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More Than a Soundtrack: Music Between Text and Image in Environmental Art

***Mais do que uma trilha sonora: música entre texto
e imagem na arte ambiental***

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Abstract: Music has rarely been the subject of analysis in environmental art forms, from film to post-apocalyptic fiction. This article seeks to fill that gap and shows how music functions between word and image, using three case studies: The Crossroads Project, a lecture-performance series on climate crisis; *Trinity*, a short documentary video on the history of nuclear testing; and Lidia Yuknavitch's *The Book of Joan*, a dystopian novel with music at its core. In all three examples, music does not work as atmospheric background but rather as an active mediator in its own right. Entering the spaces between text or spoken word and image with unexpected material presence, it can help to open the audience toward greater urgency or inquiry about climate disruption; it can accumulate intensity as viewers watch and hear data on nuclear testing; it can even incite violence within a narrative, both thematically and in the text itself, as Sybille Krämer has noted in her work on performativity. Though activist art can easily become baldly manipulative, music can “expose” its hearers (to use Stacy Alaimo's and Jean-Luc Nancy's term) to planetary threats in a way that fosters critical, not just sentimental or fearful, response.

Keywords: music; text; image; Anthropocene; climate; performativity.

Resumo: A música raramente tem sido objeto de análise nas formas de arte ambiental, do cinema à ficção pós-apocalíptica. Este artigo procura preencher essa lacuna e mostrar como a música atua entre palavra e imagem, a partir de três estudos de caso: o Projeto Crossroads, uma série de leituras performáticas sobre a crise climática; *Trinity*,

um vídeo-documentário de curta duração a respeito da história dos testes nucleares; e *The Book of Joan*, de Lidia Yuknavitch, um romance distópico que tem por foco a música. Nos três casos, a música não funciona como pano de fundo para produzir uma determinada atmosfera, mas sim como um mediador ativo. Penetrando as fronteiras entre texto, ou palavra falada, e imagem com inesperada presença material, a música ajuda a provocar na audiência maior senso de urgência ou questionamento a respeito das alterações climáticas; pode acumular intensidade à medida que os espectadores assistem e ouvem dados sobre os testes nucleares; e pode até mesmo incitar violência em uma narrativa, tanto na temática quanto no texto em si, como observou Sybille Krämer em seu trabalho sobre performatividade. Embora a arte ativista possa facilmente se tornar manipulativa, a música pode “expor” seus ouvintes (para usar o termo de Stacy Alaimo e Jean-Luc Nancy) às ameaças planetárias de uma forma que promova uma reação não só sentimental ou tímida, mas crítica.

Palavras-chave: música; texto; imagem; Antropoceno; clima; performatividade.

Introduction

Early in Lidia Yuknavitch’s post-geocatastrophic novel *The Book of Joan*, the narrator notes the music that she can’t stop hearing in her head: “As the trace of song in my brain returns in orchestral bursts to taunt me, I stride like an impatient warrior to my treasure chest, filled with the last of Earth-based items I could not part with.”¹ Throughout the novel, this musical trace haunts the woman once known as Christine. A kind of “phantom of the opera” moves between the lines of text, as the narrator literally grafts onto her diminished body the story of Joan, a palimpsest of Joan of Arc and an apocalyptic warrior-martyr who hears voices – in the form of rhapsody that struck her from a tree in childhood. This secondhand music, transmitted from the dead Joan to her flesh-as-text amanuensis, recalls a world already lost. It raises questions for the readers who imagine it as well. Who will hear our songs when we are burned, melted, or starved to death? Why is music often treated as a carrier of humanness in our own self-consciously named Anthropocene? Can it do violence as well? In this article, I examine three examples of Earth-conscious art that uses music as a sensory messenger that brings to life the text and image each work foregrounds. The first is the Crossroads Project, a scientific presentation on climate change that includes spoken

¹ YUKNAVITCH. *The Book of Joan*, p. 13.

text, projected photographs and scientific graphics, and live musical performance. The second is Orbital Mechanics' *Trinity*, a short video that tracks the history of nuclear testing via image and data-generated sound that works as music, too. Finally, I return to Yuknavitch's novel to explore music's role as an agent of violence in a world of painfully diminished humanity. In all three cases, music gives its hearers a chance at what Jean-Luc Nancy and Stacy Alaimo have called "exposure",² unexpected vulnerability to an endangered world, an openness more likely than mere sentimentality to incite critical response.

