Apocalyptica
No 1 / 2023
DOI: 10.17885/heiup.apoc.2023.1.24900

Katherine Guinness

Mediation and Autobiographical Ghosts

Abstract: In the summer of 2022, New York City Emergency Management released a PSA advising New Yorkers how to prepare in the case of a nuclear attack. Though provoked by the war in Ukraine, the many bewildered and shocked responses to the PSA revealed that a 'return' to fears of nuclear war was unimaginable for most New Yorkers, not to say most Americans. At the same time, reporting on this PSA from countless news outlets contained a curious detail: journalists were identified not merely by reporting agency, but through short bios filled with personal details about hobbies, family, and pets, among other things. This paper begins with the contrast between 'unimaginable' nuclear disaster and the need to foreground personal details in otherwise impersonal discourse. This contradiction between the unimaginable and impersonal confronts a demand to make things 'relatable' and intimate. Drawing on my previous arguments about 'negative hauntology,' or a collapse of temporality that leads one to imagine that a future disaster has already happened, that one is always-already a victim of disaster, that one haunts one's own present as a ghost, this paper frames how many relations today seem ghostly, a fact which emerges from the contradiction between the impersonal and personal. Drawing out how spectral apparitions have long been linked with the capacities and limitations of mediation, this paper argues that the specificity of 'nuclear ghosts' emerges at the intersection of mediating otherwise imperceptible, yet present dangers, and mediating perceptible, but distant others who are framed through banal, yet intimate traces.

Keywords: ghost, hauntology, Jean-Luc Nancy, time, nuclear disaster, apocalypse

In the summer of 2022, New York City Emergency Management released a PSA advising New Yorkers of how to prepare for a nuclear attack. Though provoked by Russia's attack on Ukraine, the many bewildered responses to this PSA revealed that a 'return' to fears of nuclear war was unimaginable for most New Yorkers, not to say most Americans. The video itself, presented in a disturbing but vague future-past tense, begins with a woman dressed in all black, poorly composited onto a city street. "So, there's been a nuclear attack," she says in a straightforward manner. "Don't ask me how or why, just know that the big one has hit." (NYC Emergency Management, 2022) The video gives ambiguous tips on what to do next: get inside, stay inside, and stay tuned. It concludes with the woman, now placed into a generic loft apartment space (one presumably located within New York, although it looks more like an Ikea advertisement), ending her instructions upliftingly: "You've got this!" One is left with a lack of specificity and an uncanny sense that the video—and perhaps the intended viewer, as well—exists outside of time and space.

Reporting on this PSA, from countless news outlets, contained a curious detail: journalists were identified not merely by reporting agency, but through short bios filled with, among other things, personal details of hobbies, family, and pets. For example, Bruce Y. Lee tells us in his byline for *Forbes* that he is a "writer, journalist, professor, systems modeler, computational and digital health expert, avocado-eater, and entrepreneur, not always in that order" (Lee 2022). NPR's reporting on this PSA was by Wynne Davis. Davis, along with providing a quote from Mayor Eric Adams explaining the video was intended for "taking necessary steps after what happened in Ukraine," lets us know that she loves the St. Louis Cardinals Baseball team, a personal detail accompanied with a devil's horn hand emoji (Davis 2022). Brian Pietsch, at the *Washington Post*, relays simultaneously that "the world's nuclear arsenal is set to grow over the next decade for the first time since the Cold War," and that he loves rock climbing, skiing, and biking (Pietsch 2022). Over at *Bloomberg*, we learn that only 12% of New Yorkers feel prepared for "a radiological incident," and that the author Isabella Steger has a cat and "gatekeeps 90s culture" (Steger 2022). *Vice*'s Matthew Gault also has a cat. From his article we learn that: "If Russia's SS-25 missile (it's [sic] largest known nuclear warhead) detonated over Midtown Manhattan, everything from W. 30th to W. 52nd street [sic] and between 10th and 3rd Avenue would be gone. Vaporized" (Gault 2022). We know that the *New York Times* reporting on the subject is by two people (Emma G. Fitzsimmons and Jeffery C. Mays) who, respectively, are a "subway enthusiast and mom of two boys" and follow the same arts critics as I do on Twitter (Fitzsimmons and Mays 2022).

I want to use these examples, of journalists simultaneously providing information about impending nuclear doom and personal (but not *too* personal) life details, as a way into the primary claim of this article: all these journalists are ghosts. And not just these journalists, but *everyone* today. Due to various catastrophic changes to time and space (or, more accurately, the perception and experience of time and space) we are living in a permanent 'after,' which, in terms of how the subject imagines itself, places humanity within an enduring 'afterlife' in relation to both personal and collective memory, the valuing of life, and the ability to act collectively. Rather than historical subjects acting and intervening in the present, we understand ourselves as spirits haunting our own present, largely unable to intervene beyond any typical ghostly actions: moaning, crying, warning, becoming visible for short times in specific, rare, and difficult manners. This is, I suggest, a particular outcome of nuclear disaster in a context shaped by current economic and technological demands.

This might seem like a giant leap—moving from personalized bylines to claiming that we are all ghosts—but bear with me. News coverage of the potential of nuclear disaster, like almost all news we receive now, is deanonymized. It is not the news, but information from a person we know intimate details of. Writers are leaving personal traces along with the impersonal reportage of daily events. Bylines are rattling chains and social media is a haunted house. Ghosts leave traces; pieces of themselves. You smell their perfume; you leave them their favorite foods on alters. You need to know that they sometimes ate avocadoes, above all else. Personal details, I suggest, are not only evidence of the necessity of branding oneself in an age of freelancing and social media spectacle, but involve a temporality in which one's projection into the future—as having a significance in daily life that will endure—is simultaneously a retrojection into the present that requires the subject to imagine itself as always-already deceased.

This is a similar argument to the one offered by Gabriele Schwab, who, in her book *Radioactive Ghosts,* suggests that we live within a "nuclear episteme," which is, for her, characterized by two intertwining themes: a denial of the thorough imbrication of daily life with the threat of the nuclear while being traumatized and shaped by that threat. "Many do not want to think or even know about the full extent of the nuclear threat," (2020, 5) Schwab argues. "And we would indeed not be able to live our daily lives, let alone enjoy them, if we did not succumb to a fair amount of psychic splitting. This means that we go on living as if the nuclear danger were not there" (2020, 5). At the same time, Schwab argues, as I also will in these pages, "[n]uclear subjects are traumatized subjects, haunted

by memories of nuclear catastrophes while also harboring the invisible ghosts of a future nuclear disaster in a sealed-off crypt within the core of their selves" (xiii).

