Chernobyl's Radioactive Memory: Confronting the Impact of Nuclear Fallout

by

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Dedication

This dissertation is dedicated to my husband who is my biggest cheerleader.

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Abstract

This dissertation examines the accretive violence wrought by nuclear power on bodies and spaces through a study of Chernobyl's transnational memory. By examining this infamous disaster, I clarify the process by which power renders those impacts invisible, as well as the ways in which memory can assist in making the real impacts of nuclear power visible. I use the term 'radioactive memory' to explain the potential of these memories to combat dominant narratives of nuclear power that attempt to contain the disaster's radioactive excess. The term also encompasses the potential of any engagement with Chernobyl to provoke a deeper understanding of how nuclear power affects communities and the environment. I show how memory of nuclear disaster is conditioned in a variety of ways through multimodal and multifaceted interactions and encounters with Chernobyl in film, literature, tourism, and memorial practices. I employ a wide variety of theoretical approaches and frameworks in order to account for the myriad of possible engagements with the disaster's memory. This dissertation challenges the idea that Chernobyl is a singular and isolated event, and instead locates it within a constellation of nuclear violence that includes an expansive history of nuclear disaster. Recent examinations on Chernobyl nuclear disaster have centered on its historical Soviet context, which while valuable, do not account for the influence of states, the nuclear industry, and other vested institutions in maintaining the global nuclear apparatus. Memory offers a generative arena for revealing the human costs and risks of living in a nuclear-powered world. A close examination of Chernobyl's memory reveals how its impacts, along with the impacts of all nuclear disasters, concern everyone, because radiation cannot be contained within set spatial and temporal boundaries. In bringing more

awareness to the mechanisms of memory that offer evidence of nuclear power's destructive consequences, we might then be able to take responsibility for the bodily and psychological trauma inflicted by our own complicity in allowing nuclear power to develop unchecked. In doing so, we might also be able to envision a non-nuclear alternative for the future.

Introduction

> *What's it like, radiation? Maybe they show it in the movies? Have you seen it? It is white, or what? Some people say it has no color and no smell, and other people say that it's black. Like earth. But if it's colorless, then it's like God. God is everywhere, but you can't see Him. They scare us! The apples are hanging in the garden, the leaves are on the trees, the potatoes are in the fields. I don't think there was any Chernobyl, they made it up.*
>
> Anna Badaeva, from *Voices from Chernobyl*

In the early hours of the morning of April 26, 1986, reactor number four of the Chernobyl Nuclear Power Plant suffered a steam explosion that exposed the reactor's core after a test of the electrical systems and backup power generators went wrong. The resulting catastrophe would become known as the world's worst nuclear disaster as radiation spewed from the reactor's core for months while liquidators worked to contain the disaster. The Soviet state also worked to contain the disaster by limiting the spread of information, censoring and shaping the reportage around the disaster, and refusing to acknowledge the seriousness of the disaster to citizens and to the outside world. However, despite somewhat successful attempts to censor the disaster, the lingering radiation tells another story and exists as evidence of both the deep past and deep future of radiation, which cannot be contained. The repetition of sentiments of containment and control and the actions that were undertaken to prevent people from understanding the true extent of the dangers of Chernobyl are disquieting. These actions have equally alarming consequences for

bodies and spaces, and it is not a stretch to call these actions violence, a violence that extends from the power of the state against the people it claims to protect. The reality of how this catastrophe was, and, frankly, is still being handled, is unsettling, but so is the reality that this seems to comprise the standard protocol for nuclear disasters. Those in power, usually the state and energy companies, in collusion with scientists and medical institutions, have a vested interest in keeping the nuclear enterprise going, an interest that overrides the destruction such an enterprise causes.

Radiation is what Timothy Morton terms a 'hyperobject,' an entity "massively distributed in time and space relative to humans" (1). Given the fact that radiation spreads indiscriminately and has the capacity to linger for thousands of years, it becomes clear that Chernobyl is not an event that can be so easily contained. The completion of the sarcophagus around the exposed reactor ostensibly marked the end of the disaster, but in reality, Chernobyl is a continually unfolding catastrophe the contours of which are still being negotiated today, politically, economically, and culturally. Morton describes hyperobjects as viscous, nonlocal, and temporally vast, which inspires the framework that informs my own examination of Chernobyl's impact. By 'viscous' Morton explains that "they 'stick' to beings that are involved with them", while 'nonlocal' refers to fact of their wide reach, and in terms of temporality, hyperobjects "involve profoundly different temporalities than the human scale ones we are used to" (1). Undoubtedly, radiation is 'viscous' in the sense that it 'sticks' to things, often for a long time, and it is also absorbed by many surfaces, including the tissues of the body, bestowing upon it another kind of stickiness. Chernobyl also occupies nonlocal dimensions. As much as it is reassuring to think of Chernobyl being contained by the sarcophagus and the exclusion zone

established around it, the disaster extends spatially beyond any arbitrary boundary. It was spread not only by winds over Europe, but also carried in bodies that travel. Additionally, news of its occurrence and the common fears it provokes mean that the reach of its impact is limitless. Extrapolating further, I see Chernobyl as not only a global phenomenon, but also a localized manifestation of the non-localized phenomenon of the destructive use of nuclear power. Chernobyl's radiation, in addition to the radiation emitted by other exercises of nuclear power, confirm that the disaster's impact will continue to be felt beyond the span of mankind. Global warming, plastics, and toxic pollution also fall under the category of hyperobjects. Despite the vast spatial and temporal boundaries occupied by Chernobyl, its dimensions are too immense to grasp and therefore, feel far removed from everyday life, even as they are part of us, as Morton explains: "Not only do I fail to access hyperobjects at a distance, but it also becomes clearer with every passing day that "distance" is only a psychic and ideological construct designed to protect me from the nearness of things" (27). Distancing is containment, a defense mechanism that helps us assuage the uneasiness provoked by the awareness of their entanglement in everyday life.

Considering the immensity of hyperobjects, we must wonder how to even begin to account for the varied impacts of Chernobyl, much less the radiation and nuclear power. Simultaneously so far and so close, pervasive yet forgettable, and so impactful but invisible, the radiation that has accumulated from the continued use of nuclear power requires a broad and expansive approach that can account for the deep impacts of events such as Chernobyl on time history, bodies, the environment, and culture. Memory proves generative in this respect. Andreas Huyssen, in *Present Pasts: Urban Palimpsests and the Politics of Memory*, acknowledges that memory is an unwieldy subject matter, "one of those elusive topics" that "starts slipping and

sliding, eluding attempts to grasp it either culturally, sociologically, or scientifically" when we try to define it (3). Memory is multifaceted, expansive, and made all the more complex by the entanglement of the personal, social, and political that make up its shifting contours. Memory is simultaneously transitory and imbued with what can be a confounding and rigid permanence. It is subject to a seemingly unlimited number of influences and inspires a wealth of meaning. My Chernobyl project sees memory as a particularly potent repository and record of human experience, desire, and struggle. "What does it mean for a *culture* to remember?" asks Marita Sturken in *Tangled Memories: The Vietnam War, the AIDS Epidemic, and the Politics of Remembering*. She writes that "the process of cultural memory is bound up in complex political stakes and meanings" which "both defines a culture and is the means by which its divisions and conflicting agendas are revealed" (1). For Sturken, memory is the "fabric of human life" that "establishes life's continuity" and "gives meaning to the past" (1). An examination of memory, with its deep reservoirs, flexible, and expansive reach, can yield insight into the deep pasts and deep futures of nuclear power and its consequences for bodies and spaces. Morton asserts that hyperobjects, like climate change and radiation "have already had a significant impact on human social and psychic space" (Morton 1), and memory has a significant role in describing that social and psychic space.

There are as many different approaches to memory as there are terms for it, and each maps out different features of its vast and ethereal terrain. Memory has become a singularly popular academic occupation in recent years, so much so that Huyssen, among others, wonders if the topic of memory might be exhausted and the market for memory studies oversaturated (3). While there might be some credit to claims that we have overplayed the memory card, so to

speak, now that the pandora's box has been opened, it's not so easy to close: "Directed against the culture industry's exploitation of hot themes and popular topics, the call to forget memory just reproduces the industry's own fast-paced mechanism of declaring obsolescence. And it fails to give us a plausible explanation for the obsession with memory itself as a significant symptom of our cultural present" (3). Huyssen links our preoccupation with memory to the shifts in our conception of time and space and the concomitant encounters between global and local that such shifts entail. Memory has been untethered and while it has not changed, or suddenly become more prolific, our thinking about its role and recognition of its significance has. "The form in which we think of the past," asserts Huyssen, "is increasingly memory without borders rather than national history within borders" (4). Huyssen's comment implies an unintended opposition between memory and history, an opposition that haunts any examination of the past, but one that is not entirely fruitful considering the overlap between history and memory and the imperceptible difference between them. In many ways, history is sanctified memory that enjoys official promotion and a certain dominance within public discourse as "a narrative that has in some way been sanctioned or vaporized by institutional frameworks or publishing enterprises" (Sturken 4). Other memories and histories coexist on the margins, displaced or obscured and sometimes barely recognizable. I am interested in the interplay between the dominant strains of Chernobyl's memory and its alternatives as well as the ways they are communicated within cultural contexts.

Perhaps the so-called fatigue with memory comes from the encounters with memory's both shallow underpinnings and deep recesses that its examination inevitably provokes. Memory, too, is viscous and sticky: it clings to things just as we hold on to certain memories. The increased attention and sensitivity to the examination of memory leads to the emergence of

difficult histories and uncomfortable truths, which can be unsettling. I am interested in these discomfiting histories for not only what they reveal not only about Chernobyl, but also about the wider impacts of nuclear power. Dwelling on the uncomfortable truths held by memory can be exhausting, but so can living with the uncertainties and bodily vulnerability that comes with being exposed to radiation, so it is important to continue with what has become an archaeological practice of memory, borrowing from Michel Foucault's influential works *The Archaeology of Knowledge* and *The Order of Things*, which adopts the term to describe a tool for analyzing systems of knowledge and the alternatives buried within them. Archaeology, for Foucault, recovers the common structures supporting the production of knowledge within discourses of history. Similarly, I aim to analyze memory in order to reveal the production of knowledge around Chernobyl and its consequences, so many of which are invisible, occluded, or forgotten. Foucault's notion of archaeology addresses the organization of knowledge and helps identify what is dominant and what constitutes alternative or local knowledge. A corollary to archaeology is Foucault's genealogy, which locates the production and organization of knowledge within the mechanisms of power responsible for their genesis. These ideas become crucial to dismantling the monolith of history, and they implicitly inform my own project.

Along this same line, we are reminded of Walter Benjamin's pessimistic appraisal of history, in which historicism figures as a chronicle of the victors and confirmation of a teleological progression of past, present and future. In "Theses on the Philosophy of History," he lambasts the veneration of progress that guides the organization of history and that conveniently elides the destruction inherent to the continuous pursuit of advancement and civilization. In order to maintain the facade of progress, the passing of time must be explained through abstract

categories that are disconnected from real experiences and only create boundaries where none exist. These boundaries have a way of marginalizing or even erasing the people and events that do not fit into its narrow, impossible definitions. Not only does historicism rob us of the possibility of imagining alternatives, but it also inevitably relies on abstraction to posit a logic of causality. Historicism results in a chronicle of civilization that conceals its inherent barbarism. Benjamin offers an ominous illustration in his "Thesis IX" through his reading of a Klee painting in which the "angel of history" looks on the past and sees not a "chain of events" but "one single catastrophe which keeps piling wreckage upon wreckage." The angel "would like to stay, awaken the dead, and make whole what has been smashed" by traditional notions of history, but is propelled forward by the storm of progress, which "propels him into the future to which his back is turned, while the pile of debris before him grows skyward" (Benjamin 201). For Benjamin, the recovery of a history of the oppressed and the rehabilitation of what has been discarded in the rubbish heap of history is elevated to a moral and ethical imperative in the wake of Fascism. Fortunately, "nothing that has ever happened should be regarded as lost for history" (Thesis III). Recovering the fullness of the past is necessary for the redemption of mankind: "To be sure, only a redeemed mankind receives the fullness of its past - which is to say, only for a redeemed mankind has its past become citable in all its moments" (Thesis III). In order to redress the unequal treatment of history and recapture the inherent complexity of struggle, Benjamin puts forth a historical materialist approach that articulates the past by "seiz[ing] hold of a memory as it flashes up at a moment of danger" (Thesis VI). Memory holds the neglected histories, and their recovery offers redemption and a means of preventing the past, and the dead, from exploitation and from becoming a tool of the ruling classes (Benjamin 197, 200-1).

Indeed, the chronicle of nuclear power reads as a chronicle of civilization, one that touts our successes in conquering the atom, but it is a chronicle that also conceals the violence of nuclear enterprises and the great costs to human life and the environment. Benjamin's conception of history speaks to many of the concerns encapsulated in the history and memory of Chernobyl. Efforts to contain and homogenize the disaster's narrative have long shaped Chernobyl's historical presentation, partially due to the efforts by the Soviet state to limit access to the disaster, which created documentary lacunae in the chronicle of what happened on that disastrous day in April. The prevailing narrative which figures as a tragedy thwarted by the heroic efforts and sacrifices of Soviet citizens, who saved the world from a potential nuclear apocalypse has come to dominate conceptions of Chernobyl; nonetheless, it sits alongside heavy criticism of the mishandling of the disaster leveled at the Soviet state. However, the complexity of some of the decisions as well as the history of why Chernobyl and other nuclear disasters are inevitable remains unaccounted for. Chernobyl is a Soviet catastrophe, the result of a flawed Soviet reactor design, burdensome centralized bureaucracy and human error, which is why it could only have happened *over there*. The flawed RBMK reactor design of Soviet nuclear power plants, the bureaucratic hierarchy that rewarded loyalty over expertise, and human error during the emergency test on the night of April 26 all did contribute to the catastrophe, but reading the disaster as a purely Soviet one ignores some of the wider structures of power, both political and economic, that not only promote but are also invested in the development of nuclear power. Karena Kalmbach explains that, after Chernobyl, Western pro-nuclear advocates were reluctant to alter their position and instead, framed the disaster as a Soviet one, drawing upon Cold War oppositions: "By using the rhetoric and cliches of the Cold War, they quickly found a narrative which discredited the Soviet nuclear policies and information policies while emphasizing that

such an accident could never happen in a Western facility" (Kalmbach 133). This structural power supersedes political ideologies, capitalist or socialist; decisions to develop nuclear power and maintain the nuclear energy industry are made without the input of the communities they serve: "In a pattern that is repeated the world over, environmental risks are commonly placed in the path of least resistance, near communities with the smallest reserves of political, economic, and social capital" (Davies 8). Justification for further development of nuclear power necessitates containing past disasters and downplaying the risks of radiation, through the control of narratives about nuclear power.

Shannon O'Lear, in "Climate Science and Slow Violence: A View from Political Geography and STS on Mobilizing Technoscientific Ontologies of Climate Change" discusses how the mobilization of scientific knowledge about climate change can be manipulated by various political actors to the detriment of the ecosystem and human health. For O'Lear, it is not the climate change data itself that is in question, but the way that this data is represented to the public that is problematic. The dominant narrative of climate change, "a technoscientific approach that reduces climate to measurable, quantifiable observations about environment systems," elides alternative representations about human suffering and ecological degradation, which cannot always be so precisely measured (5). O'Lear explains how international consensus decides the presentation of technoscientific information in relation to climate change, giving countries the power to shape the narrative. While this allows for the emergence of a globalized response, it also means that science and data can be removed and discarded out of political expediency when a country disagrees with any findings that might direct blame and responsibility unilaterally. Local and regional perspectives are subsumed into a monolithic global picture of climate change that then reduces its complexity and precludes debate about the

specific political and economic decisions that contribute to how climate change is managed and felt by local communities. A more nuanced and sensitive approach to the mobilization of climate change science would force a confrontation with the exercise of neoliberal policies, the colonial past, large scale decisions about the allocation of resources, and the unequal concentration of power that undergirds climate change policy both local and global. O'Lear calls for a more artful representation of climate change that incorporates alternative knowledges and narratives for representing the threat of climate change. The "epistemic and political dominance of particular narratives or understandings" leads to slow violence (O'Lear 4).

Rob Nixon defines the concept of 'slow violence' in his influential book *Slow Violence and the Environmentalism of the Poor*. Slow violence is "a violence that occurs gradually and out of sight, a violence of delayed destruction that is dispersed across time and space, an attritional violence that is typically not viewed as violence at all" (2). The challenge, then, becomes how to represent a violence that is accretive, invisible, and whose effects are dispersed over time, especially at a time "when the media venerate the spectacular, when public policy is shaped primarily around perceived immediate need" (Nixon 3). Nixon's characterization of slow violence and his recognition of the challenges it poses to representation resonates with similar issues relating to Chernobyl and its representation:

> Chemical and radiological violence, for example, is driven inward, somatized into cellular dramas of mutation that - particularly in the bodies of the poor - remain largely unobserved, undiagnosed, and untreated. From a narrative perspective, such invisible, mutagenic theater is slow paced and open ended, eluding the tidy closure, the containment, imposed by the visual orthodoxies of victory and defeat. (Nixon 6)

The accretive, invisible, and displaced nature of slow violence describes Chernobyl and counters any claims that the disaster is over or contained. Nixon continues, stating that these kinds of catastrophes "overspill clear boundaries in time and space are marked above all by displacements

- temporal, geographical, rhetorical, and technological displacements that simplify violence and underestimate, in advance and in retrospect, the human and environmental costs" (7). These displacements "smooth the way for amnesia" and the manipulation of memory (7). Nixon frames the issue of slow violence as one of representation and calls for a concerted effort to make visible and immediate the impacts of slow violence: "To intervene representationally entails devising iconic symbols that embody amorphous calamities as well as narrative forms that infuse those symbols with dramatic urgency" (10). Following this imperative, my own project entails looking at the imaginative means that writers and other creators employ to bring the repercussions of slow violence into stark relief:

> In a world permeated by insidious, yet unseen or imperceptible violence, imaginative writing can help make the unapparent appear, making it accessible and tangible by humanizing drawn-out threats inaccessible to the immediate senses. Writing can challenge perceptual habits that downplay the damage slow violence inflicts and bring into imaginative focus apprehensions that elude sensory corroboration. The narrative imaginings of writer-activists may thus offer us a different kind of witnessing: of signs unseen. (Nixon 15)

Such a task was taken up by Ukrainian writers, who took it upon themselves to re-describe reality in the wake of the apocalyptic revelations unleashed by the unfolding catastrophe. Poets, in particular, in describing the ecological and human trauma of the disaster, became activists envisioning a bleak future in the Anthropocene, which will be discussed further in Chapter 3. O'Lear also advocates for the inclusion of more diverse and nuanced narratives of climate change to combat "narratives and understandings which obstruct or obscure more just outcomes" (O'Lear 5). The imperative to conduct this kind of genealogy of knowledge production around hyperobjects such as climate change and nuclear power is necessary "to generate and promote alternative politics" founded on "transparency and inclusion in decision making processes

pertaining to the use and allocation of environmental resources and the handling of industrial waste" (O'Lear 5).

Thom Davies objects to one point of Nixon's characterization of slow violence being largely unseen and 'out of sight'. He offers an important clarification in the article "Slow Violence and Toxic Geographies: 'Out of sight' to Whom?" by reminding us that, for the communities living in toxic places, slow violence is not often invisible. While he largely agrees with Nixon's assessment of slow violence, and echoes many of the sentiments outlined by O'Lear, Davies does not agree that there is a lack of compelling stories and images "that allows instances of slow violence to persist unchecked" because "communities exposed to environmental hazards are pregnant with such narratives and testimony. In some instances, entire environmental justice movements are spurred on by stories of suffering, injustice, and ill-health" (13). In other words, the narratives and knowledge are available, but "the situated knowledges that people who inhabit toxic geographies embody and live with" are often overlooked and pushed out of sight by a structural violence "that renders some lives less worthy than others" (10). In this particular article, Davies examines the environmental racism embodied by the pollution rampant in the community of Freetown located in a region of Louisiana referred to as 'Cancer Alley'. Freetown sits on the western banks of the Mississippi River, near an unusually dense cluster of industrial and chemical plants that has left residents suffering from the accumulation of pollution. Davies' ethnographic study, which incorporates interviews from Freetown residents, finds that the residents are distinctly aware of the hazards imposed by slow violence and they "encounter hazards in their day-to-day lives, in mundane and incremental ways" which "allows people to accumulate knowledge about pollution" (12). It is their experiences with pollution, registered by the senses and in bodily experiences with illness and

the psychological trauma suffered in those experiences that reveal an informal knowledge that should be at the center of efforts to combat environment injustice, because, as Davies notes, "slowly witnessing pollution is a vital means of making toxic places sensible" (12).

The fact that the residents of Freetown are poor and black means that their experiences are devalued, making them even more susceptible to the mechanisms of power that decide where chemical processing plants are built, where the toxic runoff flows, and how important it is to minimize pollution for residents. The violence of these decisions is amplified in light of the history of slavery that also marks the area. Davies attributes the silencing of these residents to "a politics of *indifference* about the suffering of marginalized groups" (13). Their informal knowledge cannot counter the claims of harmlessness proffered by the petrochemical plants, but also cannot be translated into the "exclusive scientific expertise [that] is often required to translate pollution into legible or legal forms" (13). This difference in expert and local knowledge - official narratives against unofficial ones, means that toxic places such as Freetown, and Chernobyl "remain disputed and ambiguous spaces, and the violence of these landscapes will continue to be felt by their inhabitants" (13). The experiences of toxic geologies are traumatic, and as Jenny Edkins points out, the trauma occurs "when the very powers that we are convinced will protect us and give us security become our tormentors" (4). Though not always explicitly named, trauma is another element that encircles my own memory project. It is a trauma that acts on both individual and collective bodies. "Trauma," Cathy Caruth writes, "is not locatable in the simple violent or original event in an individual's past, but rather in the way it was precisely not known in the first instance" (4). The unassimilable nature of trauma means that it "returns to haunt the survivor later on", as Caruth states in *Unclaimed Experience: Trauma, Narrative, and History*. Chernobyl's radioactive memory includes this traumatic dimension, in

survivors' experiences with radiation and hegemonic power. It is a trauma that works on both individual and collective bodies and is continually replicated in the failure to redress the slow violence of nuclear power.

Many of the struggles facing the residents of Freetown, as described by Davies, are the same struggles faced by former and current residents of Chernobyl's Exclusion Zone. It is easy to forget that the CEZ is a lived space, inhabited by residents who have resettled in the cordoned off zone. It is also easy to forget that the Exclusion Zone does not encompass the entirety of the land contaminated by Chernobyl: neighboring Belarus received the highest amounts of radioactive fallout, and some of that land was never evacuated or cordoned off. Davies, along with Abel Polese, also speaks to some of the structural violence of Chernobyl's aftermath in "Informality and survival in Ukraine's nuclear landscape: Living the risks of Chernobyl". The article charts the informal practices and mechanisms that have emerged in the absence of state welfare. Davies and Polese note that while some post-Soviet informal activity such as shadow markets, are undertaken to purposefully circumvent the control of the state, the informal activity occurring in the region of Chernobyl concerns "those that the state has decided to avoid a relationship with" (36). They offer a scathing assessment of the benefits and support given to Chernobyl's victims:

> Although the provision of a small state pension paid out each month, tiny food subsidies, or the permission to live in a given place might indicate that the state has 'not forgotten' about these people, the amount of benefits received and the way this compares to the rest of the country seem to point to the fact that state support is only nominal, showing little or no difference to those who receive nothing from the state. The post-Chernobyl Ukrainian state offers only a 'Potemkin village' of welfare support - a complex web of de jure entitlements but a lived reality of de facto state abandonment. (Davies and Polese 36)

To add further injury, the process to claiming any meager benefits initiates a daunting process requiring proof that one's illness is caused by radiation exposure, which is difficult for average,

uninformed laypersons to do, since they have not had access to proper equipment or the foreknowledge to document such exposure. This exceptionally tedious process becomes an exercise in biopolitical power, used to prevent the extension of the welfare state, as outlined by Adriana Petryna in *Life Exposed: Biological Citizens after Chernobyl*. The illnesses and psychological traumas described by those most acutely affected by the disaster are marginalized and explained away as 'radiophobia'.

In his article on slow violence, Davies makes a case for "putting the perspectives of people who co-exist with pollution at the center of accounts of slow violence" as a way of counteracting the generalizing tendencies of dominant narratives and the overly formal, depersonalization of scientific narratives: both have the tendency to "translate what is slow and complex into something that is catchy, simple, and fast" (12), foregoing the duration, accumulation, and complexity for narrative expediency, which is its own violence. The communities living in toxic geographies "are replete with testimonies, experiences, and bereavements that bear witness to the brutality of gradual environmental destruction" (14) and these memories are crucial for illuminating the experiences of radiation. This is why an important part of this dissertation will be the testimonies of those who were affected by Chernobyl, their witnessing will help to fill in the gaps, clarify, and underscore various points about the disaster's consequences and invalidate the mitigating function of dominant narratives about nuclear power. These testimonies make the radiation and its slow violence visible in a way that visual strategies of film and photography cannot fully illuminate, as Chapter 1 details. They help give important context to the physical sites and objects of Chernobyl's memory located in museums and memorials, a tension that is discussed further in Chapter 2. In Chapter 3, poetry's ability to re-describe the post-Chernobyl world anew accomplishes its own witnessing through

an emotionally tinged assessment of the destructive impact wrought by human activity on the environment. Finally, in Chapter 4, the disqualified knowledges of those affected form the basis for generative encounters with the disaster in popular culture. The recollections and experiences of those most affected and most vulnerable to nuclear power's slow violence "have something to tell us about how we organise ourselves with respect to power and political community" (Edkins 51). The most well-known collection of testimony, Svetlana Alexievich's *Voices from Chernobyl* accounts for the majority of this necessary commentary and descriptions of suffering that help 'make visible' the suffering of those affected by the disaster. As Karena Kalmbach explains, *Voices from Chernobyl* "has become a model and reference point for narratives about the "true" effects of the accident, narratives that aim to make visible the suffering that has been disguised by the "radiophobia" concept of official reports" (143). She notes that because the book has been so widely translated, it has become part of the disaster's transnational memory.