In most environmental film and art, music plays a background role, either in lush orchestral scores that illustrate the nature images onscreen, working much like the program-music aspect of Richard Strauss' *Alpine Symphony*, or in minimalist electronic scoring that functions like a slightly Angst-inducing drone, as in *Troublemakers*, James Crump's 2015 documentary on land art. Some earth-conscious film treats music in a more critical way, as in Daniel Dencik's 2013 (almost-) mockumentary *Expedition to the End of the World*, in which Mozart breaks off into silence or Metallica, drawing attention to film music as an artificial construct, à la Brecht's *Verfremdungseffekt*.³ For music to carry its own message between word and image, as a way to spur human concern for a compromised planet and awareness of our own complicity, it needs to be more than a soundtrack or "supplement",⁴ however. Sympathy for an orphaned polar bear cub, accompanied by mournful violins, may be genuine but is usually fleeting. Likewise, a critical response to Mozart cut away as images of melting ice in Greenland fill the screen ("how fragile human music is!") may not bring on truly engaged concern for survival – whether our own or the planet's.

Sound as both medium and message, in Marshall McLuhan's sense⁵ and according to its more recent (and more rigorous) analyses, can foster a sense of care that is both critical and visceral. Evolutionary

² ALAIMO. Exposed, p. 94; NANCY. The Existence of the World is Always Unexpected, p. 85-92.

³ HART. Mozart on ice: Music as Anthropocene artifact in *Expedition to the End of the World*, p. 38-48.

⁴ For a nuanced treatment of the musical "supplement" in other art forms, drawing on Derrida's "pharmakon", see KRAMER. *Classical Music and Postmodern Knowledge*, p. 112.

⁵ See MCLUHAN. *Understanding media*. Originally published in 1964.

biopsychology shows how music can work both as nervous-system stimulation *and* cognitive “induction”, leading to deeper awareness of what can damage or nourish our mammalian homeostasis.⁶ Sudden, sensory insight into our limits, and by association, that of our larger ecosystem, often occurs in a state of aesthetic presence and human openness. Jean-Luc Nancy describes it this way: “When we love, when we drink, when we write, when we sing, we are not directed by goals: we expose ourselves to the finitude of love, of drunkenness, of text, of song.”⁷ This experience can easily move beyond individual hearing and response. When Stacy Alaimo discusses literal human exposure in environmental protest acts, she touches on broader aspects of nakedness and connection as well; her term “trans-corporeality” links not only body to body but also “stages intimacy between flesh and place”,⁸ the world we see and hear and can imagine as a small blue dot in darkness.

Music fosters such connection in its paradox of mediated immediacy: the experience of electronic music in a club comes from machines and yet strikes the dancers’ very bones. Stranger still, this experiential closeness is not limited to sound actually heard. Media theorist Sybille Krämer has elaborated on the performative aspect of media that may appear inert, such as text on the page. Written language can imitate music, it can build in tempo or intensity, it can repeat a pattern obsessively, and it can make use of a word’s various meanings to echo in polysemy across the page.⁹ If “secondhand” music heard on a recording or in a Youtube clip can be equally performative, imagine what live acoustic instruments can do as carriers of meaning, in the extra-semantic sense of shock, stillness, or unease. Though Krämer focuses on the material and immersive qualities of aesthetic media, rather than on their critical potential, she insists that these art forms can *do* something. Like the figure in a medieval painting who was seen as having the ability to cry or literally touch its viewers, according to Hans Belting’s art-historical

⁶ REYBROUCK; EEROLA. *Music and Its Inductive Power: A Psychobiological and Evolutionary Approach to Musical Emotions*, p. 1-14.