The difference in my argument and Schwab's comes from the intersection of these two ideas. For Schwab, it is the denial of the nuclear threat that enables a "haunting from the future," in which the refusal to acknowledge past catastrophe enables an out-of-joint temporality where the threat—be it in terms of genetic mutation, illness, or mass death—is always to come, perpetually deferred through an inability to reckon with the realities of nuclear energy. My view is, instead, that the past traumas of the nuclear *are* acknowledged, if at an unconscious level; revealed through the seeming necessity of making one's mark on existence. One reason it has become so important to ground factual accounts through personal information is not because the catastrophe is yet to come, haunting us from the future. It is because we imagine ourselves as already deceased, as already gone. We have faced the threats, died, and are continuing.

Although I will theorize catastrophe, disaster, and accidents in more detail later, and will also distinguish (and conflate) nuclear disaster and accidents from purposeful acts of nuclear war, it is important to reiterate why we experience nuclear catastrophe differently than, say, climate change catastrophe or the exploding of the sun. The nuclear is distinct from countless other imaginations of trauma and crises today, which, while threatening us existentially, have not yet occurred. For instance, as Ray Brassier theorizes in his book *Nihil Unbound:*, the sun is a catastrophe that leads us to already being dead in the same way I argue that we are ghosts. He writes:

> The extinction of the sun is a catastrophe, a mis-turning or over-turning (*kata-strophe*), because it blots out the terrestrial horizon of future possibility relative to which human existence, and hence philosophical questioning, have hitherto oriented themselves. Or as Lyotard himself puts it: '[E]very-thing's dead already if this infinite reserve from which you now draw energy to defer answers, if in short thought as quest, dies out with the sun' (Lyotard 1991: 9). *Everything is dead already*. Solar death is catastrophic because it vitiates ontological temporality as configured in terms of philosophical questioning's constitutive horizonal relationship to the future (2007, 223).

The catastrophe of the sun is able destroy one's relationship to the future, and when this is destroyed, we are already dead.

However, I point to nuclear power as the ultimate catastrophe because it is not yet-to-come in the way the sun's destruction is. Nuclear disaster has already happened and can happen again. This concept of time is less messianic and more akin to evangelical-nihilism (and Adam Kotsko writes in his article *The Evangelical Mind* that nihilism is intrinsic to Evangelism today (2019)). To be fair, Brassier tells us that the sun *has* already exploded:

> But far from lying in wait for us in the far distant future, on the other side of the terrestrial horizon, the solar catastrophe needs to be grasped as something that *has already happened*; as the aboriginal trauma driving the history of terrestrial life as an elaborately circuitous detour from stellar death. Terrestrial history occurs between the simultaneous strophes of a death which is at once e*arlier* than the birth of the first unicellular organism, and *later* than the extinction of the last multicellular animal (2007, 223).

Has the sun exploded? At an existential, ontological level, sure; but at an experiential, actionable level, no. We might be able to philosophize what Brassier is discussing, but a timeline of millions or billions of years is so beyond the human scale that we cannot comprehend it phenomenally.

Nuclear catastrophe, however, has happened in an experiential, documentable, lived way. We have photos in textbooks and museums, memorials across the world to its victims, and laws and global organizations dedicated to preventing further destruction. Nuclear apocalypse has happened and is yet to come. For the purposes of this essay, I should note that I am talking about a particular form of western individualism which lends itself perfectly to fearing and denying death while refusing to look to others, collectively, for a way forward. I've previously discussed how emerging digital infrastructures provide an opportunity for new forms of animism (with the animistic often positioned as closer to nature, as removed from the ethical problems of western individualism, and so on) and how these opportunities sometimes cause divisions between western and non-western conceptions of death and immortality (Bollmer and Guinness, 2018). I might frame what I describe here as a result of a western sense of linear time, rather than a form of temporality which would apprehend the nuclear and apocalypse differently. Motoko Tanaka discusses this difference of perceptions of time in *Apocalypse in Contemporary Japanese Science Fiction,* writing, "[w]e are apt to think, due to the spread of Christianity, that the cyclical understanding of time has faded. The linear model is taken for granted in our age [...] the understanding of history via the application of the cyclical view of time to historical events

continued to prevail in the world until very recently, and this view is still prevalent in some cultures, including the agricultural societies of contemporary Europe" (2014, 17).

In my account, the future has already passed into the present, becoming something that speaks not of a deferral into the future, but of a splitting that does not deny the past, properly speaking, but approaches one's life as already concluded. In this version of the "nuclear episteme," the inability to do anything—about politics, catastrophe, and social collapse—is a result of the fact that one imagines their agency as the agency of a ghost, only able to haunt through details that express one's presence, but unable to do much, if anything, to impact or change events previously set in motion.

1.

Since the PSA's summer release, fears of a nuclear attack have only grown stronger. For example, in October of 2022 President Joe Biden claimed, "[w]e have not faced the prospect of Armageddon since Kennedy and the Cuban Crisis" (Richards and Smith 2022). "Joe Biden Believes U.S. is Closer than Ever to Nuclear War," cried one headline (Bush 2018). Yet, this headline was not in response to the 2022 announcement. It was from January of 2018. In fact, the nuclear preparedness video was commissioned and produced in 2018, as well. This was pointed out by a *New York Times* article which delved into the various governmental funds that paid for the video's production (Fitzsimmons and Mays 2022). In other words, the legitimation for the PSA with which we began—the potential of nuclear war after Russia's invasion of Ukraine—is a legitimation placed onto the video after the fact. The closeness to nuclear war felt in 2022 was a repetition of similar feelings from 2018.

This repetition does not speak to an ever-deepening closeness to nuclear war. We've always been close to Armageddon and apocalypse. We just forget, as Schwab suggests, about the deceit and denialism of the history (and reality) of the nuclear. Yet, I believe we've flown past the apocalypse, the threat of ultimate catastrophe, to a holding pattern within the 'after.' In the afterlife time acts differently, our memories fail us, and we cannot value human life because we are already dead. This happens again and again, and I agree with Jean-Luc Nancy when he suggests that this change in temporality is a result of nuclear technology—both nuclear weapons and nuclear energy (and, more specifically, the disasters produced by both). Nancy, in his book *After Fukushima,* writes that the

"after" of his title "stems [...] not from succession but from rupture, and less from anticipation than from suspense, even stupor. It is an 'after' that means: Is there an after? Is there anything that follows? Are we still headed somewhere? *Where is our future?*" (2014, 15–16). This rupture of time is because, Nancy argues, "Our time—as it has been able to see itself at least since the First World War—is the era that knows it is capable of an 'end of days' that would be a deed created by humans" (19). While examples of history repeating abound, along with humankind's perpetual inability to learn from the past, for Nancy, the nuclear seems to draw all other catastrophes to it in a way that stops time.