Karena Kalmbach recognizes the potential for memory that Chernobyl holds for the perception of radiation risks in "Radiation and Borders: Chernobyl as a National and Transnational Site of Memory". She reads various narratives of Chernobyl for their political implications and finds that "the forms of language and the "facts" used to talk about it are an attempt to influence public perceptions about the risks connected with this type of electricity production" (131). Kalmbach observes that there is a marked distinction in the official narrative of Chernobyl as "a finished occurrence" and alternative narratives that see the disaster as an unfolding event (137). Official interpretations from experts and international organizations most often attribute the effects of Chernobyl to radiophobia, whereas literary works and films will often focus on Chernobyl as apocalyptic. For Kalmbach, apocalyptic narratives carry memory, while radiophobic ones do "not consider Chernobyl to be an event worth remembering" (138).

For instance, she explains how the memory of Chernobyl has formed the crux of the anti-nuclear movement in Germany, with most Germans in agreement as to their rejection of nuclear power (147-48). In France, Chernobyl is invoked during political protests in reference to "a deliberate policy of disinformation by the government about the dangers that accompany the nuclear industry" (148). It is also used against the political elite who continue to leverage their power to promote a pro-nuclear agenda. As Kalmbach demonstrates, exploring how Chernobyl is remembered and how that memory is communicated yields important insight into perceptions and understandings of nuclear power and its political implications. Yet, it is her final point that opens up a space for further expansion of the potential for memory as a means of challenging the basis for the whole nuclear industry and informs my own project:

> Yet it is already clear that the status of this site of memory is being reevaluated as a result of Fukushima: the narrative of a "Soviet accident", implied in the discourse surrounding Chernobyl from the beginning, is slowly being displaced by the narrative of a "universal residual risk", since the issue of losing control over the technology, the difficulties of organizing mass evacuations, and the credibility of the operators and the information they report can no longer be explained using Cold War rhetoric. It remains to be seen whether this "universal residual risk" will be accepted as a satisfactory explanation or whether it will eventually lead instead to calling the entire nuclear industry into question. (159)

While Kalmbach simply raises the question and does not pursue this line of thinking, it forms the primary basis for my own conception of Chernobyl's memory and its importance. The fact that Chernobyl happened in the Soviet Union is an important element, but it does not fully explain how the disaster has become an unfolding event, and if Chernobyl is an unfolding event, then so is every nuclear event. One can trace a chronology of this violence, beginning with the atomic bomb testing in the deserts of the American West, the bombing of Bikini Atoll, and Hiroshima and Nagasaki. Nuclear power's association with nuclear weapons cannot be overlooked, because the first nuclear power plants were built in service of the bomb. The first nuclear power plant in

the United States released nuclear waste into the Columbia River, while its Soviet counterpart, the Mayak power plant, caused significant contamination of the Techa River. According to Kate Brown, the plants each released 200 million curies, or twice the amount of radioactivity released by Chernobyl over four decades (Brown, *Plutopia*, 3). There were nuclear accidents at the bomb manufacturing plant in Rocky Flats, in Colorado. In Kazakhstan, extensive nuclear bomb testing at the Polygon has left the region's inhabitants suffering. There is also Fukushima, the post-Chernobyl nuclear disaster that was never supposed to happen, caused a level-7 disaster. This short list does not even begin to articulate the impacts connected to the mining of nuclear fuel connected with the manufacture and development of nuclear power and weaponry. All of these events comprise the history of Chernobyl and its narrative of a 'universal residual risk', an accumulation of radiation that manifests as a slow violence enacted on bodies and spaces to the detriment of any promise for the future. History (with a capital 'H'), because of its preoccupation with progress, cannot chronicle this kind of history, but memory, with its many entanglements, deep pasts and futures, and capacity to integrate the personal and mark the political, does allow for a more expansive view of the relationship between the past and the future.

I will use Chernobyl as an example par excellence in constructing a genealogy of our understanding of nuclear power to examine the ruptures in our knowledge, so that the past becomes a tool we can use to expose the intricacies of embedded power structures and to dismantle the systematizing nature of how we are conditioned to think about nuclear power. To accomplish this, we must locate marginal and forgotten knowledges, what Foucault refers to as 'disqualified knowledges', such as the knowledges that victims and survivors offer when they speak of their own psychological and bodily trauma, which resists formal systemization and scientific objectification: in other words, memory. My project seeks to not only uncover

memories of Chernobyl, but to dissect the dominant ones that are already circulating within culture. Because memory encompasses political, social, cultural, artistic, and traumatic registers, it proffers a generative, multifaceted, and extensive field for study. The memory I seek to locate is 'radioactive.' Radioactive memory is the memory of nuclear power, attached to radiation; it lives where radiation is found. It makes visible the unseen consequences and dimensions of nuclear power through not only the cultural encounters with memory but also the memories of those who do bear witness to the slow violence of nuclear power. Radioactive memory views nuclear power as a hyperobject, which, "don't just burn a hole in the world; they burn a hold in your mind", as Timothy Morton asserts, speaking of his own encounter with the Rocky Flats bomb trigger factory (131). He writes of how the visible proximity to the contaminated site conjured up the invisible threat of radiation from the plutonium particles contained in the dust there, but the radiation from other disasters:

> Plutonium is truly astonishing to contemplate. We think of light as neutral or benign. Radiation is poisoned light. We think of "objects" as passive and inert, as "over there." Just by existing, this hyperobject affects living tissue. Radioactive materials are already "over here," inside our skin, as Marie Curie discovered to her cost. Driving past Rocky Flats, the decommissioned nuclear bomb trigger factory near Boulder, Colorado, is frightening and disorienting. Did I inhale a speck of plutonium on my way to visit my family? (Morton, *The Ecological Thought,* 131)

The fact that Morton would not know if he had inhaled radioactive dust is terrifying, even if Morton was not in any immediate danger. The more pressing issue is that there is no comprehensive research into the effects of long-term, low-level radiation on the body. The science signifies yet another gap in the historical record, one that is repeated over and over again with every passing incident of contamination, and the consequences of nuclear power's slow violence are ignored or elided. Radioactive memory also figures nuclear power as slow violence. The cases of unusual cancers emerging on the same street, anecdotes of chronic illness, strange

unexplained symptoms, and the pervasive effects of psychological trauma offer evidence that something has happened, but the science remains silent. This is just one example of the structural violence of nuclear power that is encompassed by the concept of radioactive memory. There are countless examples of environmental injustices wherein chemicals and other pollutants have seeped, intentionally or not, into the environment, unsuspectingly harming human and ecological health; they go unnoticed until enough people start noticing. Even then, it often requires persistent, focused, and determined efforts as well as a long time to get the 'informal' evidence of bodies and memory translated into a legally binding condemnation.

Rebecca Solnit, in her book *Savage Dreams: A Journey into the Hidden Wars of the American West* writes: "Radiation can make cells lose their memory, and loss of memory seems to be one of the cultural effects of the bombs too, for Americans forgot that bomb after bomb was being exploded here" (6). She refers to the nuclear bomb tests in Nevada, but her statement speaks to a broader characteristic of our relationship to nuclear power - primarily, that we can forget. 'Radioactive memory' can be found where radiation is found, where radiation infiltrates bodies and spaces. This memory speaks to the trauma of slow violence caused by the lingering presence of radiation; it is a memory that will not fade so easily, because radiation remains for long periods of time. It is memory that is carried in the spaces we inhabit, but also in bodies – our very cells – through genetic damage. It is the memory of a nuclear disaster that we handle at arm's length, with gloves, because we are hesitant to engage its hidden depths - memory that can elude us but is always present. Radioactive memory opposes the explicit history that is dictated by hegemonic power as a memory that cannot be controlled and ignores any flimsy attempts at containment. In my dissertation, not only do I explore how these kinds of memories emerge and operate, but also how we might harness the potential for these memories to explode boundaries,

to alter the way we remember, and to affect change through the cultivation of a radical empathy that acknowledges the experiences and suffering of others. Iurii Shcherbak, a Ukrainian writer, doctor, and environmental activist wrote in 1987 in *Chernobyl: A Documentary Story* of the need for a new way to talk about Chernobyl, something that could not be accomplished until some time had passed and the full nature of the catastrophe could be adequately discerned:

> The time will come, I firmly believe, when the Chernobyl epic (the thought never leaves me that this is indeed an epic, which, in its colossal scale, touches the fundamental questions of people's existence: of life and death, war and peace, the past and the future) will appear before us in all its tragic fullness, in all its polyphony…giving the complexity of their everyday circumstances and official cunning, of people's hopes and illusions and giving the variety of moral positions taken by the participants in the epic we will require new approaches, new literary forms…What will those approaches and forms be? I do not know. (2-3)

While I am not writing the Chernobyl epic, I would propose that radioactive memory should be the basis for such a project and would allow for the full polyphony, complexity, and tragedy of the disaster to be known.

Chernobyl is my case study, but I also discuss other nuclear disasters, out of the necessity of tracing a larger constellation of nuclear violence, in part to acknowledge that while Chernobyl might be the worst nuclear disaster the world has seen, it is not the only one. As important as Chernobyl is, often the focus on this disaster overshadows all others. Chernobyl was the first disaster I encountered while doing a school project on nuclear power; I became fascinated with the genesis of the event and shocked that the unfolding event was not treated with more attention and urgency. It was not until I began earnestly researching Chernobyl that I began to see the resemblances between it and other nuclear accidents. How could something so explosive in its impact to human and environmental health be so contained? Even in the Soviet Union, there had been several accidents and one significant disaster before Chernobyl. In a Politburo meeting in July of 1987, this secret history of Soviet nuclear power was discussed, including the safety of

the RBMK nuclear reactor. Gorbachev admits that there is no more dangerous facility than a nuclear power plant and that given the history of accidents, the construction of nuclear power plants should not have continued. He even laments the legend created around the complete safety of nuclear power and how it led to neglect of the real safety issues posed by nuclear development. In this Politburo meeting, Gorbachev acknowledges the magnitude of this tragedy and calls for more transparency and honesty about how nuclear power is operating (EchoMSK). The meeting at least shows the emergence of a resistance to nuclear science and perhaps re-invigorated his commitment to the policy of glasnost introduced in early 1986. Unfortunately, the minutes to this meeting were not released until after the fall of the Soviet Union, and the calls for transparency did not immediately extend to letting the public know all of the details about the Soviet Union's nuclear past.

Outside the Soviet Union, other disasters were also contained. It is the same reason that most people have never heard of the Hanford site in Washington state. Part of the Manhattan Project, the now decommissioned nuclear complex processed the plutonium used in the first atomic bomb, and in the bomb detonated over Nagasaki. During its operation, inadequate safety and handling procedures led to several accidents and the dumping of radioactive waste into the Columbia River. Today, the site contains nearly 56 million gallons of radioactive waste that must be disposed of before the site can be fully closed; however, most of that waste is buried underground, where it is gradually leaking into the environment, making it quite dangerous for workers to remove safely. Even today, reports of cancer and illness from those associated with the site's operation and clean-up continue. Kate Brown details the history of the Hanford site in her engaging book, *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Plutonium Disasters*, where she also outlines a case for dispensing with the Soviet

framing of nuclear disaster as she compares American and Soviet nuclear development through the Hanford site and Mayak, Russia's first plutonium processing plant. She writes: "The plants left behind hundreds of square miles of uninhabitable territory, contaminated rivers, soiled fields and forests, and thousands of people claiming to be sick from the plants' radioactive effluence" (3). Nuclear waste will be discussed in more detail in the concluding chapter of this dissertation, but Brown also seeks answers to questions that inform my own project. Early on, she asks, "Why have so few people heard of Hanford and Mayak? How could these sites of slow-motion disaster be considered by their residents to be so lovely and desirable?...Why did people so satisfied with their knowledge agree to remain in ignorance for decades about the massive environmental contamination going on around them?" (3). In telling the histories of these two sites, Brown hopes that "it will no longer make sense to tell the two histories separately" (4).

Similarly, through my analysis of Chernobyl memory, I hope to show that not only is Chernobyl part of a wider constellation of nuclear power, but that all of these disaster histories are inextricably linked by underscoring how certain elements underscore resonances between them. The chapters are organized loosely by medium, but more importantly by stages in my argument. I examine documentary film, photography, monuments, museums, poetry, and popular culture, among other manifestations of the memory or history of the event, but the arguments I make about them are not always restricted to any particular medium. Specific themes unify each chapter: Chapter 1 coalesces around invisibility, which seems to find best expression in attempts to represent the disaster in visual media, while Chapter 2 interrogates the public-facing orientation of sites of memory, and Chapter 3 considers the Anthropocene, and Chapter 4 looks at memory in popular culture. Each chapter is informed by the broad ideas of history and knowledge put forth by Michel Foucault and Walter Benjamin and memory studies,

but through more specific applications of film theory, rhetoric, ecocriticism, environmental poetics, and theories of trauma. Because memory is so multifaceted and multidirectional, so are the perspectives and approaches employed to consider how memory is shaped, how memories are employed, the memories of victims, but also the memories of viewers, users, and readers, in an attempt to fully explicate the reverberations of memory across cultures, geographical boundaries, and through a myriad of different encounters with Chernobyl. Much of Chernobyl's transnational character can be attributed to a "revolution in communication, digitization, the easing of global travel, and increased mobility of people, narratives, norms, and cultural products [that] have changed the quality and quantity of transnational remembrance" (Wüstenberg 8). While the disaster's memory is tied to specific locations, "cross-border linkage[s]" and the "practices of transnational agents" create an expanded space "that is highly significant in terms of the political stakes of the memory action at hand" (Wüstenberg 4). Thinking of Chernobyl in terms of its transnational dimensions does not erase any local significance but emphasizes the tensions and potentials between the local and the transnational in a way that mirrors the spread of radiation.

The first chapter, "Chernobyl's Documentary Half-Lives: Invisibility and the Shaping of Memory" interrogates the idea of the "documentary," and how its pretensions to truth and reality influence our memory of nuclear disasters by attempting to satisfy what Bill Nichols calls our epistephilic desire for knowledge. The desire to know what happened is particularly pronounced in relation to Chernobyl, in large part due to the documentary gaps in Chernobyl's historical record. These gaps extend from the efforts of the Soviet state to restrict knowledge of the disaster through a campaign of misinformation, censorship, and neglect around the disaster and its impacts. In addition, because much of what makes Chernobyl a catastrophe is invisible, the

desire to know about Chernobyl coalesces around visual representation in film and photography, where part of the role of documentary concerns how to make the disaster and its consequences visible. This chapter analyzes the strategies of presentation and the organization of visual tropes in a variety of documentary materials in order to dissect their narratives and reveal how they negotiate Chernobyl's history and memory. This chapter also outlines some of the major tensions surrounding the disaster, including the dichotomy between presence and absence, visibility and invisibility, and representation and reality. Many documentaries employ a conventional mode of documentary filmmaking to tell an objective history of Chernobyl that inevitably confirms the dominant narratives of the disaster, one that does not allow for a deeper engagement with its traumas and absences. Other documentaries utilize more subjective modes of narration for a more explicit engagement with memory that intentionally foreground some of the less visible impacts and traumatic disruptions caused by the disaster. The inclusion of testimony and the experiences of victims and the ways those experiences are represented offer insight are especially important considering how much of what makes Chernobyl a catastrophe is only found in relation to those most acutely affected; therefore, the role of oral history and testimony is also part of this examination as an example of the kind of knowledge that is often neglected in visual representations of Chernobyl. Similarly, the oral histories recorded in Svetlana Alexievich's *Voices from Chernobyl*, a work of documentary literature help to contextualize some of these absences. Together these documentary materials make up the half-lives of Chernobyl; they document what remains and lingers given the passing of time in parallel to the rate of decay of radiation.

In the second chapter, "Materiality and Memory: The Rhetoric of Chernobyl's Memorial Spaces," I attempt to map Chernobyl's memorial topography by identifying the sites where

memory is most explicitly articulated. I examine how Chernobyl's monuments, memorials, and museums communicate the impacts of the disaster to visitors, shaping their memory of the event, as well as how visitors interpret those encounters. The objects and sites in this chapter, which range from expected sites such as the National Chernobyl Museum in Kiev to the unexpected memorial dimensions of the containment structure, comprise the material and experiential dimensions of Chernobyl's memory. Through a rhetorical lens, I read the objects and sites of Chernobyl's memory in terms of how they make meaning, their legibility to visitors, their inherent lack of neutrality, and how effectively they are able to communicate to the public. Examining the rhetorical capacity of these sites and objects also demands that we take into account the perspectives of the public, which is why I attempt to incorporate the comments and recorded impressions of visitors into my analysis to show how they can 'speak' differently to different visitors. At these material sites, any tentative boundaries between history and memory collapse and the complexity of memory's entanglements become apparent. Despite the consensus implied by 'public' the rhetoric of these spaces, and their concomitant practices and affective resonances, demonstrate how memory is also shaped by the experiences and knowledge of visitors. A large portion of this chapter centers on the Chernobyl Exclusion Zone, which not only contains a number of different memorials and monuments, but also stands as a site of memory itself. The differing rhetorical strategies employed by these memorial objects and spaces cultivate a number of competing and, at times, contradictory memories of Chernobyl. Because of the focus on the experiential encounters with the disaster's memory in this chapter, it is necessary to examine the role of tourism, which mediates the experience of the Zone. Chernobyl tourism is often categorized as dark tourism, but whether that term aptly describes the interactions and motivations of visitors is unclear: challenging the application of the term to

Chernobyl tourism reveals that the ‘dark’ side of tourism lies in the commodification of the experiences of tragedy. Despite the seemingly inviolate permanence of these objects and sites, their materiality is quite fragile, as evidenced by the proliferation of ruins and rubble within the Zone, which raises questions about future preservation.

The third chapter, “A Terrible Kaleidoscope: The Anthropocene Lyric in Chernobyl Poetry” examines how Ukrainian poets grappled with Chernobyl’s apocalyptic dimensions through poetry. Tamara Hundorova describes how Chernobyl shattered the totalitarian conception of reality, revealing alternatives that offered new possibilities for the organization of society and the envisioning of the future. She uncovers the traces of apocalypse in the postmodern play with the Soviet totalitarian past as depicted in Ukrainian literature of the 1990s. Similarly, Chernobyl shattered Socialist Realism’s totalitarian nuclear imaginary, which linked the development of nuclear power with the achievement of the radiant communist future. The Soviet nuclear imaginary, founded on the promise of prosperity offered by the peaceful atom, helped to obscure some of the risks and costs accumulated by the use of nuclear power. Socialist realist poetry monumentalized the atom and atomic power, in alignment with an ideology that privileged progress over nature, and post-Chernobyl poetry confronts that past, and in the process, recovers the ecological memory that was severed by the splitting of the atom. Poetry, with its capacity to expand and collapse time is able to articulate the deep pasts and deep futures of the Anthropocene and the vast impacts of human activity on the earth. The Chernobyl poems of Lina Kostenko, Liubov Sirota, and Oksana Zabuzhko prompt readers to remember deeply into the past in order to consider Chernobyl’s trauma within the context of the violence done to the earth. Poets give voice to the anger and vulnerability of the Anthropocene, while also posing questions about responsibility for the earth and the future, and the role of the poet.

The fourth chapter "Virtual Encounters: Prosthetic Memories of Chernobyl in Popular Culture" looks at an eclectic collection of materials, including a Martin Cruz's crime thriller *Wolves Eat Dogs*, the *S.T.A.L.K.E.R.* video game series, the horror film *Chernobyl Diaries*, and HBO's *Chernobyl* miniseries. Thus, this chapter also calls for the reconsideration of popular culture as an important source of material deserving of scholarly attention. Popular culture might be the most vital and generative proving ground for Chernobyl's memory given its wide appeal and far reach. While disparate in terms of medium, the cultural products that are featured in this chapter all provide access to memories and experiences that might otherwise be inaccessible. They are carriers of what Alison Landsberg terms prosthetic memory, a new form of memory made possible by the circulation of images and narratives of the past through mass technologies. Prosthetic memory emerges through an immersive second-hand experience of the past as communicated through film, literature, and other forms of mass communication, which often fall under the category of popular culture. In contrast to the engagement with Chernobyl's memory outlined in the second chapter, these experiences of the past through popular culture are virtual, allowing the user, viewer, or reader the chance to engage with and learn about the disaster and its impacts at a physical distance, while prompting a bodily and affective engagement with what can often be traumatic memory. Landsberg sees prosthetic memory as embodying a potential for cultivating a politics of radical empathy, because viewing and interacting with these images and narratives of the past can circumvent differences to promote a greater understanding of the experiences of others. However, there are limits to prosthetic memory, and so this chapter also shows how memories in popular culture can be deprived of nuance and complexity, leaving them vulnerable to manipulation.

When we talk about Chernobyl, we have a tendency to treat the disaster as a singular, isolated event, when in actuality, Chernobyl is implicated in an extensive network of global nuclear activity originating from the first nuclear bomb, our use of nuclear energy, and our contemporary reliance on nuclear weapons as a pillar of global security. The inclination is to separate nuclear events into different categories, from acts of war, to accidents, to nuclear energy projects. However, all nuclear events are united by their Promethean ambitions and potential dangers: they are all representative of the violence of nuclear power. Radiation does not respect the boundaries of time and space, nor does it take notice of our intentions. Isolating these events from one another allows us to forget that nuclear disasters happen more often than we realize. Such a large project of memory gains even more significance in light of climate change, which has opened up a space for the reconsideration of nuclear power as a viable source of energy for the future. As Scott L. Montgomery and Thomas Graham, Jr. make clear in their defense of nuclear power, *Seeing the Light: The Case for Nuclear Power in the 21st Century*, in which they argue that the great misfortune of nuclear power is its association with atomic bombs which, however "understandable," stifled its development - a shame, since "nuclear plants could now be everywhere and the climate crisis almost non-existent" (7). The overly excessive surety of this statement notwithstanding, Montgomery and Graham are very quick to defend nuclear power as a panacea to our greatest energy dilemmas. Their case for nuclear power rests on nuclear power as a noncarbon alternative to the polluting carbon-based energy industries: "Nuclear power continues to be the largest form of noncarbon energy in the world. It is also the most concentrated and reliable, with the smallest environmental impact among all baseload sources and the lowest number of accidents, injuries, and fatalities" (354). They underscore how 'green' and environmentally friendly nuclear power is - the 'smoke' coming from nuclear power plants

is only steam, after all. Nuclear waste is explained away as "not the most hazardous material produced by contemporary society" (215), even though we have no foolproof solution to dealing with nuclear waste other than to bury it or sequester it in storage barrels guarded by barbed wire.

Part of the allure of nuclear power also comes from nuclear power's capacity to produce immense amounts of radiation from a relatively small amount of fuel, in comparison to coal and natural gas, making it a viable option for developing countries looking to gain energy independence. This is not guaranteed, either, as seen in the case of Ukraine, which still relies on Russia for the majority of its nuclear fuel. While the authors do acknowledge issues of global security that frame global development of nuclear power; the fact that the United States, in particular, leverages its political position to decide which countries are allowed access to nuclear power. Furthermore, Montgomery and Graham explain away Chernobyl as an 'accident' that "could not have happened anywhere but in the Soviet Union" (145). They adopt a narrative of both Chernobyl and Fukushima that underscores each disaster as one of radiophobia. They explain: "For those affected, each event promised nightmares, mass radiation exposure and casualties, environmental annihilation. And as we will see, these were precisely the fears that brought more suffering to more people than radiation possibly could have" (145). Such claims are easy to claim when the consequences of these disasters have not been fully explicated and data and epidemiological studies are sparse and incomplete. Rather, for the authors, nuclear power becomes just a "less harmful" option relative to coal, oil, and natural gas (178). They manage to place nuclear power within a hierarchy of environmental injustice and human cost, where nuclear power is 'not as bad' as other energy practices, conveniently disregarding the more informal evidence and experiences of people, which is unfortunately, too easy to do. Such a callous characterization of the value of human life takes humanity out of what is a very real and

profoundly *human* situation and crisis. Montgomery and Graham demonstrate a lack of imagination in blaming victims of nuclear disaster for allowing their fear to "greatly increase their victimization" (175) and in doing so effectively revive a strategy used to discredit those expressing serious concerns.

I think we can imagine a better than a nuclear-powered future, but in order to do that, we must do our due diligence and understand the effects of nuclear power. If we know more not only about how narratives of nuclear disaster are shaped and how they circulate and create silences, but also about what kinds of memories are suppressed and forgotten, we would have to rethink our reliance on nuclear power. The hopes and possibilities attached to the idea of nuclear power as beneficial for "emissions, breathable air, energy security, and reliable power" (Montgomery and Graham 362) become difficult to realize when compared to the thwarted hopes and futures of those most acutely affected by the slow violence of nuclear power. Bearing witness to their memories and experiences might also form the basis for a politics of empathy that helps us envision a better, more just, environmentally sensitive future.

Notes on Transliteration

This work uses a variety of Russian, Ukrainian, and Belarusian sources. Some have been previously translated, and some make use of my own translations. Consequently, there are several different transliterations of common placenames, such as Chernobyl (Russian) and Chornobyl/Chornobyl' (Ukrainian) and Pripyat (Russian) and Prypiat/Prypiat' (Ukrainian). For translated quotations, transliterated words will follow their original language, so if the quotation was originally in Ukrainian, then its translation will follow transliteration patterns for Ukrainian and so forth. I have not changed any spellings from direct quotations in which the author has

already chosen a preferred transliteration style. In the larger text, I will use the most commonly recognized forms such as ‘Chernobyl’ and ‘Pripyat’.