⁷ NANCY. *The Existence of the World is Always Unexpected*, p. 90.

⁸ ALAIMO. *Exposed*, p. 77.

⁹ See KRÄMER. *Medium Bote Übertragung: Kleine Metaphysik der Medialität*; KRÄMER. Was haben “Performativität” und “Medialität” miteinander zu tun? Plädoyer für eine in der “Aisthetisierung” gründende Konzeption des Performativen, p. 11-32.

approach,¹⁰ a musical work can provide much more than a “feel-good” effect. It is inescapably present. It often reaches its hearers in unexpected, sidelong ways.

Believing what we hear

Sensory surprise and openness are essential to the Crossroads Project, a collaboration between U.S. physicist Robert Davies and the Fry Street Quartet. This multimedia lecture-performance originated in 2012 and travels throughout the U.S., from environmental conferences in California to Symphony Space in New York City. Its goal is to engage already concerned citizens at a deeper level, and to reach even global-warming skeptics, as humans face the reality of climate disruption already past a dangerous threshold. “Information alone has not taken us far enough, nor will it”, Davies has explained; “emotion, as well as intellect, is needed. It is science and art together [...] that can compel a more powerful response by creating both intellectual and emotional clarity.”¹¹ Davies’ own experience of classical music is quite different from that of his wife, quartet violinist Rebecca McFaul. He sometimes goes to concerts with a scientific problem in mind and discovers that his thinking is “unlocked” as music plays onstage.¹² This may result at least in part from the spatial movement of classical music, something often taken for granted in concert-going culture. In his well-known *Soundscape* book from 1977, R. Murray Schafer notes “the exaggerated dynamic plane of Western music”, particularly in intimate chamber music like the string quartet, “by which effects may be brought into the foreground (*forte*) or allowed to drift back toward the acoustic horizon (*piano*).”¹³ Such back-and-forth movement, along with the kinetic push and pull of pressure waves themselves, affects the autonomic nervous system and

¹⁰ BELTING. *Likeness and Presence*, p. 416-419.

¹¹ DAVIES. The Crossroads Project Booklet.

¹² DAVIES, Robert. Conversation at the Utah State Anthropocene Working Group, 11 Nov. 2016. (verbal information); MCFAUL, Rebecca. Lecture-performance at the Planetary Thinking Curriculum Development Workshop, Utah State University, 9 May 2017. (verbal information).

¹³ SCHAFER. *The Soundscape: The Tuning of the World*, p. 117, 156. Originally published in 1977.

brain structures connected to emotion.¹⁴ If emotion and thought are as closely linked as any heated political conversation would indicate, it is not surprising that kinetic-affective experience of music could shift human reasoning as well, helping a physicist to solve a scientific puzzle in the concert hall, or a climate skeptic to lean in toward data on a screen. Along with the quartet's string players and contemporary composer Laura Kaminsky, Robert Davies works to share his "unlocking" experience with others. The group has developed a multisensory experience that combines informal science lecture, projected images, and live music. Repertoire by Haydn, Janáček, or Kaminsky does not merely accompany the project's words and images but presses in on them – and on the audience – as would unexpected human touch.