This fungibility of catastrophes, the subsequent confusion and halting of time and temporality, is not an abstraction. For example, as I conceived of this article, my mother, who lives in Missouri, told me I should be sure to bring up the huge cache of nuclear weapons buried near my childhood home. (And yes, I realize that inserting my mother into this essay is a personalization no different than Lee's love of avocadoes. What can I say? This is where my spectral form takes shape for a moment. I am also a ghost. My argument is that we all are.) Like most residents of the area, she knows about this history. However, as I write this article months later, towards the end of 2022, I watch the *Today Show* shake its mediated, metaphorical head in horror and shock as Hoda Kotb reports on "significant radioactive contamination" at a school in suburban St. Louis. During World War II, weapons were produced in the area, the waste dumped at sites next to several major waterways (Today Show, 2022). The Boston Chemical Data Corporation has been studying this site for over twenty years and has long suspected it of causing many health crises and cancer clusters. And yet, we are surprised to hear about the contamination and the harm it is doing. Of course, the reporting on this simultaneously new and old nuclear accident in Missouri is spoken over flashing headlines of police murder and school shootings, other examples of ever (and increasingly) occurring catastrophe and horror that we do not seem to know how or desire to stop. These all demonstrate how little human life is valued in the face of late capitalism, as do countless other examples. Despite the constant attention to 'new' disasters, nothing seems to change, nothing seems to be done, political will seems incapable of change. The denialism of the past of the nuclear is not a true denial—it is acknowledged, sometimes directly in local knowledges about where to live and where to avoid. Sometimes it appears, an unconscious that is revealed as "new" despite the actual awareness of the history of the nuclear. This lived history and denial is, again, what differentiates the nuclear from entirely yet-to-come disasters (the sun exploding, for example).

Nancy also points out that the disaster which has allowed all disasters to now be conflated is nuclear disaster. Another difference may be that the nuclear contains so much harm that is entirely invisible, imperceptible, which is perhaps one of the reasons that its history is so easily ignored. Radiation is unseen; we know it spreads further and with more destruction than is ever officially stated. There is a quantifiable amount that is said to cause illness, but we're never quite sure what a safe level is. The effects of nuclear bombs themselves are also distant to us today (at least in the United States, as the nation that dropped the majority of these bombs). Howard Zinn writes that: "The public does not understand, I mean really understand what bombs do to people. That failure of imagination, I believe, is critical to explaining why we still have wars" (2007, 9). Radiation, buried weapons, the reoccurring promise of nuclear winter and Armageddon, these are difficult for us to grasp, in part because the nuclear exists on a different time scale than humanity. It occupies the space of what Timothy Morton (2013) refers to as "hyperobjects" or items that outlast humanity on such a level that we cannot comprehend them phenomenally. Morton's key examples include an object like Styrofoam, which—at a human level—is apprehended as disposable and temporary, only present in consciousness for a few minutes, a few hours, before being thrown away and hauled off to a landfill. Morton's point, however, is that any "disposable" Styrofoam object will endure in shaping the planet for far longer than any human life. The nuclear may very well be the ultimate hyperobject, as it cannot be grasped or even seen in the same way that say, Styrofoam can be. At least not without systems of mediation to aestheticize the nuclear and make it sensible, like a Geiger counter.

How different is a Geiger counter than any ghost-hunting technology? The EMF (electromagnetic field) detectors, digital recorders used to capture EVP (electronic voice phenomenon) seen in countless shows about ghost hunters are simply a system of mediation intended to access that which is beyond human sensibility. At the same time, the discursive formation of our world today is forcing us to hyper-personalize ourselves and identities as to be 'relatable' which is an essential part of the political economy of social media. These details and traces are today's ectoplasm, the "white, viscous substance, with an ozone-like smell" that would emanate directly from a medium's body as evidence of spiritual contact with the deceased, in which "the flesh itself…could be replicated over distance" (Peters 1999, 98). Not only distance, but from the realm of the afterlife. These traces are the cold air we feel, bristling the hair on our necks as we learn about how we might die in a nuclear bombing, and are haunted by details of others we will never contact without mediation. The journalists

above are ghosts because they live out of time and leave digital traces that keep them out of time. But so do we all. Why do we tell on ourselves in this way? We cannot be approached without systems of mediation; we imagine ourselves as ghosts because we imagine ourselves as dead day in and day out. Social media is one way of seeing ourselves and being seen, a Geiger counter, a cycling radio, a speck of dust in a photograph that could be something more.

2.

When all catastrophes are interconnected,[1] as Nancy claims, problems begin to look too big, minutia piles up, a cycle of neoliberal guilt, release, and forgetting kicks in. Because the problems confronting the world are so large—existential in nature, they threaten the future existence not only of humanity but of the planet as such—a common reaction is that it is impossible for individuals to do anything, a reaction intensified when democracy seems to lead nowhere, when institutions and authorities seem far more willing to accelerate the oncoming doom than ensure a future. And yet, individuals are still told to do their part, as if "solutions" come from autonomous, isolated monads working to ensure their future alone. As Donna Haraway explains throughout her book *Staying with the Trouble,* individuality cannot be maintained in light of the Capitalocene and Anthropocene. As we know, and as Haraway explains, we live in troubled and troubling times filled with "vastly unjust patterns of pain and joy" (2016, 1). Our task is to simply become capable within these times. How? To recognize that neither God-like technology will save us, nor will the problems go away if we just ignore them. Our relationship with time must change, we should stop holding out for a future-perfect. Or stop holding out for any future at all. Haraway continues, "[i]n urgent times, many of us are tempted to address trouble in terms of making an imagined future safe, of stopping something from happening that looms in the future" (1). We can't hide in the past or run to the future, we have to be here now, and most of all we must "stay with the trouble" no matter how uncomfortable it may be. We must also "make kin" with all kinds of non-human "critters." Haraway explains that, "[t]he task is to make kin in lines of inventive connection as a practice of learning to live and die well with each other in a thick present" (1).

Thinking about collectivity and time, how we as humans are thinking about what a body is and can be post-bomb, is integral to my theory that, today, we are all ghosts. While Haraway is discussing climate disaster of all

1 "Nuclear catastrophe—all differences military or civilian kept in mind—remains the one potentially irremediable catastrophe, whose effects spread through generations, through the layers of the earth; these effects have an impact on all living things and on the large-scale organization of energy production, hence on consumption as well. The 'equivalence' of catastrophes here means to assert that the spread or proliferation of repercussions from every kind of disaster hereafter will bear the mark of that paradigm represented by nuclear risk. From now on there is an interconnection, an intertwining, even a symbiosis of technologies, exchanges, movements, which makes it so that a flood—for instance—wherever it may occur, must necessarily involve relationships with any number of technical, social, economic, political intricacies that keep us from regarding is as simply a misadventure or a misfortune whose consequences can be more or less easily circumscribed [.] [...] The complexity here is singularly characterized by the fact that natural catastrophes are no longer separable from their technological, economic, and political implications or repercussions" Jean Luc Nancy (2014, 3–4).