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Chapter 1
Chernobyl's Documentary Half-Lives: Invisibility and the Shaping of Memory

Aleksandr Mindadze's film *Innocent Saturday* (*V subbotu*, 2011) is one of the first feature films about the Chernobyl catastrophe. The film centers on Valerii Kabysh (Anton Shagin), a loyal worker and Party member, who learns of the explosion at the nuclear power plant and the radiation threatening the neighboring town of Pripyat. Amidst reassurances that everything is under control, Valerii's Party bosses warn him not to divulge news of the accident. Yet, upon recognizing the panic on their faces, Valerii decides to get as far away from the damaged plant as possible. He retrieves the girl he loves, Vera, and they try to flee the city. However, a lost passport, a broken shoe heel, and a missed train impede their escape. From that moment on, the urgency of escape gradually fades as Valerii, either from shock or denial, allows the carefree atmosphere of the city to assuage his initial panic. *Innocent Saturday* received mixed reviews. The film did earn some praise for its subtle portrayal of life in the shadow of disaster, yet many reviews cited disappointment with the film's decidedly lackluster and unemotional portrayal of this tragic event. One critic for the *Berlin Review* comments that "it's time for the tragic events of April 26, 1986 to find filmic expression, beyond the several excellent documentaries already made. Given the tension and humanity of its first hour, *Innocent Saturday* should have been that film. It isn't, because the script takes a suicidal dive into ennui […]" (Young). Similar sentiments are repeated throughout reviews of the film, either from critics or ordinary viewers. Such comments, however, raise some important questions about what exactly a visual representation of the Chernobyl tragedy *should* look like and the implications of that

representation. Along with questions of representation also come questions of whether that experience should be pleasurable or entertaining. Since many people encounter Chernobyl's history through visual representations, the answers to these questions concern what can be learned about the disaster from filmic interpretations and the shaping of Chernobyl's memory.

These questions inevitably touch on what is appropriate in terms of representation, particularly for an event associated with a traumatic history that irrevocably altered the lives and futures of many people. The disaster marks a before and after, a moment of rupture, and much of that trauma is impossible to fully communicate. There are other dimensions of irrepresentability related to Chernobyl as a disaster. We are reminded of Theodor Adorno's famous dictum, from a 1949 essay, that "poetry after Auschwitz is barbaric" (Adorno 34). Often taken out of context as a proclamation against any representation of the Holocaust, the phrase is actually a call for the radical rethinking of the role of poetry and other representative arts with the understanding that poetry will never be able to adequately convey the horrors of the Holocaust. Adorno is not saying that poets and artists should not continue to create, but that they should continue with the awareness that the barbarism that led to the Holocaust is the same culture out of which art emerges. In a sense, then, Adorno's dictum on barbarity is more about replicating the logic, reasoning, and systems of thought that made the Holocaust possible. Similarly, it would seem ideal that representations of Chernobyl should do the same: they should illuminate the larger context of Chernobyl in order to explicate the conditions that made it possible for the disaster to occur. While Chernobyl is not the Holocaust, in all of its explicit and marked brutality, the disaster is still marked by a slow violence on bodies and spaces due to radiation that spread across parts of Ukraine, Russia, and Belarus. Ideas about what is appropriate and respectful for any representation of Chernobyl are still being negotiated. For example, the 2012 horror film

Chernobyl Diaries received calls for boycotts from several charities due to what was seen as an insensitive portrayal. That film is discussed at length in Chapter 4, but it is clear that there are tensions surrounding representation. Beyond questions of propriety, is also the issue of gaps in the historical record created by the state-mandated prohibition against the dissemination of information as well as the censure of photographic evidence. In this way, Chernobyl presents an additional challenge for representation.

In *Innocent Saturday*, except for a few brief shots of smoke in the distance, and one of the exposed reactor, the disaster itself is not featured prominently, at least not visually, for the duration of the film. The film actually focuses on the inhabitants of Pripyat, their reactions, and their seemingly ordinary daily endeavors. Yet the disaster looms ominously over the activity of the characters, evidenced by their hysteria, willful ignorance, paranoia, and disbelief. What began as a disaster film unravels into a non-linear, directionless collection of images of youthful exuberance and refusal to succumb to an inevitable fate. The film frustrates attempts to construct a tidy narrative of Chernobyl based on the heroism of liquidators and the indomitable spirit of the Soviet people. Instead, Mindadze presents a realistic portrayal of an existential crisis, one in which there are no heroes - only ordinary people responding to an impossible disaster. Underlying the criticism of Mindadze's film is the accusation that the director did not harness the technological and visual power of film to bring to life images of the event that can only be imagined. Viewers want to see the explosion and its immediate aftermath in order to satisfy a need to know what happened: "Knowledge, by making the material world "make sense," is at the same time a construct that wards off the emptiness of meaning of contingent reality" (Cowie 87). Perhaps, if we can make sense of how this disaster occurred, then we can mitigate the horror and fear that a future nuclear apocalypse inevitably provokes. While not a documentary, the film's

director, Aleksandr Mindadze, made use of documentary materials in crafting his film, particularly the testimonies from citizens of Pripyat: “Basing my standpoint on the extensive documentary material, I have concentrated above all on the question: How do we react, in the philosophical sense, towards a situation of catastrophe?” (qtd. Lindbladh 117). Oleg Mutu’s cinematography lends it an element of realism with its shaky handheld-camera work. Despite its fictional story, viewers commented on the realism of the emotions, reactions, and anxiety of the characters in the confrontation with their changing reality. Johanna Lindbladh, in writing about *Innocent Saturday* as an existential action film, notes that many non-Russian-speaking critics asked, “Why does the hero not escape?” in contrast to Russian-speaking critics and viewers who understood the Soviet context of the film and its philosophical dimensions (113-4). She notes that while Western critics lamented the “lack of Chernobyl” in the film, Russian-speaking audiences had strong reactions to the film’s centering of the “little man” and his inner struggles that challenge the myth of Soviet heroism (116). The film elicited such strong reactions that Ukrainian and Belarusian television channels refused to air the film, because it was disrespectful to the memory of those who died containing the disaster, and as journalist Maria Tomak wrote: “In the Ukrainian media there is a place for the catastrophe, but not for the Human being” (trans. in Lindbladh 116).

The Documentary Impulse

Innocent Saturday illustrates some of the issues surrounding what it means to document Chernobyl. Documentary film makes up the bulk of this chapter, but fiction film and literature also demonstrate a preoccupation with documenting the disaster. Notions of reality, truth, and historical accuracy are implicitly bound to the idea of documentary. Paula Rabinowitz draws on

the idea of the document to inform her definition: “The relationship is clear - history relies on documents to support its narrative. But where does documentary fit? Its (not very useful) definition “of the nature of or consisting in documents” is matched with its two rare usages - “affording evidence” or “relating to teaching” (121). The documentary then is meant to instruct, through evidence; it poses truth as a moral imperative” (Rabinowitz 121). Bill Nichols, in his *Introduction to Documentary* acknowledges that the “documentary tradition relies heavily on being able to convey to us the impression of authenticity” (xiii). In another volume, *Representing Reality*, he also explains that the “status of documentary film as evidence from the world legitimates its usage as a source of knowledge” (x). In actuality, the documentary genre encompasses a wide variety of aesthetic, narrative, and editing choices that often blur the boundaries between fiction and reality, as documentary films about Chernobyl demonstrate. Chernobyl documentaries encompass a wide range of choices and styles that attempt “to persuade the audience of a film’s truth” (Rabinowitz 119). Given the shifting nature of documentary film then, it is important to analyze the kind of images and modes of representation used in documentaries about Chernobyl and evaluate the impact of those images as part of Chernobyl’s memory. Paula Rabinowitz goes on to explain that the documentary genre often “reinforces dominant patterns of vision” through its use of conventional “classic Hollywood narratives” (119). Her criticism is directed at the way that some documentaries fail to alert viewers to their own partiality and instead present an “intimate view of reality” in a tidy narrative as though it is *the* truth, which has consequences for the way viewers are called upon “to participate in historical remembering” (119). The ways we ‘remember’ as we watch these films can also shape our forgetting. The tension surrounding the claims of documentary as a mode of filmmaking associated with truth, objectivity, and authenticity is evident.

Much of the claims around documentary film center on the camera's indexical relationship with reality, which denotes a sense of presence and authenticity. From the advent of photography, the material process of the camera established an indexical relationship between the photograph and the object photographed. As a kind of evidence pointing to the existence of a referent, indexicality also marks a presence of the camera and a sense of the object's "being there". In contrast to the filming of actors on a film set, documentary purports to be about real people in real spaces, infusing the image with the energy and activity of the present moment *as it is happening*. Carl Plantinga refers to this reliance on the image's indexicality as one of the traditional definitions of documentary:

> Though the practitioners of direct cinema and various theorists have overstated the degree to which a documentary is a mere recording of its subject (and not an interpretation of it), it is nonetheless undeniable that the documentary has relied on the power of the moving photograph to "show us the world, " and to do so with an authenticity that depends not only on the visual wealth and detail of the photograph, but also on the indexical, causal bond between photograph and pro-filmic scene. (106)

As Plantinga also notes, often the indexicality of the image is overemphasized as evidence of "how it was." In regard to documentary representations of the past, this also includes the use of archive footage and old photographs which attest to a historical reality, which can then lead viewers to over-identify an image with "the real" of history "how it was". However, as Bill Nichols observes, indexicality does not equate to authenticity, only a link between camera and profilmic event or object: "These signs testify to presence, but not necessarily to the presence of historical reality. They more properly testify to the presence of the recording apparatus and the reality of the recording process, which we, often on faith, assume to have occurred in the face of pell-mell contingency" (Nichols 1991, 185). In actuality, the photographic or filmic image is only bound to the spatial and temporal limits of the pro-filmic moment, and it is not evidence,

but part of a film's discourse (Kessler 192). Yet, not all documentaries alert viewers to this distinction.

Along with notions of "the real" and the indexicality of the image is the idea that documentary film is objective and that the filmmaker presents their filmic material with little interference either in its production or during the editing process. While the general scholarly consensus has shifted away from a strict objectivity as the documentary genre has absorbed and consolidated a variety of filmic techniques and styles, there is still a stubborn aspiration to present a certain lack of explicit bias. Paul Ward notes a "still-prevailing orthodoxy in the wake of direct cinema" (10). Direct cinema refers to the film movement coming out of North America in the 1960s whereby its practitioners aimed to film life as it unfolded without being noticed, to observe without intruding on the action. Direct cinema shares some characteristics with cinema verité, a similarly observational mode of filmmaking, but one that strives for some amount of self-reflexivity, often with the filmmaker making an appearance. Both styles make use of hand-held cameras, direct sound, and other mobile filming equipment, and both cinema verite and direct cinema aim to bring the audience in closer contact with the subject. Yet, the issue with direct cinema is not so much the end result, but the convictions of filmmakers convinced of some "observational ideal," as Stella Bruzzi criticizes in *New Documentary: A Critical Introduction*:

> What is clearly being held up for approval here is the grail of pure documentation, a piece of 'pure' observation being thought of as necessarily superior to and 'better' at doing what it has set out to do (that is, represent a series of non-fictional events) than its more mendacious cousins deploying such 'false' mechanisms as voice-over, interview and the actual presence of the filmmaker. (69)

Not every documentary film is done in the observational style of direct cinema, but the objectivity of direct cinema has been sutured into the subtext of the genre. Of course, any intentions to a pure objectivity are complicated by certain aesthetic choices, the structuring of a

narrative, and editing considerations, but the instinct to maintain impartiality is a familiar attribute of documentary film. Paul Ward explains, “These notions of objectivity and transparency resonate through the history of documentary and other forms of nonfictional/factual programming. Certainly, with regard to television documentary output, with its strong links to broadcast journalism and current affairs, there seems to be a distrust of anything that deviates from a ‘fair and balanced’ position” (Ward 10). Particularly in regard to history, the impartiality associated with documentary objectivity can lend historical representation an undue amount of authority, which is why it is important not only for viewers to interrogate images, but also for documentary to alert viewers to their overall construction. ‘Objectivity’ does not exist in the way it is conceived of, as somehow beyond the “socio-historical context that it is depicting,” because often, “to remain stubbornly ‘impartial’ and ‘balanced’ in the face of clear imbalances in the real world is to actually misrepresent that world, and the power struggles that go on within it” (Ward 60-1).

The ideas of realism and objectivity connected to the documentary genre lend legitimacy to documentary’s claims of truth. The evidence provided by the camera informs a film’s credibility, and the incorporation of expert voices, interviews with historians, testimony, and archival material imbue the film with authority. Considering this, as Louise Spence and Vinicius Navarro, conclude, “It is not surprising, therefore, that people tend to associate documentaries with truth. One of the reasons why we watch nonfiction films and videos is indeed to learn something about the world. And this would hardly be the case if we could not trust what we see and hear” (Spence and Navarro 13). The problem here is that ‘truth’ is conceived as some kind of simple, natural or easily discernible fact, one that can be revealed through the camera alone, when in actuality, any truth presented in documentary film can be historically contingent,

incomplete, and multifaceted. Additionally, that truth is relative, to the perspective of the filmmaker, to the viewer, and to the reality it represents, as is hinted in the word "representation," wherein the "re" "implies an absence, presenting anew that which is no longer present. And whenever we present something anew, transformation is implied" (Spence and Navarro 14). Because truth is so closely linked with the objectivity, authority, and reality associated with documentary film, truth becomes a question of aesthetics when it is actually a profoundly ethical one. Aesthetics, through the inclusion of narrative or editing choices, do not necessarily detract from documentary's engagement with truth, but any truth claims need to be evaluated in terms of its construction within the film, particularly when it comes to history. In *History of Film/Film on History*, Robert. A Rosenstone observes that even though the documentary employs many of the same techniques used in fiction film to represent history, the documentary's pretensions to truth can mask its seamlessness:

> To this it adds a kind of (at least implied) mystification - the notion that what you are seeing on screen is somehow a direct representation of what happened in the past. In that sense, the drama is more honest precisely because it is overtly a fictional construction. With a drama, you know - or you should know - that what you see is a construction of the past. (Rosenstone 80)

The documentary form will always be associated with truth, but that is not at issue here; what is at issue is when that truth goes unquestioned or it becomes difficult for viewers to discern that a film's engagement with truth is constructed and entangled with the discourse of the film.

The issues outlined above are further complicated by Chernobyl's unstable status as a politically contested historical event and ever-present reality for many. In many ways, Chernobyl lacks indexicality, because the disaster's primary referent - the radiation released from the reactor core - is invisible. Additionally, the trauma of the tragedy is invisible, as are the effects of that tragedy on bodies and minds of anyone exposed. Chernobyl is an event that is veiled in

secrecy, that is wrought with documentary lacunae, that has no witness, and that resists representation. The idea of Chernobyl eludes comprehension, not simply because of how it challenges our expectations about the way the world operates, but also because aspects of the catastrophe remain unclear. At the time, the Soviet government, due to the closed nature of the political system, were vague about details, barred journalists and reporters from covering the event, and used its intricate bureaucratic infrastructure and state-run media apparatus to diminish the dangers of the disaster to the public. The first radio announcement was made thirty-five hours after the explosion. Brian McNair notes in *Glasnost, Perestroika, and the Soviet Media*: "Even during the Chernobyl crisis of April-May 1986, when events taking place in the USSR were making headline news throughout the world, routine economic affairs remained at the focus of Soviet media attention" (21). The first announcement in Ukrainian newspapers came three days later on April 29; the entirety of the announcement was three lines. In the newspaper *Evening Kiev* (*Вечірній Київ*) printed the announcement in the Weather section on page three: "An accident occurred at the Chernobyl Atomic Energy Station; one of the atomic reactors was damaged. Measures have been undertaken to eliminate the consequences of the accident. Aid is being given to those affected. A government commission has been set up" (qtd. McNair 161). Much of the actual film footage from the disaster's cleanup was irrevocably damaged by radiation, leaving little surviving film to attest to containment operations. To reconstruct what happened, then, we must rely on what was left behind in the aftermath of this catastrophe, which explains the fascination of photographers, documentary filmmakers, and tourists with documenting those remains as a way of piecing together the fragments of an incomplete past, what Robert Rosenstone refers to as the "vanished world" of the past that must be reconstructed through its traces, however ephemeral and fragmented (2). As such, they are inevitably found

incomplete, but because they 'look' different and present disparate versions of Chernobyl and offer alternate histories of the disaster, these documentaries constitute the many half-lives of Chernobyl. My use of the term half-life here is intended to capture the idea of radioactive decay denoted by the use of the term in nuclear physics to describe the life of radioactive isotopes. Just as the term describes a process of time, so too do the films. Each film circulates in their own media spheres and communicates different 'truths' about the disaster, and those truths entail their own effects and live on as memories.

The documentaries that make up this chapter include Vladimir Shevchenko's *Chernobyl: A Chronicle of Difficult Weeks* (2006), Thomas Johnson's *The Battle of Chernobyl* (2006), Adrian Musto's amateur documentary *Inside Chernobyl* (2012), *Chernobyl Heart* (2004) by Maryann De Leo, *Heavy Water* (2007) by David Bickerstaff, Rollan Serhienko's *The Bell of Chernobyl* (1986), Nikolaus Geyrhalter's *Pripyat*. Holly Morris's *Babushkas of Chernobyl* (2015), and Chad Gracia's *The Russian Woodpecker* (2015). They encompass a variety of styles, utilize various kinds of techniques, and represent Chernobyl from many different perspectives. Bill Nichols explains, "Documentary as a concept or practice occupies no fixed territory. It mobilizes no finite inventory of techniques, addresses no set number of issues, and adopts no completely known taxonomy of forms, styles, or modes. (Nichols 1991, 12). This chapter, then, is not about what is the most appropriate form for a documentary about Chernobyl, nor is it about how "good" or "bad" a documentary might be. What I am most interested in is the kinds of histories being told in these documentaries and how these histories not only reflect what is remembered about Chernobyl but also alert us to fissures and gaps in our memory. In recognizing those gaps, we will be better equipped to recognize the marks of trauma left by history in its uneven and destructive march of progress. If we are able to uncover what is missing

from these records, then we may also see the consequences of power in the silencing of voices in the production of history. Michel-Rolph Trouillot maintains that all history engenders silences: "Something is always left out while something else is recorded. There is no perfect closure of any event, however one chooses to define the boundaries of that event. Thus whatever becomes fact does so with its own inborn absences, specific to its production" (49). Trouillot's assertion that history is constituted by the unequal distribution of power holds relevance here, considering how the Soviet state was largely successful in controlling Chernobyl's narrative from the beginning, implicitly demarcating the divide between those with power and those without. Those without power, the most vulnerable, have been largely marginalized, and many documentaries reflect this silencing. However, conducting a Foucauldian archaeology of the historical discourses presented in Chernobyl documentaries presents an opportunity to not only identify lost histories but also to recover them, while also identifying the gaps in representation. Documentaries are generative sites of knowledge production with the capacity to "provoke or encourage response, shape attitudes and assumptions," which can "have a powerful pervasive impact" (Nichols 1991, x). Because of their pervasive impact, it is important to question the past, and doing so raises questions about the future and our relationship to nuclear power and the impact of our aspirations to "progress."

Documentary Conventions

Chernobyl documentaries utilize different kinds of documentary conventions and visual tropes to present their narratives, but they are all motivated by "the compulsion to recount," as Anne Rutherford terms the need for those "one step removed" to understand what happened during a certain traumatic moment. She also maintains that this approach "never quite grasps the

nature of the trauma," but also that its failure comes from "an expectation that coming face-to-face with the 'facts of the case' will provide such an understanding" when that understanding is not possible (Rutherford 80). This chapter will examine the dominant strategies and motivations underlying many Chernobyl documentaries in order to indicate a common omission found throughout even the most varied representations of Chernobyl. This omission stems from the failure of documentaries to take into account the experiences of survivors and victims in their fullness, which has serious ethical implications and is reflective of attitudes toward Chernobyl that shape our recognition or lack thereof and our treatment of those survivors and victims. Documentary film and photography are our primary means of accessing this event and recording reality. Elizabeth Cowie, in *Recording Reality, Desiring the Real*, examines the ways in which documentary images engage and inform us and makes a case for evaluating those images critically. She asks, "If cinema has realized the wish to know reality through its images, and later its sounds, that is, to let it "speak for itself," what kind of speaking, and speaking about, emerges in documentary, and how are we engaged by it?" (4). Cowie explains that the camera eye not only offers us an all-seeing view of the world, but it also expands the reality beyond what we perceive as our own. Photography and cinematography address "the desire for reality held and reviewable for analysis as a world of materiality available to scientific and rational knowledge – a world of evidence confirmed through observation and logical interpretation" (2). What we see is often conflated with what we know, but it is important to scrutinize the kinds of narratives that are contained in images and what is left out. For it is what is left out that haunts the idea of a documentary: "In its desire to show the real, however, the documentary becomes prey to a loss of the real in its narratives of reality. It is a loss we cannot mourn but anxiously return to, that is, it

is a loss of a reality imagined before its fall into mediation, interpretation, narration, and presentation" (Cowie 20).

The documentaries in this chapter represent a wide range of filmic expressions about the disaster, but each purport to speak about reality and truth, which is why it is necessary to understand how some of these films communicate. A good place to start is the first Chernobyl documentary, Soviet filmmaker Vladimir Shevchenko's *Chernobyl: Chronicle of Difficult Weeks* (*Чернобыль: Хроника трудных недель*) (1986). Shevchenko headed the first film crew allowed to enter Chernobyl's Exclusion Zone in the wake of the disaster. His documentary is "in one sense simply a clumsy piece of back-slapping propaganda showing how well the Soviet scientific, technical, military, and Party authorities came together in the face of great adversity, to overcome the severity of the accident" (Wyck 96,7). The film opens with an excerpt from Gorbachev's May 14th address to the Soviet people in which he expresses his sorrow at the tragedy and loss of life. The rest of the film describes how the disaster was contained. The film shows Party meetings where officials discuss the clean-up and mitigate the concerns of citizens, the reactor site where heroic liquidators work to remove radioactive waste in the deadliest conditions, and the clinics where doctors monitor the health of workers. All of these images are organized by a "voice of God" narration that constantly extols the heroism of these workers, their sense of duty, and their solidarity to both country and Party. The workers shown are never in panic; they move calmly and with purpose; they are organized and determined. Additionally, we are told, they are regularly briefed of any and all dangers associated with the liquidation. The final images are of people returning to some of the nearby villages, the beautiful Ukrainian countryside, and, finally, aerial shots of the completed sarcophagus covering the reactor. By the

end of the film, we are left with a feeling of finality, as though the threat is diminished and, while we may not forget what happened, life has returned to normal.

Chronicle of Difficult Weeks is propaganda, created for the purpose of disseminating an official version of events, one that would be increasingly called into question as new evidence came to light. However, the film is instructive in terms of how meaning is constructed through the organization of images and through the omnipotent disembodied voice "connoting a position of absolute mastery and knowledge outside the spatial and temporal boundaries of the social world the film depicts" (Wolfe 149). The voice assures us that, while difficult and tragic, life continues and, most importantly, everything will be fine. This point becomes all the more apparent when taken in conjunction with Shevchenko's unofficial final film, *Severe Days* (it can be found under many titles). The film is not officially a film, but a seven-minute collection of unedited footage taken immediately after the disaster, on his first trip to the exposed reactor. The footage in this film is raw, and many of the scenes caught on camera resemble at least partly scenes from *Chronicle of Difficult Weeks*, although they lack the same polish and editing that the official film contains. Shevchenko clearly was not made aware of the extreme radiation danger, as he can be seen without protective clothing filming from inside the reactor. Other workers are similarly unprotected. Shevchenko captures the chaos and destruction of those initial moments, at one point even capturing a helicopter crash that would kill everyone on board. Such an image would never have made it into the official film. The contrast between the two films is noticeable, particularly in the lack of voice-over narration in *Severe Days*. It is simply unedited footage, without explanation or context, and, in many ways, the uncertainty of what is happening in the film is more unsettling, especially when one learns that Shevchenko himself would die from radiation exposure only a year later.

The short amount of film that makes up *Severe Days* undermines the confident finality of the narrative of *Chronicle of Difficult Weeks*. However, it is important to note one significant detail that unites the two and that raises some questions about the totality of these narratives. As much as we cannot see radiation in the environment, we can "see" it on film. At one point in *Chronicle of Difficult Weeks*, radioactive particles can be seen on the film stock in the scene when the film crew is in a helicopter above the exposed reactor:

> The voiceover, dubbed into English, was saying something about "black and white, the color of disaster." But what we *see* on the surface of the film itself are millions of tiny pops and scratches. The filmmakers explain that they had initially assumed they had used defective film stock. It was only later that they discovered that the problem with the film had nothing to do with the film itself. What they discovered was that the surface distortions were real field artifacts, and not defective film or processing. What was captured on the film was a record of the impacts of decay particles as they passed through the body of the camera. (Wyck 96,7)

This evidence demonstrates the gaps and fractures in the dominant Chernobyl narrative, if one looks for them. Radiation from Chernobyl literally ate through the illusory totality of the images that typically function to contain the dangers of nuclear disaster. Watching this short film is unsettling, because we know that the radiation eating away at the filmic image is also eating away at the filmmaker's body. The radiation acting upon the film's skin also acts upon our own skin, if we think about the phenomenological relationship between film and body outlined by Jennifer M. Barker in *The Tactile Eye*. The 'touch' in this instance is not a literal one, but simply a way of describing the intimacy of film and body:

> The film also expresses the world and reveals it, in a way that the viewer can see and feel. The revealing and concealing functions are enacted with every touch of my skin upon the film's skin and vice versa. In the moment that my skin and the film's skin press against or envelop one another, the film becomes accessible and transparent to me. (29)

The moment is a transitory one, but in that instance, the radiation on Shevchenko's image becomes textural and able to be felt. The radiation "touches" us and satisfies our desire to be able to see what is normally invisible to us, in a natural, but misguided attempt to understand it. In this way, *Severe Days*, even in its brief duration, provides a more compelling chronicle of the disaster than Shevchenko's longer propaganda piece.