In their *Rising Tide* program, named for Kaminsky's work, Crossroads Project musicians begin Haydn's "Sunrise" Quartet as nearly abstract images of plants and stones fill the screen behind and above them. The choice of Haydn brings critical as well as thematic associations: "not only of the piece's nickname, but of Haydn's place as the quintessential composer of the Enlightenment, which ties to the Prelude's consideration of the enterprise of Science."¹⁵ As the musicians engage bows, strings, and frets in chamber music as intimate as it is intense, Davies the physicist sits on the edge of the stage like a slightly distracted passerby. Before the music has ended, he stands, starts to pace alongside the musicians, and speaks about the human-changed and changing world whose images begin to look far less abstract onscreen: a polluted city, plastic in the ocean, a blue penguin rescued from an oil spill. He speaks words by Yann Arthur Bertrand repeatedly, like an invocation or refrain: "It's time to believe what we know."¹⁶ Because this project originated in the U.S. state of Utah, where conservative politicians have long encouraged climate-change denial, such repetition may be necessary. This refrain takes on its own performative quality, as a pressing substance in the room. Even listeners who might be skeptical about the human role in global warming are *exposed* to sounding text in human voice, over and over, that may feel like propaganda in one moment and, in the next, begin

¹⁴ REYBROUCK; EEROLA. *Music and Its Inductive Power: A Psychobiological and Evolutionary Approach to Musical Emotions*, p. 6.

¹⁵ See THE CROSSROADS PROJECT. The performance.

¹⁶ A WIDE-ANGLE view of fragile Earth.

to take on its own strange and physical authority. Part of this may well occur because of nervous-system relaxation in the presence of live music, as a simple sympathetic answer to a horsehair bow on strings. Tension and release play out whether a listener likes it or not; even momentary bodily openness can “unlock” the mind, because of course they are not separate, despite Descartes.

Beyond the threat of global warming, the Crossroads Project addresses many forms of human damage done to planet Earth. The music’s kinetic presence comes with names that guide the audience: Kaminsky’s movements titled “H2O”, “Bios”, “Forage”, and “Societas” enact stillness, discomfort, or urgency. Even without such description, the searching, even probing last movement of Janáček’s First Quartet may well lead its hearers to lean forward, wondering what will come next. When the musicians themselves pass around a microphone to speak, they disrupt the convention of art-for-art’s-sake concertizing to comment on disturbing images onscreen. This self-conscious use of beauty goes beyond Kaminsky’s haunting overtones to highlight human accomplishment amid our growing knowledge of its cost. What Davies calls “sacrifice zones”¹⁷ reveal the brutal underside of consumerist luxury; not only are plants and animals dying in unprecedented numbers, which also appear as statistics onscreen, but we also see a child in China who cannot breathe her own city’s air, and another in Appalachia soaking in toxic bathwater from mountaintop mining. Positive rescue narratives conclude the program, though Janáček’s complex, self-questioning music does not allow for any feel-good trance state in the audience. Once again, it presses into the performance space and asks the audience to be equally present and exposed. Approaching what Timothy Morton calls the “hyperobject” of global warming,¹⁸ too immense and complicated to put in a clean cognitive box, demands more than one medium. That the Crossroads Project concert is not really over until after a question-and-answer period keeps it working in critical, kinetic, and participatory modes.

¹⁷ CROSSROADS PROJECT. Live performance at the Leonardo Museum, Salt Lake City, Utah, 25 Feb. 2017. (verbal information).

¹⁸ See MORTON. *Hyperobjects: Philosophy and Ecology after the End of the World*.

Humming the disaster

To return to Sybille Krämer's inclusive take on performativity, a simple, short Vimeo film can press on human eyes and ears with similar intensity to live string music and repeated, urgent words. Orbital Mechanics' *Trinity* exposes viewers to another form of planetary danger, and one more anxiety-inducing than ever in the current Trump era: the threat of nuclear war. This brief video adapts Isao Hashimoto's 2003 *1945-1998*, a digital map of the 2,053 nuclear explosions around the world in that time period. Both projects combine image, data, and sound. Unlike the jarringly cheerful music that accompanies Hashimoto's video, however, *Trinity*'s sound design is minimalist, with a digital drone, pings and clicks corresponding to color-coded detonations (red for atmospheric, yellow for underground, blue for underwater), and static shuddering in the periphery.¹⁹ Computer text piles up along the bottom corner of the screen, numbering and naming each detonation. The electronic hum rises in volume, as white noise (the "crunch" of background radiation?) accumulates and wavers in response to larger cluster-clicks. The black-and-white earth map on the screen begins to seem more alive than inert, like a body in an operating room or subjected to increasingly invasive lab tests. Added background pitches form a minor third, the interval traditionally associated with sadness in western European music. The pings and clicks accumulate frenetically. The sonic hum opens into a perfect fourth, the sound of a collective chant, the echo of a siren, or the first notes of "Amazing Grace." A map that sends out what increasingly sounds like a telegraphic or sonar distress signal, with no commentary or slow-motion mushroom clouds, takes this history beyond our human terror: the planet itself seems to be sending out Code Red.