sorts, not nuclear threats specifically, the threat of nuclear disaster opens new ways of understanding and making do with our bodies in time and space. Elsewhere, I have argued that nuclear disaster is an unusually apt subject for the medium of virtual reality, one in which VR works about nuclear energy, radiation, and disaster reveal a particularly strange relation of time and presence (Guinness 2020). I've framed this as a "negative hauntology," building on how this term, "hauntology" has been discussed by Jacques Derrida and some of those drawing on his work, such as Mark Fisher. In *Specters of Marx,* Derrida argues that "haunting," which translates as the French *hantise,* "is historical, to be sure, but it is not *dated*, it is never docilely given a date in the chain of presents, day after day, according to the instituted order of a calendar. Untimely, it does not come to, it does not happen to, it does not befall, one day, Europe, as if the latter, at a certain moment of its history, had begun to suffer from a certain evil, to let itself be inhabited in its inside, that is, haunted by a foreign guest" (2006, 3). Derrida's "hauntology" contends that "presence" assumes a temporality of having already been but simultaneously yet to come, the spirit that animates is both a ghost of the past and an arrivant from the future. An ethical and political injunction emerges:

> It is necessary to speak of the ghost, indeed to the ghost and with it, from the moment that no ethics, no politics, whether revolutionary or not, seems possible and thinkable and just that does not recognize in its principle the respect for those others who are no longer or for those others who are not yet there, presently living, whether they are already dead or not yet born. No justice—let us not say no law and once again we are not speaking here of laws—seems possible or thinkable without the principle of some responsibility, beyond all living present, within that which disjoins the living present, before the ghosts of those who are not yet born or who are already dead, be they victims of wars, political or other kinds of violence, nationalist, racist, colonialist, sexist, or other kinds of exterminations, victims of the oppressions of capitalist imperialism or any of the forms of totalitarianism. Without this non-contemporaneity with itself of the living present, without that which secretly unhinges it, without this responsibility and this respect for justice concerning those who are not there, of those who are no longer or who are not yet present and living, what sense would there be to ask the question 'where?' 'where tomorrow?' 'whither?' (2006, xviii)

Derrida's hauntology is a displacement that calls one to think beyond oneself. In some ways, it provides a temporality like the one Schwab argues to

characterize the "nuclear episteme." One is haunted by a past that is yet to happen, which depends on a sense of futurity that extends both into the future and past, a presence that is always gone and yet is inevitably realized in the future (2006, 201–202). This is messianic time, and as I mentioned earlier, the closest ideation to the sense of time I discuss could be called evangelical-nihilism.

My 'negative' in 'negative hauntology' is not meant to directly invoke the links many have made between Derrida's work and negative or Apophatic theology (i.e. Caputo 1989), a line of thought where one can only approach the divine through negation, though it shares some similarities with this aspect of Derrida's work. Negative hauntology is the inversion of the hauntological. It suggests not that presence is forever deferred into both past and future, resulting in the out-of-joint temporality of the present, but that the *ultimate disaster*—annihilation and the end of 'presence'—has already happened and is yet to come. Negative hauntology forecloses the ethical injunction of the hauntological; a responsibility towards both those who have died and those who are yet to be born, instead placing one's own subjectivity in the position of both past and future, while agency in the present is itself framed as impossible. Nuclear disaster puts us in a temporality in which we are always after, but also possess no future. It's not being stuck in the present but being stuck in the before and the after.

We are living in a moment where immortality and human perfection are promised through technology, in which, to reference a title of one of futurist Ray Kurzweil's books, one need only live long enough to live forever, making it to the "singularity," transcending biology, space, and time through the possibilities of technology (Kurzweil 2006). Yet, newspapers are filled with headlines telling us, "We Have 12 Years to Limit Climate Change Catastrophe" (Watts 2018), "Earth Will Survive. We May Not" (Frank 2018), and "We're Doomed" (Barkham 2018). Many are questioning the ethics of having children on a dying planet, while "longtermism," a philosophical and philanthropic movement that prioritizes thinking far, far into the future rather than addressing the problems and politics of the present, is increasingly popular among billionaire philanthropists. The modes of thinking today oscillate between the rapidly approaching inevitability of human extinction and of a temporality that stretches far, far into the future, filled with billionaires who have made themselves immortal. We are facing not just the ability to destroy ourselves in an abstract unknown (the nuclear bomb was always far away for those dropping them, a particularly American desensitization), but the reality of hav-

ing already done the damage that will and has come for us, so that our future ancestors will never come to be due to our (in)action.

Nancy writes that the catastrophes caused by climate change are all interconnected and cannot be unbraided, nor can these concerns be unbraided from any other, be they nuclear, be they accidental or purposeful. So then, how is it we can live in this simultaneity? Derrida warned that we must create an ethics "to learn to live with ghosts," and like Haraway's "making kin" with "critters" it is not an ethics of otherness but of living with others. Derrida continues, "[b]ut *with them*. No *being-with* the other, no *socius* without this *with* that makes *being-with* in general more enigmatic than ever for us. And this being-with specters would also be, not only but also, a *politics* of memory, of inheritance, and of generations" (2006, xvii). This suggests the problem is, at least partially, an inability to acknowledge the past. I wonder then, if he was preparing us to learn to live with ourselves, when we position our own existence and our own agency as past. Preparing us to be alone while interacting with thousands of other lonely individuals online, to write about the aftermath of a mass extinction which might have already arrived, while leaving individual traces of ourselves in case it truly has. I want to think that Derrida was telling us that we must learn to live with one another and ourselves as we would live with the dead, because it's what we are.

What I am suggesting is that the drive to make marks of personal details, details which seem related to the desire to be seen, acknowledged, and reassured that one's life will have amounted to something in the face of a range of interconnected, annihilating disasters, means that our debt is not to those who have already died and those who are yet to be born. Rather, we imagine ourselves as already dead and the future as filled with nothingness, so there will be no one living born to be in debt towards. These lived practices address a simultaneous desire: "I must be more than myself," and also, "the world is ending, who am I even speaking to?" And more than a result of the internet, its displacement of temporal duration in the name of instantaneity, I suggest that this temporality is a result of time after nuclear disaster, but not time after nuclear war.

3.

Progress is oriented towards the future. It is not just the bomb that led to the collapse of temporality, as 'progress' and 'war' can be recouped through national narratives that legitimate exceptional violence. It is the capacity of the nuclear not as an agent of war, but as an agent of 'acciden-

tal' death and contamination. In his essay *The Museum of Accidents*, Paul Virilio claims that the accident, the catastrophe, is especially privileged in modern, technological society, a society in which time—meaning temporal chronology—seems to end. "A society which rashly privileges the present—real time—to the detriment of both the past and the future, also privileges the accident" (2004). He found that a 2001 Sigma Study (an annual list of man-made disasters as well as natural catastrophes made for insurance purposes) reported, "[f]or the first time since [the study began in] the 1990s, a period when damage due to natural catastrophes predominated over man-made damage, the trend has reversed, with man-made damage standing at over 70 percent" (Virilio 2004).