Thomas Johnson's *The Battle of Chernobyl* is representative of another conventional documentary film about the event. It features archival film footage, close-ups of old photographs, reenactments, talking heads, excerpts from survivors and experts, and images of the abandoned city of Pripyat. The organization of material in these conventional documentaries recalls the work of written history, as primary and secondary sources are enfolded into a narrative, as Robert Rosenstone critiques:

> Like the work of written history, the documentary 'constitutes' facts by selecting traces of the past and enfolding them into a narrative. Like the written history, the documentary ignores the overall fiction - that the past can be fully told in a story with a beginning, a middle, and an end. Indeed, some of the ways the documentary is so much like written history that, far less than the feature film, it hardly seems to point towards a new way of thinking about the past. The parallel or closeness between traditional history and the documentary undoubtedly accounts for the fact that historians, journalists, and the general public are rather more trusting of the documentary than the dramatic feature. But this is a mistaken form of trust. (79-80)

The film is structured around a common narrative that begins with the explosion, how reactor number four exploded when an unauthorized experiment to test the plant's backup generator failed. The film then chronicles the state's response to this accident, how soldiers, firemen, volunteers were called upon to contain what was increasingly becoming an uncontrollable situation, how the leaders of state decided not to alert citizens of surrounding towns and villages immediately. A few engineers, plant workers, liquidators, and ordinary people will support the facts with their testimony, delivered in relevant details, but they are subsumed into the overall

narrative, not allowed to challenge the film's trajectory. Then the film will venture into the exclusion zone surrounding the now defunct but highly dangerous plant in order to capture the abandoned buildings and the remnants of lives once lived. Dosimeters will beep sporadically as they pick up radioactivity embedded into the landscape. The film might include images of people with cancer or children with birth defects to underscore the seriousness of the catastrophe, but it is a seriousness that is often undercut by the reminder that 'only' fifty-one people died (maybe thirty-one, maybe some number in between).

Kate Brown offers a scathing assessment of these kinds of documentaries, which are often shown on television and are available for free on major video sites such as YouTube and Vimeo. She, too, comments upon the similarities of their plots in the following summary:

> The clock counts down the seconds, as operators in the control room make decisions that can never be undone. Piercing alarms give way to the persistently creepy ticking of radiation meters. The focus turns to broad-shouldered, Slavic-handsome men who are gruffly unconcerned about their well-being. In front of the smoldering reactor, they smoke cigarettes, crush them out, and get on with the job of saving the world from this new, radioactive protagonist. The drama then shifts to hospital wards where the same men have been reduced to skeletons of rotting flesh. Just when you have had enough of blackened skin and intestinal damage, the narrator comes out with a just-kidding moment, asserting that commentators have long exaggerated the Chernobyl accident. (2)

William Guynn, in *Writing History in Film*, is also rather critical of this kind of documentary, describing it as old-fashioned: "The ubiquitous voice-over commentary characteristic of the classic documentary strikes us as dated in the wake of the transformation of documentary methods known as direct cinema. However, it is surprisingly alive today in run-of-the-mill historical documentaries, as tuning into the History Channel quickly demonstrates" (Guynn 144). While *The Battle of Chernobyl* might not present anything particularly groundbreaking in terms of its representation, its attempts to draw attention to some of the censorship and secrecy imposed by the Soviet state are notable. Supposedly "based on newly discovered confidential

documents found in the 1990s," the film juxtaposes images of Chernobyl's obvious catastrophic proportions with the efforts undertaken by the Soviet authorities to "contain" the spread of information. The film is also notable for its extensive use of old footage, which ostensibly lends a significant amount of credibility and authority to reality presented. However, in the film, the fragments of footage sutured together by testimony from experts and survivors are illusory, because the images can only stand-in as an approximation for what is being said.

Stella Bruzzi would describe this as an example of the "didactic, formal aspect" of documentary. She writes, "In this the visual material performs a corroborative, illustrative function within what is effectively a documentary lecture", one in which "the images are contexualised and explained even as they appear, and their viewing, whilst enhancing our assimilation of the events under discussion, does not promote debate or argument" (32-3). She draws on comments made by Paul Arthur, who "sheds doubt upon the entire enterprise of using archive footage within a documentary context." He is concerned that the inherent disparity of word and image in these contexts

> raises the spectre of...partiality. Documentarists who would never dream of restaging an event with actors do not hesitate in creating collages that amount to metaphoric fabrications of reality. The guarantees of authenticity ostensibly secured by archival footage are largely a myth. (qtd. in Bruzzi 34).

Bruzzi continues, proposing that this "dissonance" implies a kind of ease and interchangeability to the dissemination of Chernobyl's memory. This inevitably imbues the memory with a "mythic quality" that is "imposed rather than innate" (34). Documentaries such as *The Battle of Chernobyl* are circulated through popular media channels such as television and therefore, reach large audiences. Since many people encounter history in this manner, it is imperative that these kinds of documentaries acknowledge their responsibility to not only reflect on their construction, but also allow the viewer to as well:

> Since contemporary popular media shape popular memory, and thus knowledge of past struggles, popular film and television are implicated in the dynamics of history making. Foucault teaches us that it is not only important to be critical of how the total story of history is told (how the past informs the present), but also how the present reads the past (how the media construct "history" as a category of popular memory. (Hanke 62)

The arch of knowledge disclosed by this revealing of information coupled with striking images imparts a compelling and revealing narrative trajectory. Such a narrative is often necessary to distill the overwhelming nature of an event like Chernobyl into pertinent and digestible tracts of information. However, such an approach inevitably glosses over complexities, dramatizes certain moments, and attempts to make meaning out of fragments of the disorder that characterized the Soviet state's handling of and peoples' experience of this disaster. Jeffrey Skoller observes that narratives "are created to give a sense of coherence or a rationale that helps explain why events occur in the ways they do. Notions of inevitability, predictability, and causality are central to such conventions and become binding agents that seem to cement fragments of events into seamless, whole stories that satisfy our apparent need for closure" (Skoller 39). This closure then imparts a certain pleasure of knowledge and its mastery upon the viewer who has consumed the spectacle of images collected in a documentary. Cowie explains that the selection, ordering, and presentation of images in documentary film present reality as understandable: "The particular knowledge of a documentary film confirms the knowableness of the world in general. What is conjoined is the pleasure that Freud called "scopophilia," or the satisfaction of the wish to see and that, as curiosity, is closely associated with the wish to know, or "epistephilia," with an identification as the subject of knowledge" (13). What we see structures what we know, but as soon will become clear, the relationship between seeing and knowing is fraught with complexity, particularly because any visual representation of Chernobyl then presumes to know and understand what happened.

The sense of understanding created by many Chernobyl documentaries implies a certain finality that the disaster, as a traumatic event, does not offer. Although, Kate Brown points out that the kinds of closed "made-for-TV narratives" do give the viewer closure with their "soothing qualities":

> The scary features of nuclear accidents disappear, so too the questions they raise. These narratives draw you in for the high-tech, human drama, while leaving you feeling hopeful about the future and (most importantly) grateful it didn't happen to you. By focusing on the seconds before the blasts and then on the safely contained radioactive remnants in the sarcophagus, most histories of Chernobyl eclipse the accident itself. (2)

Chernobyl represents a traumatic event for those who lived through and continue to live with the consequences of the disaster. For those who have experienced the initial disaster, subsequent relocations, and devastating health effects, there can be no closure. Nikolai Kalugin remembers his experience of Chernobyl: "I want to bear witness…It happened ten years ago, and it happens to me again every day…I'm not a writer. I won't be able to describe it. My mind is not enough to understand it. And neither is my university degree" (Alexievich 31). His testimony is part of an oral history project of Chernobyl collected by Belarusian journalist and writer Svetlana Alexievich, who published the stories of survivors and those whose lives have been influenced by the disaster, in a book, *Voices from Chernobyl: An Oral History of a Nuclear Disaster*. Such testimonies offer deeper insight into the aftermath of the catastrophe, insight that sheds light onto Chernobyl's real consequences in a way that many other documents simply do not adequately convey. One such testimony is from Yevgeniy Brovkin, an instructor at Gomel State University in Belarus, the country that received the majority of Chernobyl's radioactive fallout. He repeats a similar sentiment to Kalugin's, about the inability to fully comprehend what happened:

> I've wondered why everyone was silent about Chernobyl, why our writers weren't writing much about it – they write about the war, or the camps, but here they're silent. Why? Do you think it's an accident? If we'd beaten Chernobyl, people

> would talk about it and write about it more. Or if we'd understood Chernobyl. But we don't know how to capture any meaning from it. We're not capable of it. We can't place it in our human experience or our human time-frame. (Alexievich 86)

Sentiments such as these stress many of the fundamental questions we must ask about Chernobyl in film, while simultaneously pointing to an often-neglected part of Chernobyl representations - the people who experienced the disaster. Alexievich's book, quoted throughout this dissertation, acts as a stand-in for film-recorded testimony, and even though the writing imitates the nuances of each speakers particular 'voice,' it must be acknowledged that print is a different medium than film, because at the core of this chapter is the insistence on recording the experiences of survivors and victims on film in order to capture the visual and oral components of each individual's experiences. Anne Rutherford, in her article, "Film, Trauma and the Enunciative Present," maintains that a detailed account of an event is communicable, but not shareable; it is not a substitute for an experience: "No amount of detail can lead someone to an understanding of something that is totally outside the range of anything they have ever experienced. This demands an acknowledgement of what cannot be said – of the gaps, elisions and impossibilities of speech, the partial nature of it" (85). With this statement, Rutherford is making a case for unfiltered, unedited testimony of those who witnessed a traumatic event, because language itself is not wholly capable of alluding to the incomprehensible nature of trauma. It is the silences, the facial expressions, the mannerisms that 'speak' to something outside of what is being said, something more powerful and ominous: "The gulf between the spoken word and the embodied memory has a palpable presence here. The affective contagion that passes across that gap and across the screen to the viewer happens not through the words but through the silences that inhabit them and through the verbal registers of voice, eye and gesture" (Rutherford 88).

From reading the oral history recorded in Alexievich's book, it becomes clear how challenging it is for survivors to come to terms with and articulate what happened. Here, Alexievich's work accomplishes a documenting of its own, not through the accumulation of objective fact or the piecing together of a chronology, but in the disqualified knowledges of lived experience and bodily memory that challenges the official narrative of heroic containment. Such is Alexievich's mission: "I reduce the great and grand to human scale. I am a historian of the soul. For me, feelings are also documents" (Alexievich, *In Search of the Free Individual*, 6). The inclusion of Alexievich's work here provides another opportunity to interrogate the use of documentary sources. *Voices from Chernobyl* is categorized as a work of documentary literature or a collection of oral history, a designation that imparts upon the material a measure of authority as testimony. In actuality, the work occupies a "stylistic liminality between oral history and literature" (Karpusheva 259) and is not based in strict fieldwork practices. Anna Karpusheva notes that Alexievich does insert herself into the work and does not maintain an impartial role in the editing of interviews: "To achieve a smooth flow of her narrative, Aleksievich stylizes testimonies by removing the question-answer format of the interview and removing the imperfections of oral speech" (264). Additionally, Alexievich's influence can be detected in the selection of which fragments are included in the collection, their arrangement, and ultimately, the narrative that such editing produces. It is also worth noting that the work of translating the collection introduces a further editorial element. For example, the Russian original includes an author's interview detailing Alexievich's position, whereas the English does not. There is a tendency in the West to treat these as somehow as somehow wholly documentary, without acknowledging Alexievich's role and intentions. Just as the filmmaker presents their own vision of Chernobyl, so too is Alexievich in *Voices from Chernobyl*.

Nevertheless, as the most accessible and widely published collection of Chernobyl oral history, Alexievich's work is valuable as a source of knowledge about the disaster. Despite the editing, the collection as a whole accomplishes several aims, as pointed out by Karpusheva, who analyzes the collection as a Slavic death lament:

> First, it provides us with insider emotional knowledge, the knowledge of personal experience, which is so prominent in Holocaust literature, for example, but had not been available for Chornobyl', in a global context, before. Second, it helps Chornobyl' survivors release emotional tension and move towards healing. Third, it moves those spared by the catastrophe to sympathy and urges them to be more responsive to the needs of Chornobyl' survivors. (262)

In this sense, the memories recorded by Alexievich are part of Chernobyl's radioactive memory and speak to the disaster's multi-dimensional trauma. In my own work, they provide representation for the Belarusian experiences of the disaster, which are important considering the disproportionate burden of radioactive fallout on Belarus in particular. Alexievich, who was born in Ukraine but raised in Belarus, is also a witness to the disaster, and the literary nature of her work allows her to bring out the cultural dimensions of the disaster along with her own personal conceptions of the disaster as an environmental and apocalyptic catastrophe. Alexievich does this well, creating something of a Greek chorus of voices attesting to the collective traumas of Chernobyl. She charts the disaster's emotional depths as well as the silences of its disruptive fissures. In some ways, trauma accounts for the silence on the part of survivors about their experience, for it is the remembrance of the event that triggers the traumatic event. This silence is accompanied by a noticeable lack of narrative films, literature, and cultural material that directly engages with Chernobyl in the two countries most affected by it. Nikolai Zharkov, a teacher, during an interview with Alexievich, echoes the sentiment expressed by Brovkin: "We're often silent. We don't yell and we don't complain. We're patient, as always. Because we don't have the words yet. We're afraid to talk about it. We don't know how. It's not an ordinary

experience, and the questions it raises are not ordinary" (Alexievich 122). Embedded in this testimony is the notion that there is no one to listen to them, no one who will understand. That gap between survivors and 'everyone else' needs to be traversed, which means that there needs to be a public space for testimony as a way of illuminating what is being forgotten in current public discourse. Not every person's experience of Chernobyl is the same, not everyone reacted in the same way, and not everyone remembers what happened. Each person represents one truth out of many, with no one truth more important than any other, but it is the multiplicity of truths that ensure that Chernobyl is remembered. However, *Voices from Chernobyl* is a reminder of the need to interrogate the label of 'documentary' and its associations with truth.

According to the conventions of trauma studies, as a traumatic event, Chernobyl lies outside memory and history, and as such, is unrepresentable, something that words and images fail to encapsulate, even as we try to make sense of what happened and ascertain some kind of meaning from this disaster. Trauma prevents its own registration as such, because traumatic experience is an event without witness, one that collapses all understanding. The force of the trauma is too overwhelming to be assimilated in that moment but only belatedly through its excessive return into the present. Dori Laub, a trained psychoanalyst and scholar of trauma, writes: "Trauma survivors live not with memories of the past, but with an event that could not and did not proceed through to its completion, has no ending, attained no closure, and therefore, as far as its survivors are concerned, continues into the present and is current in every respect" (Felman, Laub 69). The problem with some documentaries is that they seem to offer closure prematurely. This allows the presumed finality of an event to dominate our telling of what happened, making it easier to ignore the actuality of Chernobyl as we consume knowledge of the event that we will only quickly forget. It is important to respect the trauma caused by Chernobyl,

to “honor the awful pain and complexity of victim/survivor experience, so those experiences and memories can be protected from further harm” but “when traumatic experience becomes equated solely with the “unrepresentable,” then this respect for victims/survivors transforms, paradoxically, into a silencing of both experience and representation” (Lowenstein 4-5). Part of the dilemma of representation then is how to represent what is difficult to represent.

The claims of mastery that the documentary has over Chernobyl are misleading, not that this is a completely unexpected assessment. As mentioned earlier, we formulate narratives in order to make meaning of the randomness and chaos that define our experiences and render them, as Skoller maintains, “culturally and temporally specific” (xxii). Skoller goes on to explain that fiction and history use similar narrative conventions to convey meaning, which lends itself to the construction of an autonomous authenticity: “Both serve to make the narrative structures of events appear to be natural and objective. If the narrative modes of representation seem so natural to human consciousness, these emplotted narratives become transparent, and their true ideological nature becomes less visible and is more indicative of present perceptions than of the actuality of past events” (xxii). Of course, documentary film is valuable, but the real problem arises when we forget to scrutinize documentaries with the same critical eye that we analyze fiction. Because the documentary form can claim a level of objectivity in its aesthetic, we are less likely to question the constructed nature of the knowledge it purports to impart. Chernobyl documentaries are no different in that they seem to portray the event as an isolated incident, disconnected spatially and temporally from our own reality, which in turn subsume the complexities of this disaster under a totalizing narrative that claims to speak for the actual lived and multivalent experiences of those who suffered and continue to suffer from Chernobyl’s consequences. More will be said about the significance of the lived and varied experiences of

Chernobyl survivors in subsequent parts of this examination, but for now it is necessary to look more closely at the types of images of Chernobyl encountered in documentary film.

The Visual Tropes of Chernobyl

When most people think about Chernobyl, they think about the abandoned city of Pripyat and the smaller empty villages that make up the thirty-kilometer zone of exclusion around the nuclear power plant. Undoubtedly, in lieu of archival footage and often, archival documentation of any sort, the crumbling streets, overgrown gardens, decaying buildings, and the remnants of what was purported to be a city of the future, offer the most compelling evidence of what happened. The amount of photographic documentation of abandoned Pripyat has given way to a Chernobyl visual lexicon of sorts that centers around recognizable landmarks, the hotel "Ukraine," the amusement park, the empty swimming pools, the elementary school – all indicative of a bustling, active cultural and social life not unlike our own. Tourists to the Zone pose in front of the decaying buildings and frame shots of the detritus left behind. Their photographs begin to look similar, likely because most tourists will find themselves on a similar tour of the Zone, as discussed in Chapter 2. Tourist photographs disseminated on the Internet create a "repetitive sequencing…[that] forms a context of visual grammar and environment/person relationship" (Goatcher and Brunsden 125). Jeff Goatcher and Viv Brunsden, in "Chernobyl and the Sublime Tourist," detect a positive consequence of the visual lexicon of Chernobyl photography in that images of the Zone "can link us back to what has disappeared from view and grasp, and what has become unknown" (129). Viewers of these photographs can share in that experience "of being in an odd landscape, where the familiar is rendered unfamiliar, where unattended everyday experiences of walking down streets, into

shops, or school rooms become noticed, remarkable" (125). The photographs can represent the anxiety of nuclear power and technology. However, photographs of the abandoned city can also render other elements of life in the Zone invisible, too. Most photographs do not show the settlers who still call the abandoned villages in the Zone home, nor do they show just how many tourists are actually stalking the background of these photos. They show our anxiety as outsiders entering this 'forbidden' space, and our foreboding about nuclear power, but they cannot adequately account for the anxiety of bodily vulnerability and psychological trauma of those most acutely affected by Chernobyl.

We are undoubtedly fascinated by this place and its post-apocalyptic landscape that has become one of the 'modern ruins' of our time. Adrian Musto's amateur documentary *Inside Chernobyl* is a 37-minute film consisting almost entirely of footage of the abandoned city as it stands today. The film was made with no budget, which of course greatly limits access to archival footage, documents, and experts, but Musto takes advantage of the wide range of public video of foreign newscasts and photographs available to frame his narrative. Most of his images are devoid of background narration, except for when his guide Nikolai points out the hotspots with the alarm of his dosimeter. Musto's documentary might stray slightly from what is considered a conventional documentary, at least in terms of structure, but *Inside Chernobyl* still confirms the same narrative of *Battle of Chernobyl*, specifically that there was a terrible accident here, a nuclear catastrophe was contained, and the empty city stands as testimony to that tragedy: there was a start, and there was a finish. Yet, the documentary takes one of the most conventional visual tropes of Chernobyl representation to an extreme. Taking only the images presented, one would believe that the city of Pripyat and the surrounding villages are entirely abandoned, that the zone is devoid of human life, which is not entirely true. This myth of the abandoned city is

pervasive in photography and so-called Chernobyl ruin porn in which the guards, plant workers, and other tourists are cropped out of the frames of carefully choreographed photographs. Not only do several hundred workers attend to the various needs of the zone, but thousands of tourists visit the zone each year, not to mention the few hundred senior residents that inhabit the villages of the zone. Additionally, the extent of the decay within Chernobyl today was not caused by the passing of time, but looters and tourists who damage the buildings and remove items. Musto's documentary does not present any new information about the event, but it provides us with an example of just how heavily filmmakers, both amateur and professional, rely on the city's modern ruins to tell the story of this tragedy.

Modern ruins, in contrast to ancient ruins, are "often fast ruins, sometimes *too* fast," which can be unsettling (Olsen 6). Despite a burgeoning curiosity both within and outside of academia, the fascination with these kinds of ruins is still a fringe phenomenon. As Bjornar Olsen and Thora Petrusdottir in their volume, *Ruin Memories: Materialities, Aesthetics and the Archaeology of the Recent Past*, maintain that modern ruins are considered disturbing because of their embodiment of the process of decay. Ancient ruins are "clean, fossilized, and terminated," while modern ruins, in their "active process of withering and decay," are conspicuous in their opposition to classification and provocation of our notions of time and progress (7). The ruins of Pripyat are unsettling, eerie, haunting, even disturbing, but they are also important precisely because they are imbued with certain unease and uncanny ability to disrupt, reveal, provoke new memories, and reveal alternatives. There is constructive potential to modern ruins, but that potential must be coupled with a very real awareness of the reality underlying their existence. Without that awareness, these places are reduced to 'ruin porn.' The supposed origins of the term come from an interview with James Griffioen in *Vice* magazine, according to Tanya

Whitehouse's account of the various attitudes towards ruins in her book *How Ruins Acquire Aesthetic Value: Modern Ruins, Ruin Porn, and the Ruin Tradition* (54). The term has come to describe the pleasure viewers get from the aesthetics of decay and abandonment encapsulated by modern ruins. The issue here is that much of that ruin and decay is not the result of a natural process, but because of opportunistic intruders, curious tourists, and intrepid photographers. Further human activity has contributed to the degradation of the site, raising questions about its precarious status and the need for preservation. Similarly, the memory of the disaster has also been affected by the workings of mankind and bears the imprint of efforts to contain and control the disaster's overarching narrative.

Kate Brown, in *Dispatches from Dystopia: Histories of Places Not Yet Forgotten*, underscores the instability embodied by the Zone in the context of our memory of the disaster. It "becomes a metaphor...about the links between power and the production of knowledge, and what occurs to "truth" when we no longer know how to authenticate it or when we falter in finding a voice to represent it. It is a disorderly, dangerous terrain, this metaphorical zone" (55). The Zone, as a space of discarded items and uninhabited homes, visualizes the material impacts of the socio-historical process. The idea of process is important here, because the Zone is constantly changing as the result of time and the intrusion of visitors, who come to the Zone in order to remember and learn about the disaster, but consequently end up contributing to its further destruction. They capture the Zone in photographs and video but are only capturing the Zone as it is in the moment of filming, which does not allow for deep engagement with the processes that constitute the Zone's status in Chernobyl's memory. The Zone is vulnerable to this intrusion, which inevitably leads us further away from not only any 'truth' but also the full reality of the disaster. Brown, in reflecting on history and truth in her quest to capture the "tragic

and forgotten history" of Chernobyl, she contemplates the untenability attached to the evidence and artifacts to be found there:

> Yet it became starkly obvious that Elena's menage a trois of truth, history, and representation became distorted precisely because the Zone was largely depopulated and uncared for. Truth disintegrates when the people disappear and the objects that sustain it (architecture, documents, photographs, household implements) fall apart. (54)

The "Elena" she refers to is a photographer whose photographs of the Exclusion Zone circulated on her website called *Kiddofspeed*. She had access through a special permit to the Zone because her father was a former scientist at the plant, and she would ride her motorcycle through the Zone, snapping pictures, narrating what she saw as a "witness giving testimony to the destruction of her native land" (40). However, Elena was just a persona; her photographs were just scanned photos taken from books, accompanied by a made-up narrative. Her website had millions of views, but it was entirely fake. The narrative of Elena's site misrepresented the Zone, eliding crucial nuances in the same way that documentaries often do. Part of this elision concerns the erasure of the processes that are constantly at work in this space, the ones involving the people who still live there, the workers who maintain the power plant, and the tourists, fishermen and hunters, and guards who live and work there. Yet, these realities are not useful to the narrative of total abandonment and nightmarish mythos that has encompassed the Zone, as Brown laments:

> If an item is considered no longer valuable, or perhaps embarrassing, it may be tossed. It's true: a lot is discarded. The vast majority of the past is lost to historical research, to history. Most of what is jettisoned is the stories of humble lives lived in marginal, unimportant backwaters such as Chernobyl before it was radiated into infamy. (47)

She marvels at the ease with which one can manipulate the history of Chernobyl, and of all history, but also how the act of producing History is selective and discriminatory. The Zone,

uninhabited and unprotected, is marked by "conflicting truths of historical representation," leaving it vulnerable to forgery and revision:

> There were no curators to verify the date and ownership of objects, no archivists to authenticate documents and keep collections together (or, at least, to give them the appearance of collections). There was no one to prevent me from randomly picking rain-washed documents up from the floor, blowing off the dust, and, after Rimma checked them for radiation, stashing them in my bag to take home. (55)

In drawing this metaphor, Brown advocates for evaluating images and the narratives they construct, critically. Chernobyl's past is malleable because so much of it is unclaimed and contested, and therefore, open to interpretation, which, while not entirely negative, has the potential to distort and misrepresent.

Modern ruins are valuable precisely for their ability to embody alternative pasts and geographies. Olsen and Petursdottir offer the following analogy:

> Quite literally of course, experiencing an inhabited and well-kept building may not reveal much about the way it actually works, the diversity of materials and technologies that are mobilized to construct and operate it. If not cunningly hidden by design and architectural form, these materials and implements themselves are often absorbed by their tasks, and thus disappear into usefulness and ready-to-hand chains of relations. Abandonment, decay, and ruination bring these relations to a halt; they disrupt the routine and disclose things in their own unruly fashion, released from human censorship and order. (11)

Just as a well-kept building conceals its construction beneath a façade of architectural aesthetic, so does a city conceal its mechanisms behind ideology and culture, and it is the decay and ruination that reveal the inconsistencies and fissures that actually exist beyond our immediate awareness. The material pasts contained within our modern ruins reveal alternative or marginalized pasts, "discarded and supposedly abandoned ones, pasts that may have ceased to be useful but which have not ceased *to be*. Despite their redundancy, these stranded pasts persist and continue to act their difference and involuntary remembering, and thus also to counter the articulated efforts to rise above them" (12). While the Russian grammar notebooks, dusty toys,

and worn-out shoes might not be useful on any material basis, their prevalence among the ruins of Chernobyl is certainly evocative of the thousands of lives lived, both individually and as a community. But perhaps, again, in deference to the reality of Chernobyl's ruins, there is another complimentary approach to revealing alternative and marginalized pasts. Rather than ruminate on the empty city and surrounding villages, would it not be beneficial to seek out the carriers of the very memories and pasts that are directly attached to the ruins? The stalkers remind us that Chernobyl is a largely lived history that is simultaneously inseparable but also not confined to that space.