Since the Industrial Revolution, noise has been associated with power and even imperialism.²⁰ To hear nuclear detonations invade one's TV or computer screen, quietly and sporadically at first, and then gaining terrible momentum and volume, begins to feel like violation, too. It is an echo of the actual abuse of power that can lead to nuclear destruction. Noise-turned-music as a document of violence, as witness or memorial, is a risky and at the same time provocative aesthetic move, even if it

¹⁹ This passage adapts a portion of a blog post by HART. Nuclear Music. Also see TRINITY.

²⁰ SCHAFFER. *The Soundscape: The Tuning of the World*, p. 74-77.

does not intrude on audiences in a hegemonic way. American composer John Adams' use of the recorded roar and impact of hijacked jets on the World Trade Center in his 2002 *On the Transmigration of Souls* sounded bravely memorable at the time but can come across as too much now. Perhaps it will sound less manipulative in another fifty years. Osvaldo Golijov's 2006 opera *Ainadamar*, in which recorded, layered gunshots puncture the stage-space as the poet Federico Garcia Lorca is murdered under Franco's fascist regime, has retained its kinetic and emotional force. In the case of *Trinity*, detonations scored with sound and image are both safely historical and eerily present, as the threat of future planetary demolition has become more real.

My own experiment with this short video – playing it unannounced in another room for family members who had not heard its sounds in over a year – showed how memorable its “music” is. “I recognized those sounds immediately” was a common response. “That gives me shivers” was another, with comments about how much more at risk our world is now to nuclear disaster – with the U.S. as a likely instigator. These reactions indicate presence, exposure, and critical thought, aspects of music working as a messenger between the images and text onscreen – even if they are not seen at the time. One reason for this memorability (presence that has left a deep enough impression to be recognized both cognitively and physiologically) is its closeness both to the thrum of immersive electronic music, felt in one's bones as much as in one's ears, and to film scoring in which sound designers transform ambient sound into non- or semi-diegetic music, as in the foghorn that morphs into French horns in Martin Scorsese's *Shutter Island*.²¹ Paradoxically, digital technology allows for exposure to sonic presence at an intensity and depth rivaling, if not sometimes surpassing, that of live, “unplugged” performance. And unlike film music that either complements or contradicts the action onscreen, “ambience, noise and orchestral music” can “take an active role in mediating the narrative.”²² At first glance, the storyline of *Trinity* plays out in text (the information onscreen about each

²¹ See BRUHN. Now a Major Soundtrack! – Madness, Music, and Ideology in *Shutter Island*, p. 320-337, and for a more technical discussion of “overlapping cues” between sound and music in this film, see WALKER. *Understanding Sound Tracks Through Film Theory*, p. 286-324.