Virilio is, here, articulating technologies that seem to accelerate time and annihilate space with modernization's obverse: the accident, death, destruction. While the annihilation of space by time is a condition that predates the internet as an essential part of capital accumulation, though the internet and networked media in general seem to 'realize' this condition most thoroughly with the desire for 'real time' and synchrony across vast distances. Virilio is not the only critical theorist to make this association. Achille Mbembe (2022) has also discussed this world-scale interconnection, calling it "planetary." This leads, he says, to a clash of time and a devaluing of life under capitalism. Even though we seem to be connected globally, Mbembe notes that this "sharing" in the market relies on a cosmology that accepts "a fundamental difference between the human subject and the world around it, between the human universe and the universe of nature, of objects and so forth," (2022) even though there are many alternative cosmologies that would refuse this individuality and isolation. "The epoch we have entered into," Mbembe argues, "is one of indivisibility, of entanglement, of concatenations," (2022) a state of being more commonly accepted by non-Western epistemologies. This interconnection is not totally 'positive,' and contains its own dialectical underminings, similar to Virilio's accidents.

> Times of concatenation presuppose that our bodies have become repositories of different kinds of risks, including those kinds of risks that not so long ago (and in many cases still) were thought to be the peculiarity of certain classes of the population—or 'races,' to use that infamous term. What used to only happen to some is now happening to more than just them (Mbembe 2022).

Being interconnected at a planetary scale means that all are increasingly subject to the same risks, anxieties, and accidents.

Virilio and Mbembe, and, as I'll return to in a moment, Nancy, together suggest how the "nuclear episteme" is one in which a planetary intertwining—an intertwining in which isolated disasters become equivalent and fungible, involving technologies to link the planet, an intertwining that reveals itself through the rise of global, planetary "accidents"—is about the potential of a spatial collapse, in which boundaries of nation-states are no longer central in containing and limiting the effects of technological rupture. And yet this spatial collapse also provokes extreme temporal confusion. Mbembe says, as for time, "I would go as far as to insist that more than any other time in our brief history on Earth, we are experiencing a clash of temporalities: geological time, the deep time of those processes that fashioned our terrestrial home; historical time; and experiential time. All these times now fold in on one another. We are not used to thinking of time as simultaneous. We think of time as linear: past, present, future. So how do we begin to think about time in a way that takes these concatenations seriously?" (2022). This means, I would suggest, an abandonment of 'futurity' as a space that legitimates political decision. Haraway too warns us against putting stock in the future. She writes that "[s]taying with the trouble does not require such a relationship to times called the future. In fact, staying with the trouble requires learning to be truly present, not as a vanishing pivot between awful or edenic pasts and apocalyptic or salvific futures, but as mortal critters entwined in myriad unfinished configurations of places, times, matters, meanings" (2016, 1). But, without a future, it seems that individuals today refuse their existence as "truly present." Instead, the evacuation of agency in the face of spatial interconnection and temporal confusion has led to a condition where death is a foregone conclusion (except for those few who choose, instead, to fight for immortality, to imagine oneself as a god who will live as a spirit in a machine).

4.

I noted above a necessary distinction between nuclear accident and nuclear war. This, I suggest, is because war, even if it leads to planetary annihilation, can be placed easily into historical narratives of victory and progress. War, as a historical phenomenon, guarantees a future. The accident does no such thing. As Nancy suggests, in differentiating between the horror of the bomb and the tragedy of the nuclear accident, "[w]hat Fukushima adds to Hiroshima is the threat of an apocalypse that opens onto nothing, onto the negation of the apocalypse itself, a threat that depends not just on military use of the atom and perhaps not even on

the sole use of the atom in general" (Nancy 2014, 21). This is true, as it gets to the futurity of war and the nothingness of the accident, but I want to explore Nancy's conflation of nuclear catastrophe and weaponry; of accident and war, of Hiroshima and Fukushima. And just as we must untangle the different implications of nuclear disaster and warfare, we must untangle the differences between history and time.

Nancy's writing *After Fukushima* grounds my argument concerning our negative hauntological moment. These grounds begin with Nancy's explanation that time has stopped. And if not stopped, time has become disastrous and disrupted because of the nuclear. So, even if there is a distinction between Fukushima and Hiroshima, as Nancy seems to suggest, this distinction is rendered insignificant in the ultimate exchangeability of all catastrophes. In this inconsistency—a singular moment of hedging in an otherwise sharp and concise piece of writing—Nancy seems, to me, to be struggling with his own position (or humanity's position) of being both dead and alive, both present and spectral.

Nancy begins and ends his essay by stating firmly that, today, there is an equivalency of all catastrophes. I quote here at length:

> Nuclear catastrophe—all differences military or civilian kept in mind—remains the one potentially irremediable catastrophe, whose effects spread through generations, through the layers of the earth; these effects have an impact on all living things and on the large-scale organization of energy production, hence on consumption as well. The 'equivalence' of catastrophes here means to assert that the spread or proliferation of repercussions from every kind of disaster hereafter will bear the mark of that paradigm represented by nuclear risk. From now on there is an interconnection, an intertwining, even a symbiosis of technologies, exchanges, movements, which makes it so that a flood—for instance—wherever it may occur, must necessarily involve relationships with any number of technical, social, economic, political intricacies that keep us from regarding it as simply a misadventure or a misfortune whose consequences can be more or less easily circumscribed[.] [...] The complexity here is singularly characterized by the fact that natural catastrophes are no longer separable from their technological, economic, and political implications or repercussions (Nancy 2014, 3–4).

I want to focus on the first line of this quote, and specifically the phrase, "all differences military or civilian." Nancy tells us that there is no difference in the catastrophe of Hiroshima and Fukushima, no difference

between military and civilian nuclear use, no difference between purposeful destruction and accidental disaster. The sheer force of the nuclear erases this difference and its technical, economic, and political intertwining, that continues to characterize all disasters today. He continues later in his essay, elaborating on the lack of distinction between names: "A proper noun is always a way to pass beyond signification. It signifies itself and nothing else. About the denomination that is that of these two names [Hiroshima and Fukushima], we could say that instead of passing beyond, they fall below all signification. They signify an annihilation of meaning" (13). The names 'Hiroshima' and 'Fukushima' speak less to specifics than to floating articulations of disaster, placed into a chain of equivalences that render details meaningless. Yet, Nancy does not downplay Hiroshima, does not downplay the specific atrocities of war, and takes his time in discussing the different apotheoses of human violence from World War Two, writing:

> The fact remains, however, that Auschwitz and Hiroshima are also two names that reflect—with their immense differences—a transformation that has affected all of civilization: the involvement of technological rationality in the service of goals incommensurable with any goal that had ever been aimed at before, since these goals embodied the necessity for destruction that was not merely inhuman (inhuman cruelty is an old acquaintance in human history), but entirely conceived and calculated expressly for annihilation (11).

