bomb* and largely ignored the weapon as *atomic*. Gordin's second point further emphasizes the "shock strategy" of firebombing: the US was prepared to bomb a third target in August 1945 and preparations were underway to deliver ten more bombs over the next four months.[385] Extrapolating from this fact, Gordin argues that we are propagating a "two-bomb myth" as the conclusion of WWII.[386] With Gordin's reassessment of the historical narrative, I again want to emphasize the point that the atomic bomb was not inherently spectacular or sublime by nature of its technological advance. The atomic bomb was *made* spectacular, it was an aesthetic strategy in which the US nuclear empire was deeply invested.

The US aesthetic strategy was further validated by the way the Japanese Empire surrendered. On 15 August 1945, Emperor Hirohito announced to his subjects over radio broadcast that the empire would accept the provisions of the Potsdam Declaration, which was an agreement among the United States, United Kingdom, and China on the terms for Japanese surrender. Of note, Emperor Hirohito singled out the atomic bomb as the breaking point.

> Moreover, the enemy has begun to employ a new and most cruel bomb, the power of which to damage is indeed incalculable, taking the toll of many innocent lives.
>
> Should we continue to fight, it would not only result in an ultimate collapse and obliteration of the Japanese nation, but also it would lead to the total extinction of human civilization.
>
> Such being the case, how are we to save the millions of our subjects or to atone ourselves before the hallowed spirits of our imperial ancestors? This is the reason why we have ordered the acceptance of the provisions of the Joint Declaration of the Powers.[387]

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[384] Gordin, *Five Days*, 52-54.
[385] Here Gordin is citing a memo from General Groves dated 23 July 1945.
[386] Gordin, *Five Days*, 47.
[387] "Text of Hirohito's Radio Rescript," *New York Times* (New York), 15 August 1945.

The Target Committee's intent to make the atomic bomb "sufficiently spectacular" exceeded their goal.[388] Emperor Hirohito's declaration that the bomb "would lead to the total extinction of human civilization" proved their aesthetic strategy correct beyond their stated intent.

The Unspectacular Violences of Empire

In this work, my anti-imperial stance has involved a critique of US nuclear supremacy, but the US is not the sole empire vying for control of the spectacle, nor was it during WWII.[389] I want to decenter this US-focus for a moment, not only to avoid feeding into exceptionalism but also to disclose some of my own, my family's positionality. I follow Rey Chow's critique of US-centered imperial critique:

> …with the United States always occupying the position of the bomber, and other cultures always viewed as the military and information target fields…events whose historicity does not fall into the epistemically closed orbit of the atomic bomber—such as the Chinese reactions to the war from a primarily anti-Japanese point of view…will never receive the attention that is due to them. "Knowledge," however conscientiously gathered and however large in volume, will lead only to further silence and to the silencing of diverse experiences.[390]

My own act of critiquing the aesthetic strategy of spectacle has repressed a very real imperial force in my own family. My great-grandfather, my father's maternal grandfather, was a Chinese immigrant worker in the Philippines. Living in Makati, a populous urban center near the capital

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[388] A brief aside to think about spectacle contra propaganda. I don't think they're mutually exclusive, but the Venn diagram is not a circle. Some propaganda is not always spectacular. And I want to argue that some spectacle is not always propaganda—it can be used as critique of hegemonic narratives.

[389] A critique of the U.S.S.R. during the Cold War and the Axis Forces during WWII is outside the scope of this project. But I do see the potential for the theories of spectacle and empire to add to the discourse around war, violence, and ideological authority. Thanks to Martha Feldman and Florian Walch in our March 2023 seminar for pointing this out to me, especially the German's "Wunderwaffen" like the V-2, which only existed for its media, or the U.S.S.R.'s broadcasts of nuclear tests.

[390] Chow, "Atomic Bombs, Alterity, Area Studies," 16.

Manila, he owned and operated a convenience shop. During the Japanese occupation of the Philippines in WWII (1942-1945), my great-grandfather was captured by the Japanese for allegedly helping the anti-colonial guerilla movement. He was thrown into prison and tortured. The details of his story are mostly lost to the family, but my great-aunt who has kept this story for us recalls the lasting scars on his shins. Somehow, he was lucky enough to escape captivity and evacuate to the provincial area of Binangonan. Mind you, these stories are kept by my family in the form of myths and legends in their own right, but they speak to an anti-imperial, anti-colonial position that I hope is apparent throughout my dissertation.