Although there is no current plan to demolish Pripyat, since the city has become a museum and tourist attraction, this place is destined to disappear. It is illegal to remove books, dolls, furniture, and other artifacts from the exclusion zone, though people do try, because of latent radioactivity, so these remnants will never be cataloged for display in a museum. The vegetation and wildlife, thriving despite radioactivity (though some might say *because of* the radioactivity which keeps humans out), and are quickly overtaking the man-made buildings, compromising the structural integrity of the city. The only evidence that will remain in a hundred years is the power plant cocooned in its sarcophagus out of necessity due to the lifespan of the radioactive sludge still buried in the reactor's basement. Consequently, photographs and video footage of this industrial space are imperative not only to the memory of the disaster, but also in terms of conveying the lingering danger of radiation. As recorded in *Voices from Chernobyl*, Zinaida Kovalenko, a Chernobyl survivor remembers: "The first time they told us we had radiation, we thought: It's a sort of sickness, and whoever gets it dies right away. No, no, they said, it's this thing that lies on the ground, and gets into the ground, but you can't see it. Animals might be able to see it and hear it, but people can't" (Alexievich 26). In another of Alexievich's

interviews, Anna Badaeva's skepticism about the radioactive threat is revealed when she asks, "What's it like, radiation? Maybe they show it in the movies? Have you seen it? It is white, or what? […] I don't think there was any Chernobyl, they made it up. They tricked people" (Alexievich 52). As she thinks about it, however, she remembers noticing how the bugs – wasps, bees, May bugs - disappeared for years after the accident, how every house in the village had someone who died, and how you could not eat mushrooms and berries in the woods – that is what radiation looks like. Peter Van Wyck indicates that part of the horror of Chernobyl is the radiation which defies attempts of the human body at detection, which makes it difficult to communicate its threat, because "we just don't expect to be injured that way. If we're hurt, we expect to know it, and to know why; the right to own one's pain" (Wyck 82,3). As he explains in *Signs of Danger: Waste, Trauma, and Nuclear Threat*, radiation renders our senses "useless and vestigial in the face of threats that cannot be seen, heard, smelled, tasted, or touched," which leaves us reliant on other means of detection: "There is nothing there, nothing to be seen, leaving us dependent on others (often the same others, that is, the same institutions that produced the threats) to determine the appropriate means (instrumentation) with which to represent it back to us and for us" (Wyck 82,3). Similarly, documentaries must also confront this issue of representation in communicating the reality of threat to audiences.

Rendering the invisible visible is necessary to any representation of Chernobyl in order to communicate the very real danger still present in and around the nucleus of the accident. Since radiation is imperceptible, individuals' experience of it is mediated through maps of irradiated areas, monitoring equipment, and narratives, but also in the material evidence left behind. Olga Kuchinskaya's book *The Politics of Invisibility* explores the ways in which people's mediated experiences of Chernobyl contribute to making Chernobyl's health effects both visible and

invisible. Radiation monitoring equipment, scientific data, medical databases, the media, state institutions, and international experts have disseminated conflicting interpretations of the catastrophe's consequences for Belarus. Consequently, conflicting interpretations made the serious health effects more invisible to those most at risk: “The imperceptibility of radiation means not only that the contaminated environment and food look exactly like uncontaminated ones but also that there might be no readily available categories to help the affected communities observe and make sense of the situation” (Kuchinskaya 20). She locates this production of invisibility among a network of disparate power relations between interest groups and institutions who have a stake in the visibility of this disaster. In the days after the initial explosion, the heads of the Soviet state had a vested interest in keeping the true nature of the accident hidden from the general population and even the rest of the world. Fortunately, once western European nuclear monitoring institutions detected an increased amount of radiation in the atmosphere, the Soviet Union could not deny that a serious nuclear accident had occurred. Unfortunately, they were largely successful in concealing the details of the true extent of the damage from its citizens. In *Voices from Chernobyl*, Yevgeniy Brovkin reports that city leaders were quick in carrying out orders to keep the public unaware of the danger: “Here’s what I remember. In the first days after the accident, all the books at the library about radiation, about Hiroshima and Nagasaki, even about X-rays, disappeared” (Alexievich 85). Lyudmila Polenkaya, a former village teacher who was evacuated, whom Alexievich also interviewed, reiterates something similar: “In the first days, there were mixed feelings. I remember two: fear and insult. Everything had happened and there was no information: the government was silent, the doctors were silent…We turned out to be defenseless” (181).

Liquidators, charged with cleaning up the radioactive debris, were made to sign non-disclosure forms that barred them from speaking about the extent of the cleanup and the reports of radiation-induced sickness. Helicopter pilots, firemen, miners, and soldiers were never told that they were receiving fatal doses of radiation. The town of Pripyat was not even fully evacuated until several days after the radiation began spewing out of the exposed reactor. Kiev, to the south of the reactor, never evacuated but continued on with May Day festivities: "The newsreels of the May holiday did not record the actions of two and a half million lungs, inhaling and exhaling, working like a giant organic filter. Half of the radioactive substances Kyivans inhaled their bodies retained" (Brown 10). Children were not given the potassium iodine that might have saved them many years of illness later on in life. Consulting scientists and engineers who were monitoring the site were not allowed to talk about what they saw, and the press was only allowed to film heroic scenes of cleanup to bolster the official narrative of victory against the atom. In *Voices from Chernobyl*, Sergei Gurin, a cameraman, was allowed to film inside the Zone, but he describes how he was only allowed to shoot the "heroes" of the cleanup. Even though he collected many kinds of footage, no one wanted to see any of it, and it is that footage that still haunts him: "I have this big, long film in my memory, the one I didn't make. It's got many episodes. [Silent.] We're all peddlers of the apocalypse" (Alexievich 112). If workers did have dosimeters, they often malfunctioned or were not even able to pick up the extremely high doses of radiation in the area. From the same collection, Sergei Sobolev, deputy head of the Executive Committee of the Shield of Chernobyl Association explains why there is so little photographic and film footage available from the months following the explosion. He urges Alexievich to take a look at the small bits of footage his association did manage to track down:

> It's not a chronicle of Chernobyl, no, they wouldn't let anyone film that, it was forbidden. If anyone did manage to record any of it, the authorities immediately

> took the film and returned it ruined. We don't have a chronicle of how they evacuated people, how they moved out the livestock. They didn't allow anyone to film the tragedy, only the heroics. There are some Chernobyl photo albums now, but how many video and photo cameras were broken! People were dragged through the bureaucracy. It required a lot of courage to tell the truth about Chernobyl. It still does, believe me! (134)

Even today, parts of the Chernobyl record are classified, if they even existed at all, and many former Soviet states are reluctant to open up a public dialogue beyond annual public commemorations of remembrance and heroism. The lack of record-keeping as to worker activity and environmental radiation levels has only made it more difficult for citizens to link their health problems to Chernobyl, leaving them economically and socially vulnerable and unable to claim adequate benefits from the state.

However, the primary position that images of the abandoned city hold in documenting Chernobyl also has some troubling implications. The Zone and its empty streets and abandoned apartment buildings conjure up the ghosts of the former city. It is easy to forget that a very large portion of the former population of Pripyat and its surrounding villages are still alive. Deprived of this human element, images of the abandoned landscape are at risk of becoming a meditation on ruin itself rather than on the actual tragedy. Indeed, the real tragedy is that the danger and consequences of Chernobyl persist to this day and continue to affect the lives of people living in Ukraine, southern Russian and Belarus. Yet because most documentaries place such a premium on the desolation of the exclusion zone, they contribute to a narrative of inevitability that juxtaposes short snippets of archival footage – rare bits of home video or news footage of workers – with an empty city. The artifacts left behind fill in the gap, but while they might hint at a former existence, they do not ultimately resurrect the personal experiences of the city's inhabitants. Now to return briefly back to Mindadze's film. *Innocent Saturday* is decidedly not a film about the disaster itself, but about the people who experienced it. While the film's

characters and their reactions to the accident do not presume to replicate precisely what really happened, the picture it portrays of the period immediately after the event is not inaccurate. Western audiences report being frustrated that no one in the film ran away, but the indifference, quiet hysteria, and skepticism of Mindadze's characters more closely resemble reactions throughout the city. They did not run away; they did not know to run away. In *Voices from Chernobyl*, Katya, who was a child when the reactor exploded recalls riding around the city on bikes with her friends: "That day a neighbor was sitting on the balcony, watching the fire through binoculars. Whereas we – the girls and boys – we raced to the station on our bikes, and those who didn't have bikes were jealous. No one yelled at us not to go. No one! Not our parents, not our teachers...People were used to military dangers: an explosion over here, an explosion over there" (Alexievich 101). Life continued; of course, people suspected something was wrong as the days passed and the army moved into the city, but life continued on for three days in some villages before a full-scale evacuation took place. Nadezhda Vygovskaya was evacuated from Pripyat, and she remembers waking up the night after the explosion and knowing instinctively that something had changed, but she did not panic, because she did not fully understand what was happening. She says, "At eight in the morning there were already military people on the streets in gas masks. When we saw them on the streets, with all the military vehicles, we didn't grow frightened – on the contrary, it calmed us. The army is here, everything will be fine" (Alexievich 152). Reading the accounts of people who experienced the disaster firsthand offers insight that is often lost from the documentary record, a fact that is reflective of the general treatment of Chernobyl as a whole.

Documentary Absences

Adriana Petryna's book, *Life Exposed: Biological Citizens after Chernobyl*, confirms that science, too, has adopted a noticeably non-peopled approach in its study of Chernobyl over the past three decades. The lack of accurate and prolonged monitoring of Chernobyl survivors and their children has greatly skewed the medical data now available about the accident. This is in direct contrast to the "breathless array of divergent (affirmative, negative, inconclusive) data on how plants, mammals, and amphibians negotiate" the environmental changes caused by Chernobyl (xx). Consequently, we do not quite know how survivors actually survived. Thirty-five years after the accident, and yet there is no comprehensive study about the long-term effects of radiation on the human body:

> The research networks required to translate Chernobyl survivors' reconstructed doses into an internationally recognized gold standard of clinical data have all but disintegrated. Populations affected by Chernobyl have by and large become vestiges of larger – and mostly unsystematized – bodies of fragmented studies. The heterogeneous facts of living that make up their stories of death and recovery have nowhere to live under dominant systems of knowledge. How they survived has become an inexplicable fluke. (Petryna xiv)

This means that workers and evacuees have largely existed in a medical and scientific void since the accident. We do not know how their health has fared, the kinds of medical care they require, how long they lived or will live, or what kinds of illnesses are directly linked to radiation exposure. Partial data can be found in fragmented and isolated studies, but without a concerted effort to analyze this data as a whole, victims of this tragedy have become lost to the epidemiological record. Petryna calls for researchers to "systematically link together individuals' reconstructed histories of exposure and their clinical profiles in order to craft an internationally recognized body of information about Chernobyl's consequences" (Petryna xix).

As of now, the medical data greatly misrepresents the health effects of the disaster by underestimating the amount of radiation related health problems among the general population. One study might look at the prevalence of a certain type of cancer in a community only to find that the cancer rate was not significantly higher than national averages. Yet that same study does not take into account the different types of cancers, or the increase in problems related to a weakened immune system, or the increased number of people who report feeling bone pain, headaches, mental illness, general fatigue, and any number of seemingly innocuous symptoms. In talking with local doctors and survivors of Chernobyl, Petryna quickly realized that the different kinds of medical data available paint two competing stories of Chernobyl:

> One maintains that "nothing happened here. Nothing happened here…and nothing is going to happen here," to quote a key medical response leader. *Life Exposed* holds that something *did* happen here, inside the choreography of Chernobyl containment, and that the larger human dimension of what happened is of paramount significance and should remain firmly fixed at the center of scientific inquiry. (Petryna xix)

Officially, less than fifty people have died because of Chernobyl, all of which occurred in the immediate aftermath of the explosion. Such a number closes off the disaster and its effects from further study, compromising the health of both survivors and future generations. Considering how much radiation the damaged reactor emitted and its geographical scope, it is ridiculous to think that only fifty people have died from this disaster. A study published by the CSIS Energy and National Security Program, a bipartisan, nonprofit public policy institution, entitled "Chernobyl and Its Aftermath: A Chronology of Events" reports: "Some 135,000 people were evacuated from the areas immediately adjacent to Chernobyl. Perhaps as many as another 500,000 were temporarily evacuated. In all 17 million people, including 2.5 million children under five years of age, were exposed to radiation contamination to a greater or lesser degree" (Ebel 2). These numbers, and the fact that they cannot be confirmed, should make it even more

essential to track these people down and monitor their health, but larger, more powerful forces are constantly competing with advocacy efforts. Ultimately, the politics of a flawed science and corrupt state apparatus won the "right to establish the terms on which the meaning and scope of the Chernobyl disaster could be determined" (Petryna xvi). Somehow, the people who should be important to the accumulated knowledge about Chernobyl have become marginalized. And unfortunately, this is not an outcome confined to nuclear disaster. In "Towards a Natural History of the Cinema: Walter Benjamin, Film and Catastrophe," Allen Meek charts some of the political realities of natural catastrophes, which can cause all kinds of violent displacements. He refers, in particular, to disasters such as earthquakes or tsunamis, which collapses geographic boundaries, just as a nuclear disaster does. Meek writes that these kinds of events throw survivors "out of historical time for as long as it takes for institutions, services, and public discourses to revive and reconstruct social identity" (Meek 150). After Chernobyl, survivors experienced a similar displacement, not only in the need to rely on institutions and authorities, those vested with power, to alert them of radiation dangers, but also after the disaster, in waiting for those same institutions and authorities to re-situate survivors, leaving them even more vulnerable. In the face of catastrophe,

> survivors are left open to interventions by health specialists, aid workers, insurance companies, and various agents of urban planning, development, demolition and construction. The task facing cultural criticism is to grasp how the natural overcoming of political borders and territories can expose the structures that include and exclude human populations on the basis of citizenship and that define the limits of political agency. (Meek 150)

These are the kinds of dynamics that are missing from documentary films about Chernobyl, because they are difficult to make visible, particularly when viewers really want to see images of abandoned Pripyat and the destroyed reactor.

The non-peopled approach of the medical and scientific community to this disaster as outlined by Petryna might not seem so obvious upon closer examination of Chernobyl documentaries and photography. There are countless images of sick bodies to testify to the serious health consequences connected to the disaster: children in the hospital after having their thyroids removed, bald patients undergoing cancer treatment, and most prominently, adults and children with noticeable physical and mental defects. It is children who have become the face of Chernobyl and its consequences. Maryann DeLeo's Academy-award winning documentary *Chernobyl Heart* follows the filmmaker as she travels with Adi Roche, the founder of the Chernobyl Children's Project International, to observe the impact of Chernobyl on the health of Belarusian children, many of whom suffer from a cardiac condition called "Chernobyl heart" and other severe genetic defects. The documentary is powerful and emotionally affective in its storytelling, but the statistics are unfortunately misleading, because there was no data linking Chernobyl to any specific cardiac degenerative disease. This is not to say that radiation does not cause heart problems, but that data on health problems is severely lacking. Olga Kuchinskaya explains that the expression *Chernobyl Heart* is "used to mark and dramatize the potential consequences of Chernobyl in the absence of officially recognized data" (89). The exaggerated statistics "tell their audience how much attention to pay to the problem," while the emotionally charged statements made by doctors, caretakers, and Adi Roche, and the symbolically loaded images of children in mental and physical pain underscore the visual difference of the sick, suffering body (89). These kinds of images and the narratives of suffering that accompany them can draw attention to an important issue, but often, they merely evoke "stereotypical connections the reader was likely to make between radiation and cancer" or other genetic mutations (86). Kuchinskaya refers to the film *Chernobyl Heart* as a passing reference to an instance of

hypervisibility, a moment of hyperbole and sensationalism; though, on another level, the filmic images make the children not just visible, but hypervisible. These children come to symbolize the entire spectrum of suffering caused by Chernobyl, and as symbols, they are deprived of their individual existence. The self is subsumed under the weight of its symbolic over-identification with the difference and otherness of a sick body so that each child becomes invisible. Hypervisibility is a form of invisibility that reduces the complexities of individual experience and its circumstances to a totalizing symbol. It is not even made clear that all of these children can even be directly connected with Chernobyl, which then creates an association between the disaster and physical deformity that is not entirely supported. This becomes all the more apparent in the film because many of the children are unable to speak for themselves. Nurses and doctors and humanitarian workers "speak" for them in dramatic generalities that serve the film's larger narrative of the Chernobyl Children's Project International's charity work in the region. We do not know the children, who are invisible despite their almost overwhelming visibility in photographs and film. I do not mean to imply that *Chernobyl Heart* is somehow inappropriate or a "bad" film, because the film is deeply affective and emotional, drawing attention to a reality that unfortunately does exist, particularly because of Ukraine's overburdened orphanage system, where children are abandoned for genetic abnormalities. However, we must be cautious of overidentifying physical deformity with Chernobyl for fear of stigmatizing the Chernobyl body even further.

Sick and physically disabled bodies play into the desire to make visible the effects of Chernobyl, as a way of mitigating the fears and anxieties associated with possible radiation exposure. Given the lack of information about the risks and the failure to provide adequate health monitoring of those affected by the disaster, those fears and anxieties produced "folk myth-like

urban legends" in "compensation for the knowledge-gap" (Kuznetsova 237). In her chapter entitled "The Freaks of Chernobyl" Fantasies of Nuclear Mutants in Post-Soviet Society," Eugenia Kuzentsova recalls how, during her childhood in the mid 1990s, in Vinnytsya, three hundred kilometres away from Pripyat, these kinds of urban legends circulated about "Chernobyl's nuclear mutants" (238). Her recollections illustrate the problems of hypervisibility and the sick body:

> Due to the ignorance concerning the degrees, the duration, and the effects of the radiation, the anxiety was long-lasting, and everyone could identify as a possible victim. Consequently, every illness and every deformed new-born was immediately connected to the Chernobyl explosion, that soon became scape-goated nation-wide as the primary reason of abnormities. (239)

This is one example where Chernobyl, rather than being the object of erasure, actually erases other histories, those who might not have been exposed to radiation, but are forced to bear the burden of that association. People became overly preoccupied with what was seen as physical evidence of nuclear disaster, as Kuznetsova confirms: "Mutants, people with physical oddities that were presented and interpreted as corporeal consequences of the radiation often became celebrities of the tabloid press and TV shows" (237). Kuznetsova defines this preoccupation as part of a post-Soviet deformitomania, in which Chernobyl anxiety is part of the larger anxieties caused by "a rapidly changing reality accompanied by a fear of the future" (240). Expressing those anxieties in urban legends and the visualization of deformity was an attempt to face various phobias, although Kuzentsova maintains that such strategies were not entirely helpful. The problem is that the dignity and experiences of those with sick bodies become a spectacle to be paraded around in service of abating cultural anxiety, so widely, in fact, that all sick bodies become suspect and subsumed under one narrative: "Postnuclear freaks, people with real physical disabilities and people suffering from psychosis due to their fear of mutations coupled

with a voyeuristic obsession with gaping at the physical anomalies, became the emblematic symptom of the post-catastrophe reality in the former USSR" (237). Many people who were affected by Chernobyl continue to suffer in silence and invisibility.

In *Voices from Chernobyl*, Nikolai Kalugin communicates a similar sentiment of invisibility and visibility when he observes how his life has changed since the accident in its psychological manifestation: "There you are: a normal person. A little person. You're just like everyone else – you go to work, you return from work. You get an average salary. Once a year you go on vacation. You're a normal person! And then one day you're turned into a Chernobyl person, an animal that everyone's interested in, and that no one knows anything about" (Alexievich 31). The label of "Chernobylite" given to survivors of Chernobyl carries with it the burden of the tragedy; survivors of Chernobyl also become overidentified with the disaster. The weight of the experience comes to define them. Kalugin remarks, "People look at you differently. They ask you: Was it scary? How did the station burn? What did you see? And, you know, can you have children?...The very word 'Chernobyl' is like a signal. Everyone turns their head to look. He's from there!" (31). Being a survivor attracts both horror and fascination from non-survivors, because they want to know the harrowing details -what it was like to witness the explosion and be evacuated from home. We do not ask about what life was like before and after the accident. In Chernobyl documentaries, survivors are called on to talk about what happened. Their accounts are then cut up into sound bites that lend legitimacy to the film project; they are, in a sense, contained by the visual. It is not their stories that we are interested in, but the grand narrative of tragedy to which they are able to contribute. Their memories of the disaster have already lost their autonomy due to a process of backshadowing, as elucidated by Jeffrey Skoller,

that already forestalls the outcome because the outcome is already known by the viewer and filmmaker(s):

> Moreover, the emotional power of the narrative is based on what the reader or viewer already knows, not on what is being learned. This shared knowledge removes the possibility in the reader's mind of other ways a character might respond or other ways an event could turn out in the face of how ultimately it did. By making our knowledge of their doom the only source of judgment and concern, it strips their lives of any significance. (Skoller 41)

Since the survivor's narrative is split into succinct sound bites and secondary to the archival footage or footage of abandoned Pripyat, it is not allowed to contest or offer up an alternative perspective, because presumably, we already know what happens. Their stories are rarely recorded in the entirety of their duration or permitted to extend beyond the parameters of what is already known. The snippets of stores presented by those who witnessed what happened become predetermined, one dimensional and anticipated, a footnote that supports the thesis, rather than standing on their own.

Mindadze's film then, in its ultimate refusal to show the explosion but rather to focus on the ordinary lives of Pripyat's citizens, presents an alternative way of representing Chernobyl, through the people and their varied reactions and experiences. These people are often forgotten, or they hold secondary positions to the horrors of the catastrophe. The characters in the film, while not factual representations or based on specific people, challenge how we see Chernobyl merely by being there for us to see. *Innocent Saturday* offers a different kind of narrative, one that does not claim to explain or recount the facts of the disaster, but chooses instead to utilize the "polyvocal dimensions of film to engage with experiences of trauma" and the "performative register to shake loose the realist faith in language and representation and to provoke an affective embodied engagement with spectators" (Rutherford 95). Perhaps, the dissatisfaction of viewers with the film extends from their discomfort at being placed into an experience akin to terror at

the thought that they were watching people on screen carry on with their lives while they knew the real danger. Viewers were forced to engage with and be challenged by a film that disrupts the linear narrative they had expected. And there is value in that discomfort, because it leads us to question and contemplate the reasons for the discomfort.

The Use of Testimony

Images of Chernobyl, real or imagined, are undeniably powerful, but visual representations and the types of impressions they engender do not often take into full account the ordinary individuals who experienced the disaster. And it is their individual stories, their memories, that are largely unaccounted for in photography and documentary films that we encounter. Not every person's experience of Chernobyl is the same, not everyone reacted in the same way, and not everyone remembers what happened. Each person represents one truth out of many, with no one truth more important than any other; it is the multiplicity of truths that ensure that Chernobyl is not forgotten. Oral histories and visually recorded testimony of Chernobyl survivors and their children would create a record of this event in all its fullness and inconsistency: "Oral history's value derives not from resisting the unexpected but from relishing it. By adding an ever-wider range of voices to the story, oral history does not simplify the historical narrative but makes it more complex – and more interesting" (Ritchie xiv). Oral histories possess the potential for revealing marginalized aspects of the past, bringing out its richness and depth. In a way, they work as sideshadowing. According to Skoller, sideshadowing hints at the counternarratives and alternatives that endure on within and around historical events: "Sideshadowing suggests that although things turned about one way, they could also have turned out some other way, expanding the complexity and nuance of events…While sideshadowing

does not deny the reality or historicity of events, it creates an awareness of the indeterminacy of relations between them" (42). The indeterminacy challenges the representation of an event by dismantling the notion that there is one truth to any historical moment, because history cannot be encompassed by one linear narrative and meaning "accrues through the constellation of bits and pieces and the spaces between them, rather than the illusory totality of a seamless whole" (Skoller xvi). Although it is precisely this lack of wholeness that scares us and reminds us that there are things that fundamentally cannot be known.

The people who survived and continue to live with the effects of Chernobyl offer a multiplicity of unique perspectives. The need to record their testimony becomes particularly urgent considering that, while they survived the initial exposure to radiation, they are often dealing with chronic health problems that serve to shorten their life spans. Testimony is important in the process of bearing witness to the tragedy of Chernobyl. Shoshana Felman, in her examination of Holocaust remembrance, "Film as Witness: Claude Lanzmann's *Shoah*," writes: "To bear witness is to take responsibility for truth: to speak, implicitly, from within the legal pledge and the juridical imperative of the witness's oath…To testify is thus not merely to narrate but to commit oneself, and one's narrative, to others: to take responsibility – in speech – for the truth of an occurrence, for something which, by definition, goes beyond the personal" (Felman 90). Claude Lanzmann's *Shoah* (1985) is a ten-hour film consisting entirely of testimony. For Lanzmann, testimony was the primary way of accessing the Holocaust, since he disavowed any representation of the event. The Holocaust is a singular event, the sheer horror of which defies representation, which inevitably reduces the event and makes it understandable. His film is not a history of the Holocaust, but an exploration of memory and absence. Chernobyl demands a similar consideration. Overcoming the silence that trauma enforces on those who experience it is

essential to release the hold of that trauma. In order to overcome the silence, however, one must bear witness to it with testimony. Testimony is something that is not necessarily communicated only through the voice, but also through the face. Philosopher Emmanuel Levinas places significance on the face for its ability to express, signify, and speak. Libby Saxton argues that filmic images of faces, such as those in Lanzmann's *Shoah*, are able to communicate interiority and trauma beyond the recorded audible speech (9). We confront the silence in its inescapable duration as part of the lapses in speech; it is made almost palpable. It is in the face-to-face encounter that we encounter and take responsibility for the other in all of its spontaneous presence, something that is lost when we attempt to access the traumatic event through still photographs or archival footage. Film has the capacity to capture testimony in all of its totality. We need to see those faces, to have those encounters, to become listeners, which is why film is essential to any project involving testimony and traumatic memory.