Nancy, even though he links them, nonetheless distinguishes Auschwitz from Hiroshima. Even though both are, ultimately, expressions of a technological drive for humanity to destroy itself in the name of "progress," and both "serve the aim of political domination, which is also to say economic and ideological domination," the former was "a scheme for annihilating peoples or human groups by means of a systematically developed technological rationality" while the latter was "a scheme for annihilating entire populations and mutilating their descendants." (Nancy 2014, 10). Each resulted in different geopolitical arrangements of national power between the United States, Germany, Japan, and the Soviet Union (9). The 'futures' of Auschwitz and Hiroshima are distinct—for one, the future of the nation-state is enabled by genocide, for the other, the future of the nation-state is intertwined with radioactive mutation and military control.

So, even though he claims that all disasters are conflated, Nancy takes the time to differentiate these two atrocities. Perhaps this is because of Hiroshima's significance in initiating the "nuclear episteme." It is only

after Hiroshima that the "after" is itself called into question. But Nancy nonetheless desires to differentiate between different kinds of nuclear atrocity, as well. At the conclusion of his discussion of Hiroshima and Auschwitz, Nancy seems to have reversed, or at least warns his reader not to confuse, the differences between Fukushima (a disaster) and Hiroshima (a war atrocity). He writes, "[w]e must not in fact confuse the name Hiroshima—the target of enemy bombing—with that of Fukushima, a name in which are mingled several orders of natural and technological, political and economic phenomena" (13). Yet even accepting that it is the nuclear that has enabled the equivalence of catastrophes, this warning goes against his insistence of interconnected oneness. It is, he says, "not possible to ignore what is suggested by the rhyme of these two names, for this rhyme gathers together—reluctantly and against all poetry—the ferment of something shared" (14). The contradiction appears again. "As soon as we undertake this bringing together, this continuity, a contradiction seems to arise: The military atom is not the civilian atom; an enemy attack is not a country's electrical grid. It is here that the grating poetry of this vexatious rhyme opens onto philosophy: What can 'after Fukushima' mean?" (13). We return, here, to the primary argument of Nancy's essay: time has broken down; no longer with linear progression and promised futures or 'later on.' There is no after, only the time and space we currently occupy. The military atom is not the civilian atom. And yet, Nancy insists, "Equivalence means the state of forces that govern themselves in some way by themselves. Whether it is a question of a broken nuclear reactor or a bomb, whether the reactor or the weapon is more or less powerful, the excessiveness of their effects in space and time makes them equal to the excess associated with the means of controlling them and even more of neutralizing them" (24).

The equivalence Nancy refers to, however, is not properly one of identity; these disasters are not literally the same. The equivalence is one that relates to the imbrication of contemporary disasters in the global network of economic exchange, of scientific "progress," of the extraction of value from disaster, which could be framed in terms similar to Naomi Klein's "disaster capitalism" (2008). "Marx called money a 'general equivalent,'" Nancy claims, "[I]t is this equivalence that is being discussed here. Not to think about it by itself, but to reflect that the regime of general equivalence henceforth virtually absorbs, well beyond the monetary or financial sphere but thanks to it and with regard to it, all the spheres of existence of humans, and along with them all things that exist" (2014, 5). Catastrophes are now equivalent in the same way that money is a general equivalent through the fostering of exchange-value, absorbing and intruding into

all spaces once beyond the limits of capital. Yet this leads to a further problem: the fundamental contradiction of capitalism is the 'difference' between exchange-value and use-value. Money only serves as a general equivalent if one presumes a sense of value that excludes use-values. And the distinction between use-value and exchange-value is why we need the distinction between war and accident. War generates value through an industrial production of death—through the massive investment in weapons, in destruction, in the 'rebuilding' that happens after destruction (Mandel 1999, 274–309). War is "progress" for both capital and the nation-state. The accident, however, is the failure of progress. While many accidents can be reabsorbed by capital, the nuclear accident, in contaminating soil and water, in producing 'exclusion zones,' is a liability. The two don't factor into the balance sheet in the same way. While the potential to convert these catastrophes into exchange-value is possible given the endless capacity of capital to subsume that which is beyond its limits, the use-values of both are radically distinct. Not only that, is the only future here the future of capital? Of speculative investment? This speaks not to the exchangeability of catastrophes, but of the endless desire of capital to subsume. Perhaps this is where we might say that a world without a future is not inherently a world with an end or that has ended. Yet this requires one more move: the primary distinction I wish to conclude with, between the military atom and the civilian atom, in the production of differential use-values, is that one *creates* history and one *ends* it. This will, perhaps, lead towards a different sense of time without a future, one that does not need a future, but one that refuses the individuality of the ghost in the name of a renewed collective responsibility to the present. (When a ghost becomes aware that they are indeed dead, doesn't that change the entire plot?)

5.

I want to now turn to Walter Benjamin's theorization of history, and how linking Nancy's understanding of temporality 'after' the nuclear with Benjamin can help us rethink Nancy's contradictory approach to separating out, but combining, but separating the military and civilian atoms (nuclear disaster and nuclear war). For Benjamin, like Derrida, the past is filtered through a present which is always directed towards a future-to-come. What is 'past' is determined in the 'present' and only appears according to the needs of the present, which is not only about the "past" but about imagining a future to come in which past/present/future finally converge

through a messianic redemption. Benjamin writes, "In other words, our image of happiness is indissolubly bound up with the image of redemption. The same applies to our view of the past, which is the concern of history. The past carries with it a temporal index by which it is referred to redemption" (1968, 254). We are, he continues, endowed with a "weak Messianic power" in which our coming was promised.

However, this happiness and these promises are torn away when, as explained through Nancy above, there is no longer a conception of the future. Again, this is what I call "negative hauntology," which we might think of as an inversion of Messianic temporality that results in an extension of individualized imaginations of relations that can only begin and end in personal details. There is no more direction towards a future. We are always-already deceased, and the future manifests in the present as a determined response to a past that has already occurred. The future won't arrive because it is already closed, already determined by a fixed past which cannot be changed in the present.

Now, just because we are ghosts without happiness doesn't mean we are ghosts without history. Benjamin explains that the concept of history cannot be separated from the concept of progress. One creates the other. "The concept of historical progress of mankind cannot be sundered from the concept of its progression through a homogenous, empty time. A critique of the concept of such a progression must be the basis of any criticism of the concept of progress itself" (261). Progress is what moves, not time. Time without progress is homogenous and empty. If time manages to move without progress, it becomes stuck, as Nancy states we are, as I state we are. Filled time, progressive time, is simply history, our perception of events we deem 'historic' in our now-time. Benjamin continues: "History is the subject of a structure whose site is not homogenous, empty time, but time filled by the presence of the now [*Jetztzeit*]" (261).