The spectacle, and admittedly my fixation on them, obfuscates the unspectacular violences of empire. Violence is often made spectacular. But much of the violence that maintains empire is presented as unspectacular, if not ordinary or mundane. Nuclear empire's slow violence destroys sovereign lands and unsuspecting bodies. The victims of radiation fallout and their descendants following the Trinity Test are still fighting for reparations in response to their overexposure. Only a month prior to their (arguably token-istic) presence at the Santa Fe Opera's *Doctor Atomic* production, a representative from the Tularosa Basin Downwinders Consortium, Tina Cordova, was testifying before Congress to argue for her community's health care coverage.[391] As recently as 2012, community members in the suburbs of St. Louis, Missouri were alerted to an illegal landfill of nuclear waste left over from the Manhattan Project—they were only made aware of the waste at the Westlake Landfill because an adjacent landfill full of toxic chemicals,

[391] "Tularosa Basin Downwinders Consortium," 2023, accessed 17 March, 2023, https://www.trinitydownwinders.com.

the Bridgeton Landfill, had an underground fire burning for two years and inching closer toward the nuclear waste.[392]

Decades after 6 August 1945, survivors of the atomic bomb, the *hibakusha*, face an unspectacular erasure—not only the race against time, as survivors pass, but also the rush to forget. Former director of the Hiroshima Peace Memorial Museum, Akihiro Takahashi, has witnessed a decline in Japanese interest and attendance. He attributes it in part to the national education ministry's pressure on the teachers' unions to "discontinue peace education and to promote nationalism instead."[393] As the *hibakusha* pass away, there are fears that the next generation cannot carry their stories forward. Takiko Sadanobu, a Hiroshima *hibakusha*, worries that the prejudice against *hibakusha* in the years following the end of the war will have the consequence of erasing their suffering completely.[394] The culture of anti-*hibakusha* prejudice is explored in the 1953 film *Hiroshima (*ひろしま*)*. The film was the second film to be funded by the Japanese Teachers' Union (JTU) to confront the aftermath of the atomic bomb.[395] The director, Hideo Sekigawa, took a hard stance on behalf of the JTU commission's antiwar intent and broadened the anti-imperial perspective to include criticism of the Japanese imperial military.[396] In one scene that depicts an overcrowded hospital outside of Hiroshima, the victims listen to Emperor Hirohito's radio broadcast. They express anger toward the unconditional

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[392] Lacy M. Johnson, "The Fallout," *Guernica* (10 July 2017). Special thanks to Andrew Stock for bringing this story to my attention and for consistently reminding me that the work I want to do is about bearing witness, giving testimony.
[393] Lindsley Cameron and Masao Miyoshi, "Hiroshima, Nagasaki, and the World Sixty Years Later," *The Virginia Quarterly Review* 81, no. 4 (2005): 32.
[394] Cameron and Miyoshi, "Hiroshima, Nagasaki," 33.
[395] The first of which was reportedly too melodramatic and not critical enough. "A Tale of Two Hiroshimas," 2018, accessed 17 March, 2023, https://www.criterion.com/current/posts/5583-a-tale-of-two-hiroshimas.
[396] Hideo Sekigawa, "Hiroshima (ひろしま)," (Japan: Japan Teachers Union, 1953), Film.

surrender when they themselves had suffered so much. “The Emperor is laughing,” exclaims one. “They’re all laughing at us,” retorts another. The film does not point blame at one imperial force but rather criticizes the force of empire writ large—especially as empires leave their own citizens to suffer in the name of patriotism and loyalty.

There are so many accounts of empire’s unspectacular violences. I barely touch on a handful of stories. I raise them here to reiterate my argument that ideological attachments to (nuclear) empire are reified through aesthetic representation—what I argue is the strategy of spectacle. How empire presents itself to us sets the tone of engagement. I want to close with a consideration of the ways that the aesthetic strategy of spectacle can be used to counter empire’s hegemonic narratives.