Mario Petrucci's Chernobyl poetry inspired David Bickerstaff's lyrical documentary *Heavy Water*. The film is a collection of images of the abandoned city read in conjunction with Petrucci's poems. The ordering of the images is eloquent and evocative and does not impede the lyricism of the poetry; some images are from archival newsreel footage, while others are taken on location in the empty interiors of Pripyat by Bickerstaff and his co-director Phil Grabsky. These images flow without any explicit connection or pattern uniting them: "The poetic mode sacrifices the conventions of continuity editing and the sense of a very specific location in time and place that follows from it to explore associations and patterns that involve temporal rhythms and spatial juxtapositions" (Nichols 2001, 102). Ukrainian folk songs are interspersed between poems, adding some ethnographic detail to situate the viewer in its Ukrainian context, recalling the rural villages that were also lost to the disaster. The images and sounds are not tethered to an

argument, but prioritize “mood, tone, and affect much more than displays of knowledge or acts of persuasion” (Nichols 2001, 103).

Petrucci writes that he was inspired to write Chernobyl poems after reading Svetlana Alexievich’s *Voices from Chernobyl*, which contains first-hand accounts from Chernobyl survivors. Their voices, speaking through poetry, amplify the absences within the images that accompany Petrucci’s words. His poem “The Room” features prominently in the film:

> This hospital has a room
>
> for weeping. It has no creche.
> No canteen. No washroom queue.
>
> Only this queue for weeping.
> No lost property booth. No
>
> complaints department. Or
> reception. No office of second
>
> opinion. Of second chances. Its sons
> and daughters die with surprise
>
> in their faces. But mothers
> must not cry before them. There is
>
> a room for weeping. How hard
> the staff are trying. Sometimes
>
> they use the room themselves. They
> must hose it out each evening.
>
> The State is watching. They made
> this room for weeping. No remission -
>
> no quick fixes. A father wonders
> if his boy is sleeping. A mother
>
> rakes her soul for healing. Neighbours
> in the corridor - one is screaming
>
> *It moved from your child to mine*.
> More come. Until the linoleum

blurs with tears and the walls
are heaving. Until the place can't

catch its breath - sour breath
of pine. And at its heart

this room

(Petrucci 58-9)

The description of this room, which is not a spatial one, but an emotional one, charting the grief, loss, fear and vulnerability associated with Chernobyl. The images of empty interiors, and empty chairs, in particular, conjure up the absence of bodies in a kind of visual rhyme. These kinds of emotions, the experiences of the body, because of their subjectivity, are not out of the purview of documentary, but they are a departure from the objectivity that defines the genre. Documentaries do appeal to emotion, but typically in targeted ways through intellect. Bickerstaff eschews that convention in order to document a more emotional history of the disaster, one involving the more personalized, localized knowledge of the body in reaction to trauma, which is a particular capacity of poetic documentary: "The poetic mode is particularly adept at opening up the possibility of alternative forms of knowledge to the straightforward transfer of information, the prosecution of a particular argument or point of view, or the presentation of reasoned propositions about problems in need of solution" (Nichols 2001, 103). After reading Alexievich's book, he spent two months writing the eighty-two poems, from which his collection *Heavy Water* is formed. Part of the impetus to write came once he realized that Chernobyl is a global disaster, and we all need to take responsibility for it: "In a profound sense, then, Chernobyl is not merely something that went wrong or that happened *to* us, but a material expression of the collective human self, of what makes us *us*." (Petrucci 258).

Heavy Water's open-ended structure and emotive tone sets it apart from other more conventional documentaries about Chernobyl. However, the lack of historical context can be frustrating to viewers, since the representation frequently ventures into the abstract, which can be frustrating for some viewers. In reviews of the film, while some viewers found the documentary "inspiring and beautifully directed," others expressed disappointment in the film (Sam000). They found it boring and uninformative, lamenting the lack of historical reference. Many reviewers questioned if the film even qualifies as a documentary, as one reviewer writes: "This film is not what you think. It is not a documentary at all and does not tell a story despite its description. It is a piece of art, written mostly for the self-indulgence of the artist" (Guilfoyle). This same reviewer found fault with the film's lack of a story. Appreciation for the film's ultimate refusal to say anything definitive about Chernobyl, instead presenting an artistic interpretation, seemed to increase when viewers were already familiar with the historical context. Without that context, they were confused and became disengaged. And while online reviews are not constitutive of a film's value, the comments do suggest that *Heavy Water* is incomplete. Moreover, if viewers feel that their expectations are being frustrated by the poetic form, then the film becomes an interrogation of the documentary genre. This is not the fault of the film, but a reflection on the documentary's depth of association with truth, knowledge, and objectivity. *Heavy Water* is experiential and contemplative, not didactic or expository. Although the film does highlight the lack of voices in the dominant narrative of Chernobyl, it might have proven too much of a corrective for some audiences. The tragedy itself is wholly subsumed under the poet's voice and the filmmaker's vision, and so not even this 'alternative' approach to the trauma seems entirely adequate. In order to create something truly meaningful out of Chernobyl's tragedy, we must first be willing to listen to survivors' testimony.

Testimony allows witnesses to *speak for themselves* and in the process of narrating their experiences, work through trauma. Attempts to speak about a traumatic experience inevitably raise fears about the return of the trauma and reliving the event, and so silence becomes a coping mechanism, a safe retreat. In Belarus, a young man who grew up in one of the more contaminated areas, asked Olga Kuchinskaya why it was foreigners who were always trying to solve the problems of Chernobyl: "It is mostly foreigners who are passionate about Chernobyl problems, and not the local people," he observed (19). Even now, nearly thirty-five years after the accident, it is difficult for survivors to talk about the disaster, out of fear, fatalism, or an inability to articulate what happened. In some ways, trauma accounts for the silence on the part of survivors about their experience, for it is the remembrance of the event that triggers the traumatic event. This silence is accompanied by a noticeable lack of narrative films, literature, and cultural material that directly engages with Chernobyl in the two countries most affected by it. Nikolai Zharkov, a teacher, during an interview with Alexievich, says: "We're often silent. We don't yell and we don't complain. We're patient, as always. Because we don't have the words yet. We're afraid to talk about it. We don't know how. It's not an ordinary experience, and the questions it raises are not ordinary. The world has been split in two: there's us, the Chernobylites, and then there's you, the others" (Alexievich 122). In order to break the silence and bridge the gap between survivors and the rest of the population, there needs to be testimony. Dori Laub describes trauma as a black hole of meaning (65); the primary way to overcome this black hole that threatens to consume everything is to relate a narrative - to testify.

Due to its sheer overwhelming power and the inability on the part of the victim to understand and come to terms with his or her experience of it, massive trauma essentially is an event without a witness. To testify, then, is to bear witness, for it is in the process of testifying

that one is able "to commit oneself, and one's narrative, to others: to take responsibility – in speech – for the truth of an occurrence" (Felman 90). Of course, one cannot testify without someone else to listen to the testimony. Laub, who is trained in psychoanalysis, draws from his own experiences interviewing Holocaust survivors for a video archive when he describes the special role of the listener as a "participant and a co-owner of the traumatic event" (57). In doing so, the listener enables the testimony, becoming witness to trauma, and to himself, and is then able to assist the witness as "a guide and an explorer, a companion in a journey onto an uncharted land, a journey the survivor cannot traverse or return from alone" (58-9). This means that a listener must respect the process of listening and the narrator, knowing how to acknowledge the silence and when to be silent himself. Listeners bear a responsibility for navigating the vast displaced expanse that separates the witness from becoming cognizant of what happened in order to become a witness. The listener also bears the responsibility for the other in all his immediacy and presence, making the speaker of testimony harder to ignore. As listeners of Chernobyl testimonies, we would become responsible for those survivors, ensuring that their stories will continue on, and they are not forgotten. Ann Kaplan sees witnessing as a powerful tool for empathy in Trauma Culture: "Witnessing"is the term I use for prompting an ethical response that will perhaps transform the way someone views the world, or thinks about justice…[W]itnessing leads to a broader understanding of the meaning of what has been done to victims, of the politics of trauma being possible" (Kaplan 123).

Alternative Strategies

There are several films that do incorporate the personal experiences of survivors and victims. The Russian-language documentary *Колокол Чернобыля* (*The Bell of Chernobyl*) was

one of the first documentary films made about Chernobyl, filmed during May and June of 1986. The Ukrainian filmmaker, Rolan Serhienko, along with Vladimir Sinelnikov, explained that the film was not meant to be an extensive chronicle of what happened, but a record of testimonies of those who participated in the liquidation and those who were directly affected by the disaster. The collection of testimony was meant to preserve the memories of the disaster's aftermath as a lesson and warning for the future. The film is a condemnation of the Soviet Union's nuclear power policies as well as a call for the United States and the Soviet Union to cease further nuclear armament. Although the film, produced by Soviet Central Documentary Film Studio, was completed in September of 1986, it was originally banned for nearly half a year. It was first shown publicly in Moscow in March of 1987 thanks to the relative freedom offered by glasnost and efforts to demonstrate a commitment to reform. The film prompted viewers to question the state's official narrative, particularly its insistence that "only" thirty-one people died in the accident. In the journal *Literaturnaya Gazeta*, E. Alekseev condemns the Academy of Sciences for their indifference to the disaster's victims: "31 perished, 28 from the radiation blast. Is that many? Few? What is the arithmetic about? What is this blasphemous 'science demands sacrifices,' the dictum of the callous soothsayer of the Academy?" (qtd in Marples 134). Though hardly an expose, the film shows that these people, "those whom scientific progress had passed by" were the unnecessary victims of the "carelessness and even heartlessness of others" (Marples 134). The film does not proffer any context for the disaster, nor does it explicitly critique the Soviet state, the film simply attempts to preserve these first-hand accounts for the future.

The film shows how dire the situation was for liquidators, who were engaged in hard physical labor for long periods of time without protective clothing. It also shows peasants working on contaminated farmland and fishers fishing in a contaminated lake. Knowing what we

know now about the amount of radiation, the scenes are emotional: they are in danger, but they do not fully realize it. In the beginning of the film, one mother, Anna Xhodymchuk, describes how she lost her son Valery in the disaster. She is one of the few witnesses identified by name, but many of the testimonials collected are from people who happened to be wandering by during filming. At one point, a liquidator says that Chernobyl was not an accident, but a catastrophe. A woman from a nearby village explains how even a week after the accident, officials were telling everyone not to worry because the radiation was minimal, until one day they were told to evacuate. During the evacuation, firemen were already setting fires to all the houses. The testimony recorded in *The Bell of Chernobyl* presents a stark and unsettling picture of Chernobyl's consequences, particularly when coupled with the images of the abandoned Zone; the difference with these images of abandonment, however, is that they were filmed barely a month after the disaster. The empty streets are much more striking in Sergienko's film than in other documentaries that linger on the decay of the Zone decades later. The clothes hanging out to dry on apartment balconies are even more unsettling, because it is easy to imagine that the apartment's inhabitants might return home at any moment. *The Bell of Chernobyl* is an astonishing film in this regard, because it was able to capture and convey the kind of immediacy and authenticity denied later documentaries. The film reiterates the importance of testimony to history "both in multiplying the available points of view on the historical record, and in working against either the kind of heedless forgetting that comes about through indifference, or the active political suppression of memories considered to be uncomfortable by those in positions of power" (Waterson 56).

Nikolaus Geyrhalter's *Pripyat* (1999) is an Austrian-made documentary that follows four protagonists and their experiences living and working in the Zone. The film is shot in black and

white, which frames the portraits of these individuals with historical “weight and apparent objectivity” (Prakel 51). The four protagonists include Olga Grigoryevna Rudchenko and her husband Andrei Antonovich, who returned to the village of their birth to farm the land together; Nikolai Nikolayevich Suvorov, who works as an engineer in the power station of Reactor 3; and Zinaida Ivanova Krasnozhon, who works in the laboratory monitoring the radiation. Geyrhalter is not interested in presenting a treatise or warning, he is interested in the individuals: “My main interest is to preserve and archive history on the basis of individual cases. I see my films as a type of reference work for coming generations. Above all the individuals are important, though these portraits are obviously bonded by the common fate, a life behind barbed wire” (qtd. in “Architecture on Film”). The film’s capability comes through in its presentation of very real and unfiltered individuals, who have their anxieties and sorrows, but also still manage to find the humor in life. The filmmaker even succeeds to make the city seem dreary and commonplace through his inexpressive cinematography. While the protagonists speak, the camera often pans slowly to capture the stillness of the landscape over their shoulders, but, for the most part, the cinematography does not offer any visual clues to interpretation. Nothing much happens. Then the camera dwells on the landscape, prompting us to contemplate Chernobyl’s ecological dimensions. There is also no voice-over narration or any other contextual signposts to organize the testimony or impel it toward a logical conclusion. The longshots, resembling photographs, are “connected” with abrupt fades to black. Andrea Zink explains that the blackness between the scenes underscores the “stagnation of an entire region” and the “void between things" (107). This void surfaces in the juxtaposition of life and empty space, a void that creates a temporal dissonance between the past and present that provokes a measure of discomfort in viewers that is difficult to process.

However, our discomfort is nothing compared to the "pain and anger, resignation or fatalism" and the "emotional reactions to the incomprehensible situation" confronting the inhabitants, settlers, and workers every day (Zink 108). *Pripyat* stands in opposition to the defined narratives of conventional documentaries, marked by the director's refusal to fill any silences or dramatize the disaster in any way. He notably lets his subjects speak without interruption. Geyrhalter's film manages to accomplish what Paula Rabinowitz finds commendable about Claude Lanzmann's *Shoah*: "In *Shoah*, the weight of evidence lies in the spoken word and its ability to evoke visual memory as the foundation of historical justice" (129). As Geyrhalter's subjects walk through some of the familiar spaces of their pre-Chernobyl lives, they "bare themselves before his camera because they understand their words are themselves documents" (Rabinowitz 129). The desolate background filled with decaying machinery and abandonment "arouse a sense of irritation, which throws fundamental doubt on the idea of history as progress" (Zink 108). These remnants, ostensible markers of the Soviet past are in the process of decay, moving backwards in time, while the workers and isolated inhabitants, and Geyrhalter's film, are simultaneously marking the forward movement of time. The dissonance is discomforting but draws attention to the simple lives of people who have chosen to return to the zone and their lives in the midst of this incomprehensible situation.

A corollary to the cinematography of Geyrhalter's film is the short film *Nuclear Waste* (2012) by Ukrainian director Miroslav Slaboshpytskiy. While not a documentary film, the cinematography replicates the effect of an unobtrusive and objective camera offering a sobering snapshot of life working in the Zone. *Nuclear Waste* follows a married couple, Serhii and Sveta, through the routine that marks time in their daily life: they work, eat and have sex. The film, for being as short as it is, is at times tedious, at times unsettling. It is not immediately clear where we

are until we see the nuclear warning signs attached to Serhii's truck. There is no music, no dialogue - just the background noise of various machinery whirring in the background. Sveta and Serhii go about their day mechanically, without registering any emotion. The whole film is done in long takes, which only adds to the discomfort as we wonder what we are supposed to glean from these scenes. Undoubtedly, their existence is grim, and we should not be entertained by it. Indeed, our voyeurism makes us feel the invasiveness of our gaze. This routine, as dull as it is, is all they have, and the film offers no hope that things will change. Their reality is unsettling, but there are workers who are still maintaining and cleaning the plant, despite the sense offered to us in dominant visual representation that has lain abandoned. In stark relief, this couple's mechanical existence becomes a metaphor for Ukraine's stalled and traumatised journey to independence. After the fall of the Soviet Union, Ukraine finally gained sovereignty but inherited Chernobyl, a crisis that its weak economy cannot handle. But the film, like *Pripyat*, revels in making space for these experiences, in revealing the blind spots of history. The reality is that there are people who work constantly to ensure that the radiation from Chernobyl remains contained. They remain present, despite the absence of so much that constitutes normal life, because there is no alternative. In Geyrhalter's film, a woman sitting at the doctor's says, "You have to live and you have to work. But how are you supposed to live?"

In this regard, the still longshots and blackness between scenes in *Pripyat* become a visual signifier of the silence of Chernobyl's victims, who are largely invisible as far as their filmic representation goes. Silence becomes an aesthetic tool that the filmmaker uses to open up a space for questioning, enabling "us as audience to do our share of the work as receptive, empathic listeners, sharing even if distantly in the event of the testifying" (Waterson 70). A poignant moment comes when Zinaida is sitting in the soccer stadium, now overgrown,

describing how happy everyone was when the stadium was built only two years before the accident. She then talks about the days after the accident, when no one was left and they sent young men who did not know what they were doing to help clean-up: “They just weren’t able to help. They needed experts here. Just experts, because they know how to deal with radiation…I’m telling you honestly. They sent so many people here who just didn’t know what they were doing. And who were contaminated in the first few days.” She is angry, but she shrugs those feelings off until a voice off camera asks about what happened to them. As she contemplates what happened to the young men who came to help, she becomes upset: “I don’t doubt that a lot of them have died. Because those were young boys who had no idea about what should be done and what shouldn’t. They all sat on the ground, drank water, ran around half naked, back then, with this beta radiation. They had no idea. I think that many of these boys are no longer alive.” She continues:

> And even if I’m sent to prison for saying this. They can lock me up. They walked around on the graphite, they sat on it, carried away with their bare hands, those poor kids. Those are our sons, those poor boys. Later they were smart enough to stop sending them, but half of them had already died…In my opinion, that’s the real disgrace, in the tragedy of Chernobyl…Even if everything else was caused by not knowing, they were sent here intentionally. It was obvious what would happen to them.

Even after she stops talking, the camera lingers on her, and the silence opens up a “space for intensities that cannot be expressed in the same way through narrative” (Rutherford 96). It is the moments such as these, the silences, the hesitation, changes in the tone of voice, and the expressiveness of the human face that holds the most communicative potential, and it is that potential that informs the ethical imperative of Chernobyl representation and the importance of honoring the experiences of those affected by this event: “The drive not to allow the forgetting of

traumatic events or past injustices is essentially a moral drive which seeks to comprehend the past in order to shape the future" (Waterson 70)

The film *Babushkas of Chernobyl*, a 2015 documentary by Holly Morris, follows a group of older women who currently live in the Exclusion Zone, having illegally returned to their ancestral home after the disaster. Their lives in the Zone are not easy. Their husbands have passed on, and their children live far away; there are no stores, so they grow their own fruits and vegetables and raise their livestock; they don't have regular healthcare, and many depend on the stalkers and tourists who supplement their subsistence farming with items from the outside world. Yet, they thrive there, unafraid of the radiation, because though they might risk developing cancer, they are already in their 80s and 90s, so it doesn't matter. Their notion of risk is highly subjective and what stands out when listening to their stories is how living in what some might consider a toxic wasteland is comparably easy considering how many other traumas they have collected. Their histories parallel Ukraine's traumatic history, and what these women unanimously agree on is that having suffered cultural suppression, starvation, war, Nazi occupation, and Soviet control, the radiation is harmless. And while they might be thriving, at least in comparison to other survivors who were relocated, but behind the camaraderie of these women is immense tragedy that is often overshadowed by their existence as nuclear beings. The film is a reminder that there are repercussions that extend beyond the health effects of radiation exposure; not only is Chernobyl an epidemiological crisis, but it's also a psychological one that fractured notions of safety and security, instilled fear and bodily vulnerability in both those who experienced the disaster firsthand and those who live elsewhere. The film also reminds us that even as the Zone has morphed into a tourist attraction of sorts, for some people, it's still their home, and life in a radioactive space is their normal. The real tragedy communicated in films

such as *Bell of Chernobyl*, *Pripyat*, and *Babushkas of Chernobyl*, is not the explosion itself or the clean-up, per se, but how the disaster so deftly invaded the peaceful lives and bodies of citizens, changing them irrevocably. Their memories, recorded on film in these documentaries, underscore the extent to which individuals are constituted by history. Together, these films call for a more nuanced and thorough approach to the documentation of Chernobyl, one that more carefully recognizes the fact that people continue to live with the consequences of this nuclear catastrophe while simultaneously advocating for a more ethically informed plan for handling future disasters, and initiating a public dialogue around the future of global nuclear energy.

The Russian Woodpecker is a documentary film by Chad Gracia that follows Ukrainian artist Fedor Oleksandrovych and his efforts to discover why the reactor exploded. The film is part conspiracy theory and part personal attempt to come to terms with the trauma he suffered from the disaster as a child who was evacuated from the city and placed in an orphanage temporarily. Essentially, he is working on the idea that the reactor at the Chernobyl Nuclear Power Plant was exploded intentionally to cover up the failure of Duga, a radar system intended to detect missile launches, that is located near the power plant. He conducts his own historical research into these claims, collecting evidence from those who worked for Duga and the AES before the disaster. The conspiracy theory, while provocatively presented, is not as relevant to the current discussion, and "seems to fall into the category of conspiracy theories that naturally emerge in societies in which truth is chronically concealed and suppressed" (Bertelsen 24). What is important is the way Fedor Oleksandrovych frames this theory. The film actually begins in the midst of the Maidan protests in January of 2014, during which we see, at the same time that violence is erupting between protesters and police forces, the artist warning that a government against its people cannot stand. The film positions Chernobyl within Ukraine's traumatic history,

and, in doing so, opens a space for thinking about not only the individual's place in history, but also the effects of the Soviet nuclear legacy on Ukraine's nuclear future.

Ukraine's relationship with nuclear power is dominated by Chernobyl. For Ukraine, and neighboring Belarus, the radiation is there, its presence ostensibly delimited by a barbed wire zone of exclusion, but realistically, it's carried in the bodies of people living far from the disaster's site, expanding both the boundaries that delineate the space of the disaster and the ways we think about Chernobyl's lasting impact. The seriousness and complexity of Chernobyl means that this disaster has its own political and cultural dimensions that are continuously under contention. The notion of both ethical and fiscal responsibility for the disaster and its cleanup - whether it belongs to Russia or Ukraine - is a weighty political matter and carries accusations and implications for the hostile relations between the two countries. Part of those accusations come from what is seen as Russia's disavowal of that responsibility, signaled when it stopped paying for the consequences and clean-up:

> The 23rd Party Congress emphasized that the Soviet government and its all-union budget would assume all expenses for the people's relocation, the decontamination program, and medical assistance. A special account was created in the State Bank of the USSR, where funds were allotted specifically for the needs of the Chornobyl community and decontamination programs. Interestingly enough, after the collapse of the USSR, Russia inherited these funds (including the party money, as well as many other assets) that were officially the property of the Union and the three affected republics, not the RSFSR alone. There were numerous attempts by Ukrainian activists to trace the disappearance of these funds, but to no avail. (Bertelsen 8)

This is an issue that has been taken on by recent Ukrainian films about the disaster, such as *The Russian Woodpecker*, in a way that is not yet seen in Russian representations of Chernobyl.

As it is presented in this film, Ukraine's traumatic history begins with Russia: the suppression of Ukrainian culture and Russian imperialist encroachment; the Holodomor in 1932 (a famine that disproportionately affected Ukrainians and has been widely acknowledged as a

genocide); Stalinist terror in the 1930s which saw mass arrests, killings, and hard labor sentences to the gulag; and Chernobyl. Conspiracy theory aside, Fedor Oleksandrovych's argument is that these traumatic events from Ukraine's history share the same aggressor, Russia. For Ukraine, of course, the Soviet Union was the epitome of Russian power, and Russia's current-day neo-imperialist reincarnation is a continuation of the Soviet empire. The same mechanisms of power responsible for those traumas are controlling Ukraine's current political trajectory and can be traced in Ukraine's history with nuclear power. The Soviet nuclear legacy, rather than suffering erosion during the fall of the USSR, still presents a real threat to bodies and spaces in Ukraine and elsewhere. By raising the question, the film is opening the space for thinking about what Ukraine's fragile and precarious relationship with nuclear power tells us about its relationship with another power, Russia. The idea that Chernobyl is a singular event contained within a certain time and space, one that could not happen today because things are different now, is the way we have chosen to memorialize the disaster. Unfortunately, this is myopic thinking that ignores the power differentials embedded in the institutions and structures that contributed to this disaster, which still define the relationship between Russia and Ukraine. Nuclear power, in the past and present, is part of Russia's strategy to exert control over Ukraine.

Ukrainian representations, in particular, implicate the Soviet Russian state as aggressor in what happened at the Chernobyl Nuclear Power Plant and locate Chernobyl within the context of other traumas and the larger longstanding conflict with Russia. In doing so, *The Russian Woodpecker* opens up a space in which to think about the other ways that Ukraine is "nuclear." Because it's not just Chernobyl, or the irradiated objects and people in the contaminated Exclusion Zone; Ukraine's nuclear dimensions include the psychological trauma of being exposed to radiation without any warning, of being essentially exiled from your land, of knowing

that the state and institutions created to safeguard bodies and spaces are, in fact, perpetrating what essentially amounts to a slow violence. At the end of *The Russian Woodpecker*, we return to the scene of the Maidan protests in Independence Square in Kiev where citizens are protesting the government of Victor Yanukovych in 2014 after proposed negotiations for a closer relationship with the European Union were repeatedly postponed because of Russian objections. What follows are scenes of police brutality as riot police forcibly remove the protestors, who, in turn, literally dismantle the streets and retaliate with Molotov cocktails. Fedor Oleksandrovych tells the crowd that the enemy is the Soviet Union and anyone who wants to bring it back; he explains that Moscow committed genocide not only in the 1930s but also with Chernobyl and now they are doing it again by interfering in Ukrainian politics. What seems like two disparate historical moments, actually intersect, the past meets the present, when Ukrainian authorities warn Oleksandrovych to stop his research or his family would be threatened: "Performative documentary restores a sense of magnitude to the local, specific, and embodied. It animates the personal so that it may become our port of entry to the political" (Nichols 2001, 137).