Time is empty. It does not move. We cannot track ourselves with it alone. Time without progress, time without history, is ghostly time, negative hauntological time (and, I will assert, nuclear time, made possible only through first the nuclear bomb and then nuclear energy disasters which allow the conflation of all and ever-increasing disasters today). What moves is progress and what marks that movement is not time, but history. And what creates history? Events, calendar dates, memorials. "The initial day of a calendar serves as a historical time-lapse camera. And, basically, it is the same day that keeps recurring in the guise of holidays, which are days of remembrance. Thus, the calendars do not measure time as clocks do; they are monuments of a historical consciousness of which not the slightest trace has been apparent in Europe in the past hundred years"

(261). Progress drives history. As, Motoko Tanaka writes, "Once people realized that modernization and its byproducts could bring a totally new and unique history, the new dimension of 'the future' was born, and to get there they invented the vehicle of 'progress'" (2014, 13).

The dropping of the atom bomb can be considered the height of mankind's progress (Sloterdijk 1988). The ability to end ourselves is what we had been working towards since we began to work. Our progress was achieved in 1945, and then we attempted to distribute the progress more widely, through the cold war. Slowly, limits and conditions and treaties were placed on our progress and it faded into the past. If the 'big one' drops and mass extinction results, it is a very different form of destruction than any brought about by climate disaster. Although both are obviously caused by humankind, we often view climate disaster as the earth 'fighting back' or even ending itself in the face of our poor decisions. We refuse to put the same kind of global limits and conditions on the causes of climate disaster as we did on nuclear weaponry and energy sources. A growing sense of helplessness prevails. But as this was not the case for the nuclear, it became, in the light of the present, historical. We began to use this technology not for war, but for energy, and then in that guise, it turned on us. In both instances (nuclear weaponry and nuclear energy) it caused huge losses of life; illness beyond comprehension. But one was purposeful, 'progressive,' and 'historical.' The other was accidental, an error, halting, 'empty.'

Nuclear accidents produce not only empty time, but empty space. In his essay *Nuclear Borders: Informally Negotiating the Chernobyl Exclusion Zone*, Thom Davies writes of how areas like Chernobyl and Fukushima exemplify what Giorgio Agamben terms a "'state of exception'—a space where the normal rules of governance, state protection, and citizenship do not apply" (2015, 228). Citizens in these places, Davies continues, are abandoned and cast "outside the *de facto* protection of the state, and forces them to rely on informal actions and understandings of their nuclear landscape. It is within this context of abandonment that Chernobyl-affected citizens are compelled to employ unofficial understandings of space, and enact informal activities which circumvent their bio-political status of bare life" (229). For these areas we use terms like 'exclusion zone' and act as though they are places time cannot touch, places put on pause. This plays out similarly at Fukushima. For example, documentary filmmaker Kamanka Hitomi describes the psychological effects of inhabiting the compressed temporality of this sort of endless emergency, saying, "[i]t's as if people are living only by their reflexes, playing some sort of mindless video game. They no longer think in terms of contexts and nar-

ratives; there's no sense of history, or reflecting on cause and effect within the flow of time and the particulars of chronology. What we're seeing is the proliferation of a style of living only with what is right in front of one's eyes" (Long 2018, 5–6). Exclusion zones are where the disaster of progress, its undoing and failure, is most evident. They become non-spaces; they are 'empty time.' We cannot remember in these spaces. Because of this undoing of progress, they contain no history, and so we forget them, do not memorialize them in the same way we do the areas of nuclear bombings, and the victims of nuclear bombings.

Meanwhile, the ultimate progress of the nuclear bomb has created an unshakeable history. It is hard to think about the threat of nuclear bombs outside of the cold war, outside of a historical past. There are memorials to the bomb, even in places far beyond its direct impact. As Benjamin explains, only progress creates and drives history, and so a failure of progress, like the breakdown of nuclear energy, stops time. This is what Nancy says as well, because of Fukushima, because we are 'after' Fukushima, we no longer have a future or a promise of time moving in a linear manner.

The culmination of extreme neoliberalism and late-stage capitalism (which will have no culmination other than mass extinction) has created an untenable way of living in which we, as atomized individuals holed up in our houses taking in constant stories of misery and social decline become crazy and miserable. But the response to this isolation cannot be to attach to the minutia of daily life, as if pets, hobbies, and favorite foods will manage to perform individuality as the temporal horizon appears to wane. We cannot regain 'history' by asserting that these traces mean we were once real. As Fredric Jameson asks, "how to project the illusion that things still happen, that events exist, that there are still stories to tell, in a situation in which the uniqueness and the irrevocability of private destinies and of individuality itself seem to have evaporated?" (1992, 87). The hyper-individualizing of the internet, of social media, is an effect of the failure to individuate, in which the performance and differentiation of the self from others constantly fails (Bollmer and Guinness 2017). The ghost is an attempt to regain a failed individualism, and the modern ghost story, for Jameson, is a particularly bourgeois form, with ghosts inherently "at one with a building of some antiquity, of which it is the bad dream, and to whose incomprehensible succession of generations of inhabitants it makes allusion as in some return of the repressed of the middle-class mind. Not death as such, then, but the sequence of such 'dying generations'" (1991, 90). Ghosts forget who they were, they forget their own pasts, and instead attempt to become present through a faded attachment to material goods. Jameson asks: "Without a past, can we even continue to

appeal to a shared present?" (1992, 92). But we must become present, not as a ghost, but as collectively oriented individuals who live in the present, without a guaranteed future. Living in the present as if one is deceased is a question of temporality, and how we imagine and understand the role of the past, present, and future in the wake of the nuclear.

Katherine Guinness is a theorist and historian of contemporary art and the author of *Schizogenesis: The Art of Rosemarie Trockel* (University of Minnesota Press, 2019). She was Assistant Professor and Director of Art History at the University of Colorado as well as the academic director of the Gallery of Contemporary art, and is now a lecturer within the Art History faculty at the University of Queensland.

Bibliography

Barkham, Patrick. 2018. "We're doomed: Mayer Hillman on the climate reality no one else will dare mention." In *The Guardian,* April 26, 2018. https://www.theguardian.com/environment/2018/apr/26/were-doomed-mayer-hillman-on-the-climate-reality-no-one-else-will-dare-mention.

Benjamin, Walter. 1968. "Theses on the Philosophy of History." In *Illuminations: Essays and Reflections.* Translated by Harry Zohn. New York: Schoken. 253–264.

Berardi, Franco. 2011. *After the Future.* Chico: AK Books.

Bollmer, Grant and Katherine Guinness. 2017. "Phenomenology for the Selfie." *Cultural Politics*, 13 (2): 156–176.