²² HADLAND. More than Noise: The Integrated Soundtrack of *Noise*, p. 39.

nuclear test) and image (the placement of each red, yellow, and blue explosion on the map). What moves the action forward, however, is the humming, expanding background chord, the crackling white noise, and the buildup of pings and clicks as tests occur more frequently. Hearing this narrative music without seeing its visual patterns, as the sound moves through space, “delivers up a listening that must hear beyond the confines of the room [...] to engage the breadth of the world out there.”²³

Singing the body apocalyptic

In Lidia Yuknavitch’s *Book of Joan*, music can perform narrative violence not only through sonic imitation or recording but even in the silent pages of a novel. As Beate Schirrmacher has noted (drawing on Sybille Krämer’s model of textual performativity), iteration, polysemy, and metaphor can work within the text itself to enact a musical experience and link it to violence, by using words that refer both to the discipline of classical music practice and of sexual bondage in Elfriede Jelinek’s *Die Klavierspielerin*, for example.²⁴ In Yuknavitch’s text, both Christine and her warrior-heroine Joan experience music’s invasive effect on the body. Is it coming from the tree to which Joan as a child feels suddenly bound, or from the data implants in Christine’s body? The truth is stranger: these sounds, sometimes operatic and orchestral, sometimes vibrating like cosmic strings, have been transplanted, or transmuted, in Christine after the now-dead Joan of Arc for end times has been burned, yes, at the stake. Throughout the novel, Joan’s musical “voices” haunt Christine, who grafts Joan’s story on her own, diminished and de-sexualized body. In the last third of the book, these two characters also exchange their narrative “I”s as they tell their different versions of the world’s end. As readers learn more about what led human survivors to escape their dead Earth in a space station run by an unhinged dictator, they also find that music is not mere accompaniment to the story: it is Joan’s weapon: “a later evolution of a cluster bomb, but one that relied not on fire or

²³ LABELLE. *Background Noise: Perspectives on Sound Art*, p. 240-241.

²⁴ See SCHIRRMACHER. *The Transmedial Common Ground of Intermedial References: Performativity in Elfriede Jelinek’s Die Klavierspielerin*, manuscript.

flesh-disintegrating power, but on sound. The harmonics of the universe, turned brutal when marshaled and used.”²⁵

The link between music and violence reaches far beyond Elfriede Jelinek’s *Klavierspielerin*, of course: from Wagner played at Nazi rallies and in the soundtrack of *Apocalypse Now* to music torture in Iraq, music can incite collective trance states and psychic suffering in the real world, not only in dystopian fiction. In Yuknavitch’s novel, music is both a storytelling engine in its own right, as it enacts Joan’s calling to Kali-like creation-destruction in the Earth’s last war, and the very agent of that destruction. Despite the power of this sonic “cluster bomb”, however, the song in Joan’s body holds an even greater power: to link her to the earth itself and raise all its volcanic energy, “all its calderas – war and decreation all at once.” The passages perform what they evoke in words, as Joan touches the earth with all her skin: the rise and fall of symphonies, of an operatic aria or chorus, or – at a good sci-fi stretch – the cosmic strings that keep the universe in play. Meanwhile, all the volcanoes do erupt, and Earth is burned to death as Joan herself will be as punishment. It may take the reader several times to go back through these paragraphs and fully comprehend the damage: like music, this text is not semantically clear at surface level. It moves and crashes on the page; a lot occurs between the lines. In that very gap, however, is where readers can lean closer toward the book’s terrible truth: earthly apocalypse is not a story of destroyers and saviors but a bloody tangle of desperate creatures. No wonder *New York Times* reviewer Jeff VanderMeer finds that unlike most post-apocalyptic fiction, which “too often pays lip service to serious problems like climate change while allowing the reader to walk away unscathed”, in Yuknavitch’s book “there’s no quick cauterizing of the wound, nothing to allow us to engage in escapism.”²⁶ The text is too performative for that.

Yuknavitch’s use of music throughout *The Book of Joan* is not thematic reference or formal imitation (as in the entire structure of David Mitchell’s *Cloud Atlas*, a textual “Chinese music box”) but rather what Jørgen Bruhn has called “medial projection.” What occurs here is that the narrator or a central character “frames the reality they perceive or describe as if it was a work of art.”²⁷ The projected music the reader

²⁵ YUKNAVITCH. *The Book of Joan*, p. 108.