Protests and demonstrations also use the aesthetic strategy of spectacle to garner attention (what I called “razzle dazzle” in the introduction), to direct and congeal an intimate public’s affect, to test bodies (especially if the demonstration takes the form of a sit-in or a die-in or a march), and to create a site of contestation. In an earlier chapter, I mentioned a demonstration outside of the 2018 “Atomic Summer” programming at the New Mexico History Museum.[397] Organizers from Los Alamos Study Group and ANSWER Coalition organized the demonstration. The Los Alamos Study Group (LASG) sits at the heart of much anti-nuclear and peace activism in New Mexico. One of their most notable campaigns included buying out billboards on the main highways that connect Albuquerque to Santa Fe and on to Los Alamos.[398] The billboards included slogans like “Welcome to New Mexico: America’s Nuclear Weapons Colony” and “Weapons of Mass Destruction? Look closer to home.” The ANSWER (Act Now

[397] Lowe, "Demonstrators Take Issue with Museum’s Focus on N.M.’s Atomic History."
[398] Masco, *Future of Fallout*, 114–23.

to Stop War and End Racism) Coalition is an anti-war, peace activism organization emerging out of a response to 9/11 and the US invasion of Iraq.[399] At the 2018 demonstration in response to the Santa Fe Opera's "Atomic Summer," the LASG and ANSWER Coalition featured Yasuyo Nugent to speak to the crowd. Originally from Hiroshima, Japan, Nugent urged the audience to think of New Mexico in connection with Hiroshima. These calls for international solidarity are prevalent in anti-war and anti-nuclear demonstrations. In an attempt to highlight the unspectacular violences of empire, demonstrations and protests deploy the spectacular—can serve purposes other than reifying empire.[400]

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One week after Cai Guo-Qiang's pyrotechnics celebrated the 75th anniversary of Enrico Fermi's successful Chicago Pile-1 experiment, the Nobel Foundation's Peace Prize lecture featured Beatrice Fihn and Setsuko Thurlow from the International Campaign to Abolish Nuclear Weapons (ICAN). Instead of a "Nuclear Reaction," ICAN promises to take diplomatic action. I see ICAN's work as largely unspectacular. Their stated goal is to "stigmatize, prohibit, and eliminate" nuclear weapons.[401] The Nobel Foundation recognized ICAN's work on the "Treaty on the Prohibition of Nuclear Weapons," which was opened for signature at the United Nations on 20 September 2017 (around the time UChicago's Nuclear Reactions quarter was just kicking off). The treaty now includes 68 ratifications from nation-states, notably from the Global South

[399] "ANSWER Act Now to Stop War and End Racism," accessed 19 March, 2023, https://www.answercoalition.org/who_we_are.
[400] As an aside: I'd also like to mention Eiko Otake's work. I had the privilege of watching *They Did Not Hesistate*, staged at the Henry Moore Nuclear Energy Sculpture Plaza on 7 August 2021. As Otake recited lines about her family's attention to the air raid sirens in Nagasaki, a helicopter flew over on its way to the hospital. It was an uncanny and brilliant coincidence that made the performance all the more spectacular.
[401] "I.C.A.N.," accessed 19 March, 2023, https://www.icanw.org.

(nearly all of the countries in Africa and South America and many nations in Southeast Asia and the Pacific are among them). No nation-state with a nuclear program or nuclear alliance has endorsed the treaty. Nor was there any mention of ICAN or the treaty during those 2 December 2017 celebrations. No apocalypse, not now.[402]

I will close my work with part of Setsuko Thurlow's speech, given on 10 December 2017. I hope this dissertation will contribute in part to the ongoing conversation about nuclear proliferation. The more we can examine, interpret, and critique nuclear empire's aesthetic strategy, the better the tools we might have for creating counternarratives and counterstrategies—to replace nuclear hegemony with another (optimistically: liberatory) hegemon.

> All responsible leaders will sign this treaty. And history will judge harshly those who reject it. No longer shall their abstract theories mask the genocidal reality of their practices. No longer shall "deterrence" be viewed as anything but a deterrent to disarmament. No longer shall we live under a mushroom cloud of fear.
>
> To the officials of nuclear-armed nations – and to their accomplices under the so-called "nuclear umbrella" – I say this: Listen to our testimony. Heed our warning. And know that your actions are consequential. You are each an integral part of a system of violence that is endangering humankind. Let us all be alert to the banality of evil.
>
> To every president and prime minister of every nation of the world, I beseech you: Join this treaty; forever eradicate the threat of nuclear annihilation.
>
> When I was a 13-year-old girl, trapped in the smouldering rubble, I kept pushing. I kept moving toward the light. And I survived. Our light now is the ban treaty. To all in this hall and all listening around the world, I repeat those words that I heard called to me in the ruins of Hiroshima: "Don't give up! Keep pushing! See the light? Crawl towards it."[403]

[402] In closing, a riff on Derrida feels appropriate. Derrida, "No Apocalypse, Not Now."
[403] Setsuko Thurlow, "I.C.A.N. Nobel Lecture" (The Nobel Foundation, Nobel Lecture, Oslo, Norway, 10 December 2017).

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