The Russian Woodpecker invites viewers to examine the ways that the new postcolonial relationship between Russia and Ukraine merely recreates some of the same dynamics at work during the Soviet era, and those dynamics are being played out across multiple arenas, including that of nuclear power. Chernobyl marks the painful moment that Ukraine became an independent country, as a nuclear entity. However, Chernobyl is not the only nuclear issue affecting Ukraine today. Amid tense energy relations with Russia, Ukraine is heavily reliant on its nuclear infrastructure, which provides half of the country's electricity, but it is still Russia that provides the uranium used in these aging power plants. The political and economic turmoil in Ukraine, generated by Moscow, has left the country unable to divest of their Soviet nuclear legacy and

develop alternative sources of energy. The plants are falling apart, leaving Ukraine in the precarious position of needing to update them but not having enough financial resources to overhaul the Soviet reactors. They must make do with patching things up and minor repairs, which leaves these power plants incredibly vulnerable to leaks and other accidents. Additionally, in the past few years, Russia has initiated plans to return the spent fuel generated by Ukraine's plants back to Ukrainian territory, where there are currently not enough adequate storage facilities. This means that there are containers with spent fuel in them sitting in the open air protected only by a few patrolling security guards and a metal fence. This is a dangerous situation, especially considering that some of these nuclear waste sites are located close to the war in the Donbas region, and that transport routes for spent nuclear fuel also run close to front lines. Of course, this conflict in eastern Ukraine is also due to Russian interference in Ukrainian politics, with Russian-backed separatists fighting Ukrainian governmental forces. The relatively short distance of the Zaporizhia power plant and waste storage site to fighting has prompted questions about the overall safety of these plants and how any security breach or attack would be handled. In short, there is no simple answer, because these older power plants, most of which have already passed their life spans, are inadequately prepared, raising fears that another catastrophe could occur.

Gracia's film is an example of what Bill Nichols calls the performative mode of documentary. Likening it to the poetic mode, Nichols identifies it as a mode that "raises questions about what is knowledge" (NIchols 1994, 130). In contrast to knowledge that is "abstract and disembodied" it subscribes to the idea of knowledge as "concrete and embodied, based on the specificities of personal experience" (131). Embodied knowledge drives Oleksandrovych on his quest to prove his theory: the memory of being sent to an orphanage

during Pripyat's evacuation, the radioactive strontium absorbed in his bones, the trauma of displacement, and the need to understand why Chernobyl occurred. While Oleksandrovych's claims might seem a bit outlandish, the objective truth, if there even is one, is not important here, because the meaning is subjective, as is the mode of representation in the film, which is highly theatrical. Both Gracia and Oleksandrovych have theatre backgrounds, so it is not surprising that some of the scenes are highly stylized. In one scene, Oleksandrovych, covered in clear plastic, walks through an abandoned building in Pripyat waving a flaming torch, his feet stepping on a pile of old gas masks. The scene becomes art rather than argument, approaching avant-garde cinema: "The referential quality of documentary that attests to its function as a window onto the world yields to an expressive quality that affirms the highly situated, embodied, and vividly personal perspective of specific subjects, including the filmmaker" (Nichols 1994, 130). These evocative images undermine the veracity of the argument Oleksandrovych is making about Duga and a cover-up, calling our attention to the constructed nature of the images before us. It is not so much a film about a conspiracy, as it is about memory and alternative history. The scenes represented "remind us that the world is more than the sum of the visible evidence we derive from it" (134). Through Oleksandrovych's personal experience of history as depicted in the film, and his efforts to explore his relationship with the world, we, too, are invited "to see the world afresh and to rethink our relation to it" (137).

Conclusion

As we have seen, documentaries play a crucial role in representing the history of Chernobyl. Not only do they introduce the disaster's history to viewers, as a site of knowledge production about the disaster, but they also shape how that history is remembered. The different

possibilities contained in the documentary form allow for a variety of different engagements with that history, reminding us that the truth claims aligned with the documentary form are not above scrutiny. As Linda Williams articulates in "Mirrors Without Memories: Truth, History, and the New Documentary," truth is "not guaranteed" but rather "a receding goal of the documentary tradition" (14). Instead, we should view documentary "not as an essence of truth but as a set of strategies designed to choose from among a horizon of relative and contingent truths" (14). There is no essential truth of Chernobyl, but a vast network of interconnected truths embodied by survivors and witnesses. Moreover, the reality of Chernobyl is lost to us, dispersed among the fragments that must be uncovered and reassembled. As Paula Rabinowitz notes, Benjamin's "Angel of History whose face turns towards the past as she is blown into the wreckage of the future might also represent the documentary filmmaker who can only make a film within the historical present, even as it evokes the historical past" (119). Despite documentary's pretension to reality, objectivity, and authority, it is clear that there are limits to representation. These representations of Chernobyl become problematic when documentaries do not signal to viewers that history depicted is a construction that is inevitably incomplete. It is imperative that we are able to recognize the gaps and fissures inherent to Chernobyl's filmic representation. Analyzing various iterations of documentary are necessary to recover what has been lost, which is, notably, the experiences and oral histories of real people who were, and still are, deeply affected by the disaster.

Capitalizing on the viewer's epistephilia, the documentary is imbued with the capacity to shape our engagement with history and the memory of events like Chernobyl. Documentary film is a primary mode of history for many people, but it is also one of memory due to its capacity to record, "and as we enter the twenty-first, the digital revolution has made video such a powerful,

accessible and affordable medium that it will become more and more vital as a form of witnessing of current events and therefore of future historical evidence" (Waterson 52). In "Trajectories of Memory: Documentary Film and the Transmission of Testimony," Roxana Waterson examines the potential of documentary film to communicate and preserve memory. In light of the documentary's association with objectivity, testimonies and other first-hand accounts can seem too subjective and unreliable as evidence. They also "may never be the most cinematically exciting use of the camera" (70). However, Waterson argues against claims that interviews and personal accounts are not memory, but only "secondary representations" deprived of their original context and bastardized (53). She contends that testifying is an event in itself, and once it becomes recorded on film, it enters into social memory, where it is available to be shared. As Waterson acknowledges, filmic testimony answers Donna Haraway's "call for 'situated knowledges' and for 'trusting especially the vantage points of the subjugated'" whose experiences are often lost to us (60). Such a targeted effort to include the voices of ordinary people is particularly critical for Chernobyl, an event that is still continuing for many individuals, even if official narratives tend to offer closure. The vested interest in Chernobyl's containment by institutions and states holds wider implications for questions of responsibility, restitution, and our energy future, and the experiences of the most vulnerable challenge the structures of power that aim to maintain the status quo and the myth of safe nuclear power. As such, testimonies, as situated knowledges, become part of Chernobyl's 'radioactive memory,' capable of revealing the interventions of power on the production of history. These memories, contained in the bodies of those lost to the epidemiological record, as dispersed as the radiation that spewed from reactor number four, signal the silences in that history, and in doing so, expand the space in which it is

possible to not only listen to their experiences, but also to dispute some of the claims and mechanisms of history.

Films such as *Bell of Chernobyl*, *Pripyat*, *Babushkas of Chernobyl*, and *The Russian Woodpecker*, in particular, demonstrate the potential to redress the oversights of history and restore the critical nuances to our memory of the disaster. This corrective is also crucial to combat the distance that often accompanies historical representation on film, as we learn about the traumas of the past "through the windows of our theaters and living rooms onto a world that truly remains 'out there'" (Nichols 1991, 180). Our epistephilic engagement with history in documentary often becomes a scophophilic interaction with the seamlessness of the documentary form. When documentaries can frustrate the feelings of pleasure engendered by knowing by either acknowledging the gaps and silences or foregrounding the subjective contours of history, there is an opportunity for questioning that then can lead to the development of a critical perspective on history and empathy with those who have been forgotten. Rabinowitz notes of her own project on official and alternative modes of documentary filmmaking that the most effective documentaries are those that challenge: "These films ask viewers to consider our desire for historical truths, our complicity in constructing historical narratives, our investment in the historical present, and so they call into question subjectivity and historical agency" (Rabinowitz 137). Her sentiments gain new importance in light of Chernobyl's invisibility, reminding us of the power of these images.

The invisibility of radiation makes it susceptible to manipulation, often through the production of knowledge around it and the means and representations through which that knowledge is communicated. The esoteric nature of knowledge about nuclear power, concentrated in physics, engineering, and global security, is simply inaccessible to the wider

public, which means that the same knowledge can be used against bodies and spaces that the pursuit of knowledge purports to help. For many, words like 'roentgens' or 'nuclear fission' are foreign and unfamiliar, and the process of nuclear power and how it creates the energy used to power whole regions are also invisible. Radiation becomes something to be feared, like something out of a science fiction film; it is also hard to believe in something that cannot be detected by the human senses, except in extremely high doses. While radiation might be invisible, it does exist and holds real consequences for the past, present, and future of individuals and the inhabitability of spaces. The invisibility of Chernobyl, in many ways, determines how we see the disaster and its impacts, which is why it is important to understand our own blind spots when it comes to its representation. Any omissions and biases shape how we remember and forget Chernobyl, which consequently, has implications for how we perceive and imagine our relationship to nuclear power.

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Chapter 2
Materiality and Memory: The Rhetoric of Chernobyl's Memorial Spaces

Pripyat was an *atomograd* (атомоград), an "atomic city," entirely dedicated to the nuclear power industry. The city was built in 1970 for the workers of the Chernobyl Nuclear Power Plant and was envisioned as a microcosm of utopian Soviet society, celebrating the prestige of Soviet science and progress. The monument to Prometheus standing in the center of the city unequivocally confirmed Pripyat's status and, ultimately, its fate. After the disaster in 1986, the statue was moved to the front of the power plant and now stands as a reminder of the consequences of the Soviet Union's ambition to become the most technologically and industrially advanced country in the world. The irony of this monument is obvious and consistently noted, but there is another meaning embedded in the figure of Prometheus that associates the story of Prometheus with memory. French philosopher Bernard Stiegler describes Prometheus as a figure of total memory. For Stiegler Prometheus is the symbol of technics: he is a figure of knowledge, of absolute mastery, of total memory. Prometheus forgets nothing, in contrast to his brother Epimetheus, who was the more foolish of the pair and forgot to assign a positive trait to man as he had to all other living creatures. Prometheus steals fire from Mt. Olympus and gives it to man along with the gift of metalwork, for which he is swiftly punished. His gift is a compensatory one that is not an inherent quality within man, but an added ability to make and use tools (technology) for survival: "The being of humankind is to be outside itself. In order to make up for the fault of Epimetheus, Prometheus gives humans the present of putting them outside themselves" (193). Stiegler uses the term 'technics' to describe the exteriorization

of knowledge and memory, through artifacts such as technology, today, but neolithic tools and writing forms in the past. This exteriorization allows for the preservation of memory in technics, thereby liberating humans from the biological constraints that would otherwise prevent the transmission of knowledge beyond a single individual.

Although the potential of technics for manipulation is there, they also allow for the expansion of memory in greater social contexts. Even this cursory reading Stiegler's Prometheus interpretation enables us to posit a complex relationship between memory and monuments. Monuments might "hold" our memory, but for how long? These material objects are only as potent as we allow them to be. Yet, if we do not erect these memorials and museums, then the memory of Chernobyl, for example, is only to be found with those who speak of it, which is not always an easy task. One interesting aspect of his interpretation is that the figure of Prometheus is coupled with Epimetheus, the figure of forgetfulness who forgets only to realize it too late. Stiegler notes emphatically, that the "figure of Prometheus *makes no sense by itself*" (187). Epimetheus's forgetting of mankind was the initial catalyst for Prometheus's intervention, and in a somewhat ironic turn, he, too, is forgotten. Memory and forgetting are intrinsically linked. For Stiegler, this means that the more we externalize memory, in the form of new technologies, the more we forget: "These cognitive technologies, to which we devote an ever-increasing part of our memory, also make us lose more and more of our knowledge" (Stiegler "Anamnesis"). A basic example of this is how dependent we are on our phones to hold contact information: when the phone is lost, suddenly all of that information feels lost to us. Memory, in a sense, then, becomes displaced, and, consequently, the spaces of memory become marked by the loss of a more internalized sense of memory. The fact that the contact information today, in a change not entirely anticipated by Stiegler, can usually be recovered only reminds us that not all memory is

irrevocably lost. Still, this tension between externalized and internalized forms of memory raises important questions about the role of Chernobyl's memorial materiality in shaping our memory of the disaster. Does it help us to remember or to forget?

A similar tension informs French historian Pierre Nora's conceptualization of the exteriorization of memory in his notion of *lieux de mémoire*. In his well-known essay from 1989, "Between Memory and History: *Lieux de Mémoire*," Nora explains that a rupture between the past and present has led to an increase in sites of memory, because that memory is no longer part of our everyday lives:

> Our interest in *lieux de mémoire* where memory crystallizes and secretes itself has occurred at a particular historical moment, a turning point where consciousness of a break with the past is bound up with the sense that memory has been torn - but torn in such a way as to pose the problem of the embodiment of memory in certain sites where a sense of historical continuity persists. There are *lieux de mémoire*, sites of memory, because there are no longer *milieux de mémoire*, real environments of memory. (7)

He locates the difference between *lieux* and *milieux* in what he sees as an opposition between memory and history. Real memory is "social and unviolated, exemplified in but also retained as the secret of so-called primitive or archaic societies," while history is "how our hopelessly forgetful modern societies, propelled by change, organize the past" (8). For Nora, memory is living, vital, active, and revivifying, "affective and magical," while history is unimaginative, dry, "always problematic and incomplete" (8-9). Because memory is displaced, we create museums, archives, monuments, commemorations, and the like in an effort to recapture a sense of the "memorial consciousness" that once saturated the social environment. We have lost this sense of the vitality of memory because it is no longer embodied in oral history, or through the rituals of everyday life. My point in referencing Nora's conception of memory is to draw attention to the problematic divisions between history and memory that can then disqualify memory as an

important source of viable historical evidence. The result for Chernobyl is a history divorced from memory and therefore deprived its lived context. In the previous chapter, we saw this tension between history and memory in documentary films, where some films present a historically focused narrative while others are concerned with a deeper engagement with memory. Films such as Geyrhalter's *Pripyat* attempt to remind us that Chernobyl is an event that is continuously unfolding. However, while Nora sees museums, archives, and monuments as mere remains of a strong, vibrant connection to memory, I want to explore their potential for revitalizing memory. I also want to argue for the need to collapse the difference between history and memory so that the history of this disaster more alive and vitally felt. Whereas Nora laments the loss of the *milieu de mémoire* brought about by a society "deeply absorbed in its own transformation and renewal" (12), I would argue that the Chernobyl Exclusion Zone is an example of a *milieu de mémoire*, a "real environment of memory" where memory is vital and active (though with some important caveats about its limits, as will be discussed subsequently).

Although there are important differences between the conceptions of memory set forth by Stiegler and Nora, several underlying assumptions are evident. First, our current preoccupation with memory is characterized by loss, including the loss of a temporal anchoring, of historical consciousness, and of the embodiment of memory within everyday life. Second, our culture is prone to forgetfulness, due, in large part, to the growing incorporation of mass technologies in our daily lives. And finally, there does seem to be a link between the threat of forgetting and the materiality of the *lieux de mémoire*, the technics, and the various externalizations of memory embodied by museums, monuments, and memorials. These arguments are part of the wider background of Chernobyl's monuments, memorials, and the museum, all of which are *lieu de mémoire*, places "where memory crystallizes and secretes itself," that are somehow imbued with

a sacred quality, such as the memorials to Chernobyl's heroes, which become sites of pilgrimage to tourists visiting the Zone. As exterior, artificial aids to our remembering, they are technics, which "hold the promise of expanding our capacity to produce meaning and to form communities open to the future," and simultaneously allows us to be "vulnerable to manipulation if the technologies of memory are controlled by industries intent on exploiting our desire for their gain" (Hansen 66). Chernobyl's monuments and memorials, like all monuments and memorials, are inherently biased: they were built with a particular intent and therefore, confirm certain narratives over others. Chernobyl's sites and objects of memory make up a tool from which to interrogate and potentially recover elements of our history that have been lost. However, these arguments only go so far in explaining the complex interactions that first and foremost, are experienced by people, who not only encounter these sites and objects with their own histories of experience, but also encounter sites with histories of their own. There is a public interface missing from these assessments, including how the material traces of Chernobyl's memory accumulate meaning and then communicate that meaning to visitors. An examination of how people engage with them yields insight into the status of memory and its larger import within cultural discourse. There are no sites of memory without someone who remembers. Visitor encounters to Chernobyl's memory spaces have the potential to encourage a greater engagement with the disaster that then offers the possibility of challenging the official history of progress that defines nuclear power's development.

In *Places of Public Memory: The Rhetoric of Museums and Memorials* (2010), Carole Blair, Greg Dickenson, and Brian L. Ott introduce a rhetorical approach to their theorization of memory. Rhetoric, according to the authors, is the discipline that has a history of theorizing the "public," which is an important aspect of how sites of memory function and one that is often

underrepresented. As a framework, rhetorics complicates the dichotomy of remembering and forgetting, not as a challenge to its influence, but as a way of adding nuance to its purview. They define rhetoric as "the study of discourses, events, objects, and practices that attends to their character as meaningful, legal, partisan, and consequential" (2). They offer a concise outline of the features of their framework. According to Blair et al., rhetoric is meaningful, not only in the sense that it carries "evocative, affective weight" that helps "create and/or sustain emotional affiliation" but also in terms of being "filled with meaning" and the ability to "take a range of signification" (3). For the rhetoric of a monument or place to be legible, this "implies a sense of readability or understandability of an expression" and is also "predicated in publicly recognizable symbolic activity in context" (3). This means that objects, practices, and sites of memory "speak" to "particular audiences in particular circumstances" (4). Situating memory sites and objects as rhetorical acknowledges their partisan nature: they "have attitude" and can be "understood as deployments of material signs serving as the grounds for various identifications or perceived alignments to take shape" (4). Additionally, they are, or have the capacity to become, consequential, and concerned with effects and consequences. The authors use the modifier "public" to denote the shared beliefs about the past among members of a group, both small and large. The word "situates shared memory where it is often the most salient to collectives, in constituted audiences, positioned in some kind of relationship of mutuality that implicates their common interests, investments, or destinies, with profound political implications" (6).

This emphasis on the public element of rhetoric expands the overly theorized realm of memory studies that often relies only on scholarly assumptions around the inclusion of various kinds of information, purposes, and experiences of memory, absent the inclusion of actual visitor

experiences. What may be theorized as the ideal effects of memory might not entirely explain how visitors are engaged by these memory sites and objects. Such an approach also highlights the role of power in the shaping of memory. John Bodnar, who examines the emergence of and conflicts surrounding certain commemorations in the United States, is offers further support of this important facet of public memory. He defines public memory as “a body of beliefs and ideas about the past that help a public or society understand both its past, present, and by implication, its future” (Bodnar 15). As much as certain public events commemorate and memorialize the past, they are also about issues and concerns of the present as it envisions the future. The purpose of public memorial events often encompasses the tensions between official and vernacular interests, in which political authorities and cultural leaders attempt to re-fashion narratives to serve their own interests and quiet wider public anxieties. For Bodnar, “Public memory speaks primarily about the structure of power in society because that power is always in question in a world of polarities and contradictions and because cultural understanding is always grounded in the material structure of society itself” (15). It is possible to detect similar tensions with regards to Chernobyl’s monuments, memorials, and commemoration ceremonies, as certain cultural authorities and states have a vested interest in containing Chernobyl’s memory. However, there are other material traces of the disaster that contradict and challenge the history as it is communicated through the rhetoric of official history-as-memory. Often, these alternative objects are located in the same place, which makes for interesting conversations about the role of memory and the consecration of memorial space.

In the case of Chernobyl, the ‘power’ that comes into play as a significant influence on the disaster’s memory is the overarching structures and promoted cultural attitudes that maintain nuclear power as a viable option in our energy future. ‘Public’ most often refers to the visitors

who come into contact with the sites and objects of Chernobyl's memory, but can also include the wider global public who might encounter a news story or witness a remembrance ceremony shown on television or reported on in a newspaper on the disaster's anniversary. Chernobyl's public is localized in very specific ways closer to the disaster's center, but Chernobyl's nuclear dimensions constituted a global public simply because of how widely radiation spread across the world. Such is the nature of nuclear disasters. When the Fukushima Daiichi Nuclear Power Plant suffered its accident in the earthquake and tsunami in March of 2011, radiation from its core was detected across the Pacific Ocean. Similarly, places as far away as northern Norway have reported significantly higher levels of radiation in reindeer populations, even thirty years later. Even further, these types of disasters can have noticeable ramifications for agricultural production, meat and dairy exports, tourism, and local economies, all of which equate to large global impacts. The global dimension also underscores what I would term the "radioactive potency" of the memory of nuclear disaster, which becomes analogous to the radiation itself, on some level, as another instance of Chernobyl's radioactive memory. Just as the closer we move to the disaster's epicenter, the more threatening the radiation becomes, so too is the memory more concentrated, more acutely felt, and more contested. Farther from the disaster, the radiation feels less threatening, is more dispersed, perhaps even negligible, but the conditions of forgetting are more powerful. Additionally, this global reach also reframes the struggle for meaning undertaken at these sites and around these objects as a moral imperative, one that has implications for the vulnerability of bodies and our responsibilities for the future.

This chapter, then, will examine these material manifestations of Chernobyl's memory as rhetorical places, objects, and sites in order to better understand how meaning is negotiated in the spaces they inhabit. Part of that examination includes uncovering the histories of each specific

site or object such as a monument, because those histories announce intentions and are situated within their own historical contexts. I will also explore what each place, event or object has signified and what it has come to signify as each has accrued new meanings over time. In some ways, they are palimpsests, consisting of new memories written over the traces of past ones. Additionally, these material pieces of Chernobyl's memory exist within larger cultural narratives and serve different interests, which inevitably entails the loss of certain other histories and experiences. Crucially, they point out what might have been forgotten or displaced. Finally, this chapter is about the kinds of interactions that visitors to Chernobyl's memory spaces expect, and what they receive from that encounter, whether a deeper understanding of the disaster or a greater appreciation of the seriousness of its consequences. Much of this evidence will come from reviews left on tourist ratings sites as well as reviews and comments left on various social media sites. Without their voices, the theoretical frameworks underpinning the current discussion are left incomplete. The objects of study occupy a wide range. Chernobyl's Exclusion Zone is a memorial space where visitors encounter memorials immortalizing the dead and monuments commemorating the heroes. This chapter will also discuss the Ukrainian National Chornobyl Museum in Kiev as a site that organizes and amplifies history. Also, part of this chapter is a brief consideration of the commemorative ceremonies held on April 26 every year. These ceremonies are often televised and so reach even wider audiences; they, in particular, illustrate present concerns and reinforce official narratives of the disaster. And finally, as a corollary to the sites, this chapter will focus on the tourist experience, primarily Chernobyl's associations with dark tourism. As a mode of experiencing Chernobyl, looking at this phenomenon will go a long way towards explaining what attracts tourists to these sites, including how Chernobyl is advertised as a dark tourist attraction and how its commercial representation might alter the encounter with the

disaster's memory. The technics and *lieu de mémoire* that make up this chapter are not exhaustive, but they do offer a starting point for contemplating the significance of memory in its more explicit public dimensions, which speaks to the potential of Chernobyl's radioactive memory to affect change in terms of thinking about our relationship to nuclear power and its role in our energy future.

Chernobyl's Exclusion Zone

Chernobyl's Exclusion Zone is a site of memory - an unwitting one, though. As mentioned earlier, the city of Pripyat was built as an atomic city not only to house the workers of the Chernobyl Nuclear Power Plant, but also as a model city of the future. That future changed the instant the nuclear disaster befell the plant, changing the city into a place of trauma and memory as the explosion suddenly rendered experience into a 'pre-' and 'post-'. The disaster's fallout extended beyond the limits of the city, to the surrounding villages, where traditional subsistence farming still dominated, a marked contrast to the modern conveniences and planned streets of Pripyat. In the days following the explosion, as people were being evacuated, a thirty-kilometer zone was established by authorities in an effort to contain the damage. Of course, these boundaries are arbitrary, since the radiation did not stop at the cordons, but moved across Belarus and into northern Europe. Yet efforts to "close off" this event were widespread and largely successful. The official term for the containment of the disaster's consequences – liquidation (ликвидация) – only underscores these efforts in "treating the disaster as an external enemy that the Soviet people must fight and annihilate," as Tatiana Kasperski notes. This term also "described accurately Soviet authorities' efforts literally to erase, to make the traces of the disaster disappear both from the environment and the public sphere" (83-4). In "Chernobyl's

Aftermath in Political Symbols, Monuments and Rituals: Remembering the Disaster in Belarus," Kasperski analyzes the status of Chernobyl's memory in Belarus. She finds a "weakness in public memory" when it comes to Chernobyl, due in large part to efforts by the long-standing authoritarian government to co-opt the disaster as a vehicle for "more abstract ideas of national fate, tragedy, and losses, rather than the realities of the disaster. Such a shift marks the ways in which "political ceremonies and monuments...discard some aspects of the past while emphasizing others, and thus contribute to forgetting the disaster as not directly relevant to the present political life" (83).