²⁶ VANDERMEER. *The Girl on Fire: The Book of Joan* by Lidia Yuknavitch, p. 1; 22.

²⁷ BRUHN. *The Intermediality of Narrative Literature*, p. 27-28.

imagines, in a kind of creative phonomnesia, does its own performative work. In this case, the act of writing does as well. That Christine is reduced to burning and grafting all this text in silence onto her own body, long after the Earth's volcanoes have destroyed it, on a space station under constant surveillance, gives the act of writing as much power as the music it describes. Both are acts of violence, once again in the performative sense, and at the same time of resistance. They talk back to the TV-celebrity-turned-dictator whose presence is announced not by music as power but as cheesy soundtrack, pompous jingles such as "Theme of Ascension" and "Crescendo of Dematerialization."²⁸ The book's ending feels strangely open, for all the destruction that has taken place: Christine and her fellow grafted-over bodies on the space station do not survive, but Joan does, for one last plunge back to the conflagrated Earth, surprisingly saved by the music for which she is a conduit. When she does eventually die, her still-living lover literally eats her written words: a love letter. The book itself ends with a one-sentence question: "What is the word for her body?"²⁹ As dystopian narrative, *The Book of Joan* resists the received models Donna Haraway noted in her 1992 essay "The Promises of Monsters": "It's not a 'happy ending' we need, but a non-ending. That's why none of the narratives of masculinist, patriarchal apocalypses will do. The System is not closed; the sacred image of the same is not coming. The world is not full."³⁰

Conclusion

Music in environmental art can work as more than atmospheric background. As it moves with unexpected presence between word and image, it can expose its hearers to both data and dystopia in ways that incite visceral and at the same time critical concern. Unlike other recent post-apocalyptic fiction such as Emily St. John Mandel's *Station Eleven*, in which a ragtag music and theatre troupe struggles to survive in post-pandemic North America, Yuknavitch's music in *The Book of Joan* is more than a remnant of lost culture. It voices and enacts the Earth's

²⁸ YUKNAVITCH. *The Book of Joan*, p. 229.

²⁹ YUKNAVITCH. *The Book of Joan*, p. 266.

³⁰ HARAWAY. *The Promises of Monsters: A Regenerative Politics for Inappropriate/d Others*, p. 315.

violent end. It not only inspires but haunts and torments, too. Ultimately it forces readers to face the very real possibility of geocatastrophe and to imagine their own acts of violence in times of drought, war, epidemic, and dictatorship. Likewise, the *Trinity* video brings to sonic life the history of nuclear testing, each ping and click piercing the map and maybe human conscience, too. This data-turned-sound-turned-music is an active narrative, its only text the name and date of each atomic blast. It works kinetically as well as musically, with the cumulative force of ever-more-frequent explosions, a widening, thickening drone, and increasing static buzz. This double narrative of historical documentation and acoustic buildup presses viewers/hearers toward a critical evaluation of nuclear testing and nuclear thinking, too. For audiences who hear The Crossroads Project's live-music approach to climate-crisis narrative, "givens" such as the statistics and the images onscreen can be better assimilated with the sidelong pressure, in the purely physical sense of sonic pressure waves, of string music by Haydn, Janáček, and Laura Kaminsky. These searching or urgently thrumming sounds can work on listeners "inductively" as well as aurally to help them lean in further toward the questions posed by a live physicist in front of them. His repetition of the words "It's time to believe what we know" enter the mind and memory more easily with music in the room. This could certainly be seen as a form of manipulation or even as musical propaganda, but all activist art walks that line. Music played by live string players who also speak, music intensified onscreen as irrefutable data mounts, or sound projected in the midst of urgent narrative can add a critical dimension propaganda usually does not. In light of climate crisis that is hardly fiction, multi-sensory communication can expose a human audience to their own role in this – and in the possibility of change.

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