Bollmer, Grant and Katherine Guinness. 2018. "Do You Really Want to Live Forever? Animism, Death, and the Trouble of Digital Images." *Cultural Studies Review,* 24 (2): 79–96.

Brassier, Ray. 2007. *Nihil Unbound: Enlightenment and Extinction.* New York: Palgrave MacMillan

Bush, Daniel. 2018. "Joe Biden believes U.S. is closer than ever to nuclear war." *PBS News Hour*, January 4, 2018. https://www.pbs.org/newshour/politics/joe-biden-believes-u-s-is-closer-than-ever-to-nuclear-war.

Caputo, John D. 1989. "Mysticism and Transgression: Derrida and Meister Eckhart." In *Derrida and Deconstruction*, edited by Hugh J. Silverman, 24–38. London: Routledge.

Davies, Thom. 2015. "Nuclear Borders: Informally Negotiating the Chernobyl Exclusion Zone." In *Informal Economies in Post-Socialist Spaces: Practices, Institutions and Networks*, edited by Jeremy Morris and Abel Polese, 225–224. London: Palgrave Macmillan

Davis, Wynne. 2022. "New York put out a PSA in case of a nuclear attack, leaving many residents confused." *NPR*, July 13, 2022. https://www.npr.org/2022/07/13/1111281998/nyc-nuclear-attack-video-psa-eric-adams.

Derrida, Jacques. 2006. *Specters of Marx: The State of the Debt, the Work of Mourning and the New International*. Translated by Peggy Kamuf. New York: Routledge.

Fisher, Mark. 2014. *Ghosts of My Life: Writings on Depression, Hauntology and Lost Futures.* London: Zero Books.

Fitzsimmons, Emma G. and Jeffery C. Mays. 2022 "Inside the Making of New York City's Bizarre Nuclear War PSA." *The New York Times.* August 24, 2022. https://www.nytimes.com/2022/08/23/nyregion/nuclear-attack-video-psa.html.

Frank, Adam. 2018. "Earth Will Survive. We May Not." In *The New York Times,* June 12, 2018. https://www.nytimes.com/2018/06/12/opinion/earth-will-survive-we-may-not.html.

Gault, Matthew. 2022. "'Don't Ask Me Why': NYC Releases Video About What to Do in Case of Nuclear War." *Vice,* July 11, 2022. https://www.vice.com/en/article/pkgbq7/dont-ask-me-why-nyc-releases-video-about-what-to-do-in-case-of-nuclear-war.

Guinness, Katherine. 2020. "Negative Hauntology and the Nuclear Sublime: On VR and Catastrophe." *The Spectator*, 40 (2): 31–40.

Haraway, Donna J. 2016. *Staying with the Trouble: Making Kin in the Chthulucene.* Durham: Duke University Press.

Jameson, Frederic. 1992. "Historicism in 'The Shining'." In *Signatures of the Visible*. New York: Routledge.

Klein, Naomi. 2008. *The Shock Doctrine: The Rise of Disaster Capitalism.* London: Picador.

Kotsko, Adam. 2019. "The Evangelical Mind." *n+1*, Issue 135, Fall 2019, https://www.nplusonemag.com/issue-35/politics/the-evangelical-mind/

Kurzweil, Ray. 2006. *The Singularity is Near.* London: Penguin Books.

Lee, Bruce Y. 2022. "NYC Issues New Nuclear Attack PSA, Here's The Reaction to The Warning." *Forbes,* July 11, 2022. https://www.forbes.com/sites/brucelee/2022/07/15/nyc-issues-new-nuclear-attack-psa-heres-the-reaction-to-the-warning/?sh=4586487f4cfa.

Long, Margherita. "Japan's 3.11 Nuclear Disaster and the State of Exception: Notes on Kamanaka's Interview and Two Recent Films." In *The Asia-Pacific Journal,* Volume 16, Issue 16. August 15, 2018. https://apjjf.org/-Margherita-Long/5189/article.pdf

Mandel, Ernest. 1999. *Late Capitalism.* London: Verso.

Mbembe, Achille. 2022. "How to Develop a Planetary Consciousness." In *Noēma,* interview by Nils Gilman, January 11, 2022. https://www.noemamag.com/how-to-develop-a-planetary-consciousness/.

Morton, Timothy. 2013. *Hyperobjects: Philosophy and Ecology after the End of the World.* Minneapolis: University of Minnesota Press.

Nancy, Jean-Luc. 2014. *After Fukushima: The Equivalence of Catastrophe*. New York City: Fordham University Press.

NYC Emergency Management, "Nuclear Preparedness PSA," July 11, 2022, Youtube, 1:30, https://www.youtube.com/watch?v=N-5d7V4Sbqk

Peters, John Durham. 1999. *Speaking Into the Air: A History of the Idea of Communication.* Chicago: University of Chicago Press.

Pietsch, Brian. 2022. "NYC Mayor defends nuclear-attack PSA: 'Better safe than sorry'." *The Washington Post,* July 13, 2022. https://www.washingtonpost.com/nation/2022/07/13/nyc-nuclear-attack-psa-eric-adams/.

Richards, Zoë and Patrick Smith. "Biden warns risk of nuclear 'Armageddon' is highest since Cuban Missile Crisis." *NBC News,* October 6, 2022. https://www.nbcnews.com/politics/joe-biden/biden-warns-risk-nuclear-armaged-don-highest-cuban-missile-crisis-rcna51146.

Schwab, Gabriele. 2020. *Radioactive Ghosts.* Minneapolis: University of Minnesota Press.

Sloterdijk, Peter. 1988. *Critique of Cynical Reason.* Minneapolis: University of Minnesota Press.

Steger, Isabella and Carrington York. 2022. "NYC Prepares for the 'Big One' With Nuclear Attack PSA Video." *Bloomberg,* July 11, 2022. https://www.bloomberg.com/news/articles/2022-07-12/-the-big-one-has-hit-nyc-releases-psa-video-on-nuclear-attack.

Tanaka, Motoko. 2014. *Apocalypse in Contemporary Japanese Science Fiction*. New York: Palgrave MacMillan

Today Show, "Radioactive Contamination Found at Missouri Elementary School," October 17, 2022, https://www.nbc.com/today/video/radioactive-contamination-found-at-missouri-elementary-school/NBCN819909508

Virilio, Paul. 2004. "The Museum of Accidents." In *The Paul Virilio Reader*, edited by Steve Redhead, 255–262. New York: Columbia University Press.

Watts, Jonathan. 2018. "We have 12 years to limit climate change catastrophe, warns UN." In *The Guardian,* October 8, 2018. https://www.theguardian.com/environment/2018/oct/08/global-warming-must-not-exceed-15c-warns-landmark-un-report.

Zinn, Howard. 2007. Foreword in Elin O'Hara Slavick's *Bomb After Bomb: A Violent Cartography*. Milan: Charta.