Similar shifts can be detected in Chernobyl's memory elsewhere, in Ukraine and even globally to some degree, although with lesser localized impacts. Before continuing on to Chernobyl's Exclusion Zone, it is first beneficial to briefly examine Chernobyl's lesser known exclusion zone in Belarus. Established in July of 1988, this zone covers 2,162 square kilometers (835 square miles), encompassing the most contaminated areas of Belarus. The zone is better known as the Polesie State Radioecological Reserve (PSRER), a nature reserve and scientific site where research is conducted into the effects of radiation on the flora and fauna. According to the reserve's website, the more than 700 employees of the zone work to monitor radiation levels, protect wildlife from intrusion, and conduct experiments into land rehabilitation. Despite the heavy contamination of Belarus, this other Exclusion Zone is not well known, because the reserve has remained closed to outside visitors since it was created. Additionally, the closed nature of the country, influenced by the authoritarian government of Alexander Lukashenko, has worked to control the Chernobyl narrative, and downplay the most serious realities of the disaster, as noted by Kasperski:

> Since the second half of the 1990s Belarusian authorities have indeed tried, on the one hand, to transform the disaster's past into an instrument fostering people's

> support for the state and its policies. On the other hand, they attempted to shift the focus of Chernobyl public memory from the tragic past to the bright future by emphasizing the necessary and inevitable return to normality for most of the lands contaminated by the radioactive fallout. (88)

The PSRER opened for eco-tourists in December of 2018 for the first time for the purpose of wildlife watching. Just as in the Ukrainian side of the Exclusion Zone, nature has taken over the abandoned villages now located in the Zone, and wolves, Przewalski horses, and bison roam undisturbed. While the research goals of the reserve are laudable and necessary, the Zone's re-branding as an eco-tourist destination does represent an elision of the larger context of the disaster, particularly when the defunct power plant can be seen just over the border. These efforts also take attention off of the villages surrounding the reserve, which are no less contaminated, but in which people still live, often in impoverished conditions. Beyond the Zone, the intervention of political power over Chernobyl's memory takes on more explicit forms of suppression.

Tatiana Kasperski chronicles how Chernobyl commemorations have absorbed current political tensions between opposition forces and state authorities, focusing, notably, on the commemoration march known as "Chernobyl Path." First organized on September 30, 1989, when thousands of people marched in the center of Minsk, the commemoration march is held every year in April. The commemoration march has become a rallying event for the political opposition. The event is both a commemoration and protest, consisting of three segments: "first, a religious service to honor the victims of the disaster; second, a rally that mainly addresses present problems related to the disaster's impact, and the political situation in general; and third, a procession which usually combines commemoration and protest" (85). Participants wear black bandages, carry black signs bearing the names of contaminated villages, and display religious symbols, which imparts "a sacred and even messianic meaning to the suffering of the Chernobyl

victims and to those of the whole nation" (86). Over the years, authorities have attempted to restrict the visibility of the march by placing arbitrary limits on the number of participants or attempting to displace the march from the center of the city:

> For example, they always give the authorization at the last moment, and they usually significantly modify the itinerary. While opposition forces want to lead the procession through the central part of the city, authorities try to move the opposition forces as far as possible from the main avenue of the capital. Thus, the organizers always have to compromise between the will to challenge the non-democratic rules of the game and the necessity to avoid police actions and to lower the cost of participation in the rally to attract more people. (87)

Additionally, as Kasperski explains, official commemorations sanctioned by the state have adopted the title "Chernobyl Path" for an annual touring festival that takes place around the disaster's anniversary. This festival includes "concerts, a song-contest, and an entertainment program, all of which take place in a large number of radioactively contaminated towns and villages" (89). These events are part of Lukashenko's "policy of rehabilitation" for contaminated areas and reads as a paltry bid by the state to redirect attention from the original march and to visually compensate for the impoverishment of these regions, temporarily, of course. Presidential visits to contaminated territories are also highly staged and designed to present an image of stability and revitalization, which, in turn, frames any protest to the contrary as destabilizing and threatening to the "success" of state efforts (91). Chernobyl accounted for twenty percent of Belarus's annual budget in 1991, crippling the economy, which indicates that there was an economic incentive to declaring these territories safe and rehabilitated. As the memory has faded, that number has decreased to six percent, signaling a divestment in economic support for affected areas.

Belarus gains a lot of political "distance" from the disaster due to the disaster's epicenter being located in Ukraine. Even though Belarus was more adversely affected by the disaster, the

geographical border between the two countries has been exploited to displace the disaster from society. Ukraine, in contrast, cannot claim this distance, because the disaster is so visible and so firmly rooted in Ukrainian memory. However, this does not mean that Chernobyl's memory is not subject to the same kinds of political suppression. The Ukrainian government has experienced quite a few tumultuous shifts since the country gained its independence, as well as significant economic difficulties. Volodymyr Tykhyy outlines some of the changes in governmental support provided to affected populations in contaminated regions. He concludes that pledged financial commitments for social and environmental support remain drastically underfunded, as politicians over-promise funding in a bid to get elected, but then do not deliver (Tykhy 218). Tykhyy explains that rather than continuing to over-promise resources to the disaster, state authorities should commit to more comprehensive assessments and monitoring of neglected populations in order to better allocate what resources are actually available (224). Political upheaval and economic concerns continue to affect the status of Chernobyl in memory in Ukraine, with the disaster being subsumed into the larger narrative of trauma that dominates Ukrainian cultural memory. And, of course, similar concerns about how much the state can afford to allot to the issues caused by Chernobyl, which is a different reality from how much it *should* allot. What this means is that the most vulnerable people affected by the disaster are marginalized and left to the whims of political expediency. The Exclusion Zone itself is shaped by political and economic decisions, which, in turn, influence the encounters that visitors have.

Before discussing the tourism element of Chernobyl's Exclusion Zone, we must also consider how the Zone functions rhetorically to local communities, because they are most acutely affected by the official narratives and decisions related to the status of Chernobyl's memory. When they enter the memorial space of the Zone, their experience differs from the

tourist experience, particularly as it concerns the trauma associated with the disaster and their more direct relationship with political power overseeing the site.

When Pripyat and the surrounding villages were evacuated, many residents were told that they would be returning in a few days, so they packed very few belongings, left their pets and farm animals, and evacuated the city under the impression that their exile was only temporary. Of course, most of these residents would never return, their exile permanent. For many rural residents, for whom the land was their livelihood, the forced evacuation was even more traumatic than the reality of radiation exposure, which they did not understand as a threat. As recorded in Svetlana Alexievich's *Voices from Chernobyl*, police officer Gennady Demenev describes seeing notes left on doors, reading, 'Dear Kind Person, Please don't look for valuables here. We never had any. Use whatever you want, but don't trash the place. We'll be back' or 'Dear house, forgive us!' (36). Vitaly Borisovich Karbalevich, as liquidator, describes how the "order of things was shaken":

> My assignment was not to let any of the old inhabitants back into the evacuated villages. We set up roadblocks, built observation posts. They called us "partisans," for some reason. It's peacetime, and we're standing there in military fatigues. The farmers didn't understand why, for example, they couldn't take a bucket from their yard, or a pitcher, saw, axe. Why they couldn't harvest the crops. How do you tell them? And in fact it was like this: on one side of the road there were soldiers, keeping people out, and on the other side cows were grazing, the harvesters were buzzing, the grain was being shipped...They cried over their poisoned land. Their furniture. Their things. (37)

His description illustrates how villagers, many of whom had lived through World War II and the Holodomor, viewed the forced evacuation through the lens of war. The memory of WWII cannot be underestimated here as familiar territory for Soviet citizens. The Soviet state framed liquidation efforts as a war to be fought and won; just as bodies were thrown into the war effort against Nazi Germany, so to were bodies thrown at the smoldering reactor. The memory of war

also suffused the official narrative of the disaster as a heroic battle. Such a framework places Chernobyl within a larger history of trauma. Many families had worked the same land for generations, had built their houses, had buried their families there, had never thought to contemplate what it would be like to leave, to be exiled. One villager describes this loss: "They gave us a new house. Made of stone. But, you know, we didn't hammer in a single nail in seven years. It wasn't ours. It was foreign. My husband cried and cried" (Alexievich 71). Of course, the trauma of separation drew many people back into the Zone illegally, knowing that survival was at least more possible on their own land rather than in unfamiliar cities.

In "Tourism Mobilities, Spectralities, and the Hauntings of Chernobyl," Kevin Hannam and Ganna Yankovska discuss the relationship between visitors' bodies and the landscapes they move through that structure experience at a site of memory. These "tourist mobilities" are anchored in an embodied and material experience of a place, which, for former residents, are informed by a politics of memory that transforms the Exclusion Zone into a landscape of trauma as they remember past mobilities. As they move through the Zone, they feel the loss of their former lives and mobilities embodied in past kinds of movement: the movement of uncontaminated bodies, the movement toward a more certain future, the leisurely movement before Chernobyl. In an interview conducted by the authors in 2015, one resident describes this feeling poignantly:

> The other people just look at it but when we see it we are living with it and we relive the horror each time we come back and see our land. It is like being on the cemetery where your close relatives are buried. If the same place is visited by a foreign person, he [or she] will never feel the same but if you are a native you will start remembering everything. (327)

From another former resident, a similar sentiment:

> The experience was tragic for us...Tourists go there out of a great curiosity. They learn the history of the place in detail. They explore the history of the accident as

> well. We (previous residents) only look for something that is attached in our memory, something we know already. We don't look for new things there. (327)

What becomes clear is that there is a marked difference between the 'tourist' experience felt by a former resident and the experiences of actual tourists. These sites "speak" to former residents in a deeper, more embodied way. Their experience is more directly aligned with the past, rather than any contemplation of how the past interacts with the future. This difference centers on their own first-hand trauma, which might seem obvious, but bears noting here, because it reminds us that different bodies produce different memories, reveal a variety of localized knowledges, and attest to the reality of the disaster. As visitors to the site, they remind tourists that there is a living memory of this place, that these sites are marked by trauma, and that there are layers of experience in need of uncovering. Recognizing that, as one former resident states: "The tourists...can never comprehend our experience" (Hannam and Yankovska 327), from which to evaluate other experiences of the Zone, including those of foreign tourists and Ukrainian youth.

In the article "Chornobyl as an Open Air Museum: A Polysemic Exploration of Power and Inner Self", Olga Bertelsen explores the mass pilgrimage movement to the Exclusion Zone, which, in this capacity, figures as an open air museum. The concept of an open air museum first appeared in Oslo to preserve the agricultural lifestyles threatened by growing industrialization and the growth of urban spaces. Open air museums involve "the resurrection of old buildings and the re-creation of past landscapes and cultures for educational purposes" (1). Bertelsen acknowledges, however, that the term does not entirely apply to Chernobyl's Exclusion Zone, since the site is not a re-creation but abandoned. Still, it is a museum because of the visitors, whose interactions with the site help "facilitate intimate discoveries, including self-identification and people's role and place in history" (2). Bertelsen's study is concerned primarily with young Ukrainians, both legal as nuclear tourists but more often illegal as "stalkers," who resist the

restrictions and overt commercialization of the Zone through tourism. According to Bertelsen, these visitors come to the Zone seeking "their childhood memories and the secrets of the past at the site of the nuclear disaster" and they discover "their new self-identifications and freedom" (4). Bertelsen frames these encounters within the historical context of newly emergent Ukrainian identity and its struggle against Russian and Soviet influence:

> For many Ukrainian nuclear tourists and "stalkers," Chornobyl also tells the story of Soviet imperial subversion, rejuvenating their national consciousness and contributing to their new national identities. Tranquilized by time, the secrets of the past beckon them, inviting them to commit to routine and frequent pilgrimages to the Chornobyl Zone. Their trips have transformed the Zone into an open air museum that persistently induces a polysemic exploration of institutional power and inner self. (4)

Part of the rhetorical dimension of the Zone encompasses its temporal porousness; the Zone is situated firmly in the past, in the moment of the reactor's explosion, but also "accumulates time and collects evidence" in the layers of decay, reminding us of the future, "where nuclear disasters such as Chornobyl are possible and even likely" (17). Bertelsen's characterization of these encounters as particularly subjective and meaningful to Ukrainian youth is part of the Zone's rhetoric, through which, visitors not only discover new meaning about their own pasts, but also the historical past of Ukraine. They want to learn about a past that many might have only heard about, being too young to have experienced it first-hand, inspired to make their pilgrimages by the words of poets such as Oksana Zabuzhko, Lina Kostenko, and Ivan Drach, three poets discussed in more detail in the following chapter. The poignant imagery of their Chernobyl poetry and the suffering encoded there, figures as the catalyst to a philosophical search for meaning in light of the tragedy so many experienced because of the disaster (18).

According to Bertelsen, these polysemic explorations are expressed not only in the stalkers' desires to learn about Chernobyl and revisit their childhood, but also to perform acts of

symbolic and real political resistance by sneaking into the zone and evading authorities, and even challenge the fear of bodily vulnerability associated with Chernobyl. According to Bertelsen, because these stalkers are often young Ukrainian intellectuals and artists, the pilgrimages to the Zone are particularly generative, drawing on Chernobyl for their artistic and philosophical interpretations: "What unites them is their appreciation of the Zone's beauty and their gravitation towards creativity and self-expression" (12). They also see the parallels between Soviet imperialism and their experiences with "state violence under Yanukovych, and Russia's aggression against Ukraine" (12). In this way, the Exclusion Zone does function as a different kind of museum, one removed from "the panopticistic culture of conventional museums and exhibitions," (25) where movements are unregulated and interactions are undefined. Such freedom, though not without its risks, yields alternative knowledges about the space of disaster and its memory. Their experience of the Zone is not always as defined by the acute trauma of older former residents, although that is part of the experience, but by the intersections between the search for meaning in the present and engagement with the past. The Zone rhetorically "appeals to a shared sense of the past as well as to collective identities," and, as a kind of museum, engages these visitors "by locating visitors' bodies in particular spaces" (Dickinson, Ott, Aoki 29). The artist Fedor Oleksandrovych, whose was featured in the film The Russian Woodpecker, discussed in the previous chapter, draws on the Zone not only as inspiration for his artistic and theatrical projects, but as a way of understanding the systemic abuses of power against Ukraine by Russia and the Soviet Union. The film, discussed in a previous chapter, compares Chernobyl with the Maidan protests and increasing Russian encroachment on Ukraine today, and links both events within a long history of trauma. Such resonances inform the filmmaker's political activism. Sarah D. Phillips, in "Chernobyl's Sixth Sense: The Symbolism

of an Ever-Present Awareness," notices a similar development in historical consciousness produced by Chernobyl, which she traces in the varied symbolic representations of the disaster:

> Rather, I see Chernobyl as a sixth sense in that it attaches to people's bodies - literally in some cases - and it structures the perception of the social world. The Chernobyl accident has led to a developing creative memory and has awakened a heightened sense of conscience among Ukrainians. The tragedy has compelled people in Ukraine to confront disturbing doubts about the country's past and its future, a process that has generated a wealth of collective symbolic forms. Consequently, Chernobyl symbolizations serve as a set of resources: they produce memory, and they are the grounds for making a new society. It is these resources that I refer to as "Chernobyl's sixth sense." (160)

Indeed, the temporal fluidity of these spaces allow for engagement with national and personal histories, "facilitat[ing] intimate discoveries," and bringing Ukrainian youth into contact with the past as a means of understanding the present, and even the future (Bertelsen 2).

Markiyan Kamysh, a Ukrainian novelist and well-known stalker of the Zone, confirms what Bertelsen notes above. After his first visit to the Zone in 2010, he became so entranced by the space of the disaster that he began returning illegally. His debut novel *A Stroll in the Zone* (*Оформляндія або прогулянка в Зону*), published in 2015, chronicles illegal Chernobyl tourism. As one of the most experienced illegals to the Zone, his observations offer a privileged account of life in the Zone. Kamysh is not concerned with the past or the history of the event itself, but how illegals navigate the Zone today. His novel is about the young people "яким не осормно закинути за плечі рюкзак и топати холодними дощами до покинутих міст і сіл, де можна напиватися бюджетною бодярою, бити шибки порожніми пляшками, матюкатися вкрай голосно і утинати інші штуки, які різнять міста живі і мертві" (Kamysh).[1] He

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[1] "who are not ashamed of putting backpacks on their backs and treading through cold rain to abandoned towns and villages, where you can drink cheap vodka, break windows with empty bottles, swear way too loud, and do other things, which differentiate living towns from dead ones."
(All translations from *A Stroll in the Zone* done by Svitlana Bednazh, http://markian.info/?p=1525)

describes a diverse group of people who know the Zone better than most. These stalkers have different reasons for exploring the Zone, but for Kamysh, the reasons he visits the Zone are worse:

> У мене - ще гірше. Для мена Зона - місце релаксу. Замість моря, Карпат, териконів, замість пересипаної засмаглими шалавами і залитої прохолодним мохіто Туреччини. Разів двадцять на рік я - нелегальний турист у Чорнобильську Зону, сталкер, пішохід, самохід, ідіот, - називайте як хочете. Мене не помічають, але я - є. Я - існую. Майже як іонізуюче випромінювання. Як це виглядає? Я збираю рюкзак, приїжджаю до колючого дроту і розчиняюся в темряві поліських лісосмуг, просік і соснових хащ, і ніхто, нізащо на світі мене не помітить (Kamysh)[2]

What Kamysh describes is how being in the Zone and avoiding authorities imparts a measure of freedom to stalkers, who in many ways, are able to document the Zone more carefully and fully than any historian. They venture into swamps, into the dangerous buildings where they take the photos "які потім потрапляють National Geographic і Forbes."[3] Kamysh describes quite eloquently how they, as contemporary ghosts themselves, commune with the ghosts of the area's pre-Chernobyl traumas: "ми тиснемо руки білобрисим нацистам, до яких ще не дісталися археологи. Вони пригощають нас цигарками Rheni, насипають у кишені патронів і тихо шепочуть напутні слова" (Kamysh).[4] There is an element of masochism to this kind of

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[2] "For me, it's worse. For me, the Zone is the place of relaxation. Instead of the sea, the Carpathian Mountains, mine waste hills, instead of Turkey peppered with tanned whores and drowned in chilled mojitos. Some twenty times a year, I, an illegal tourist to the Chernobyl Zone, a stalker, a pedestrian, a self-propelled vehicle, an idiot, call me as you want. I am not visible, but I am. I exist. Almost like ionized radiation. What does it look like? I get my backpack ready, arrive at the barbed wire and dissolve in the darkness of the Polissya forests, woodlands and pine aromas, disappear among the dizziness of thickets, and no one, anywhere in the world, will notice me."

[3] "which find their way to National Geographic and Forbes."

[4] "we shake hands with blonde-haired Nazis, who haven't yet been discovered by archaeologists. They share their Rheni cigarettes with us, fill our pockets with bullets, and quietly whisper their words of wisdom."

exploration, but in spending time in the Zone, the stalkers bring the Zone back to life, as Kamysh notes in an essay about bringing an artist into the Zone:

> Та чим довше я тут, тим більше переконуюсь, що насправді всі ми — рухомі невблаганністю часу. Там, де час зупинився, ми так поспішаємо залишити слід: намалювати стріт-арт, написати книгу, зняти фільм і сфотографувати кожну закуть. Поспішаємо, бо відчуваємо: це місце зникає у нас на очах і закинуті міста — швидко перетворюються в руїни та джунглі. Добре, що наші сліди — це пальне для їх воскресання. (Kamysh "Prypiat Underground")[5]

The experiences of stalkers, particularly those of Kamysh, which are extensively documented on his website, provide a different perspective on the Zone, one that subverts the dominant conceptions of the Zone as a dead space. Their subversive activity reminds us that the Zone's borders, just like the disaster's memory, are both porous and penetrable.

Dark Tourism

In addition to the experiences of former residents and Ukrainian youth in the Zone, are those of tourists. The Chernobyl Exclusion Zone saw its first tourists in the mid-1990s, and there was only one legal tourism organization, "Chernobylinterinform," handling tours. However, those first tourists were few, and it was not until 2010 when the Zone was opened in a wider, more official capacity that the Zone's popularity as a tourist destination increased. At first, tourists were only allowed on very specific routes, designed to avoid dangerous hotspots, but since then, those routes have expanded to include more sites - for a price, of course. Today, numerous tourist agencies advertise "extreme tours" of the Zone, exploiting the fears and

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[5] "But the longer I stay there, the stronger I believe that we're all set in motion by the implacable flow of time. We're in a rush to leave our mark wherever time has stopped, by doing street art, writing a book, shooting a movie, or taking pictures of every nook and cranny. We are in a rush, for we feel that this place is vanishing before our very eyes and that deserted towns are quickly transforming into ruins and jungles. It's a good thing that our marks fuel their resurrection." Translated by Hanna Leliv, https://www.asymptotejournal.com/nonfiction/markiyan-kamysh-pripyat-underground/

anxieties of radiation as a marketing strategy. Undoubtedly, though, Chernobyl is a dark tourist attraction, a site visited by "tourists who were interested in the memorialisation of the dead, who were concerned with historical atrocity and evil and driven by a desire for education and greater self-awareness" (Lennon and Hooper 2). Identified through other, similar terms such as black spot tourism, thanatourism and dissonant heritage, the concept of dark tourism has flourished over the past two decades. The term itself comes from Lennon and Foley (2000), who introduce the concept in *Dark Tourism: The Attraction of Death and Disaster*, where dark tourism is defined broadly as a trend associated with global technology and the capacity to report disasters to wide audiences, with the challenging of the "order, rationality, and progress of modernity," and also with the collapsing of boundaries between a site's message and its commercialization (Sharpley 14). Chernobyl does meet these designations, as an event that was widely reported on and is widely consumed through global technology, as a technological disaster that challenges the notion of linear history and scientific advancement, and as a site that raises questions about the ethics of its marketing and commercialization. Lennon and Foley do maintain that memory, as embodied in material objects and in its personal and collective dimensions, is "critical to the development of a tourist product associated with dark tourism" (99). The problem with the parameters outlined by Lennon and Foley is that it offers very little in the way of a theoretical framework for discovering why tourists want to visit these dark places and how they are engaged by them. To that end, I shall employ a rhetorical approach to examine how tourists engage with and are engaged by the space of memory created by Chernobyl's Exclusion Zone. The analysis will focus largely on the tour itself, examining the role of the tour guide, the interaction between various monuments and their surroundings, the narrative proffered by such tours, the ethical

considerations of Chernobyl as a dark tourist site, and finally, whether viewing Chernobyl as 'dark' is helpful.

The Exclusion Zone is a forbidden place, or at least has the aura of being forbidden, marked off as separate from public space by radiation warning signs, barbed wire, and armed patrol guards. Although people sneak into the Zone or have illegally resettled there, most visits are mediated through various tourist agencies in the region. Tourism has grown steadily over the past decade, nearly doubling in 2019, thanks to the popularity of HBO's Chernobyl miniseries. Visits are highly regulated, and follow a fairly standardized tour, although one that can be customized to some extent, for the right price. This tour is choreographed around certain monuments, and, coincidentally, a certain narrative, one designed to impart a "real" experience. According to various Chernobyl tourism sites and travel blogs documenting such tours, there is a fairly specific routine for visiting the site. The first step is booking a tour with a registered tour agency, which is the only legal way to enter the zone. No children are allowed. Most agencies offer both group and private tours. Every agency provides the chance to rent a dosimeter, but the guide will be equipped with one for safety purposes. Tours depart from Kiev for the two-hour ride to the town of Chernobyl. Many of the buses are equipped with built-in televisions in order to show a documentary (often "Battle of Chernobyl") about the disaster, presenting the historical background. Visitors to the zone are required to wear pants, close-toed shoes, and a long-sleeve shirt (although in the middle of summer, it is possible to see a few people neglect this precaution). The ride from Kiev to the Zone is an opportunity to get to know your guides, who have a lot of stories to tell and information to share.

The tour guide is an essential part of the tour, not only because tourists cannot circulate in the Zone without one, but also because they play the role of interpreter and mediator. Ganna

Yankovska and Kevin Hannam, in “Dark and Toxic Tourism in the Chernobyl Exclusion Zone,” draw on interviews with Chernobyl’s tour guides to examine their role in interpreting the site for visitors. Rhetorically, tour guides appeal to visitors through the narratives of Chernobyl they weave and how they cultivate empathy, which are often intricately linked. For instance, one interviewee, known as Tour Guide D, shapes his tours as someone who was born in the Zone and experienced trauma from the disaster first-hand: “There is no one better to explain these feelings to the tourists and say more than just some facts about Chernobyl than the one who was born here, saw everything with his own eyes, suffered, was forced to move and forget his home forever” (934). Others work as tour guides to stay close to family members who have re-settled in the Zone. For instance, Tour Guide C, sees their role as intermediary vital to the tourist experience, and part of that role consists of managing prior knowledge and correcting misinformation:

> Interpretation is the main part of my work. It is something that tourists are wanting from me the most. Gathering in the empty buildings and walking on desolated streets cannot tell you about the great meaning which I see this place carries. Tourists come with their own imagination and expectations, asking millions of questions and waiting to hear something exciting, new and, maybe, life-changing. (935)

Yankovska and Hannam identify popular culture as a source of knowledge of Chernobyl that can be both generative and contentious for tourist agencies and guides. Video games such as *S.T.A.L.K.E.R. Shadow of Chernobyl* and films like *Chernobyl Diaries* can offer unrealistic expectations that guides must simultaneously contend with and oppose with sound histories but have also presented an opportunity for agencies to cater tours to a certain subsection of tourists, those who are looking for more thrills. CHERNOBYL TOUR, a popular tourist agency, even offers a tour based on the HBO miniseries, capitalizing on the series’ popularity (“CHERNOBYL TOUR”). Consequently, some tour guides admit to a degree of exaggeration

and embellishment. We are reminded that guides are also charged with the responsibility of delivering an experience that aligns with an agency's marketing strategy to ensure positive reviews and the agency's legitimacy. Such ambivalences also indicate that guides cannot exercise total control over the narrative: their interpretations are always subject to the experiences, histories, backgrounds, and knowledge of the tourists they guide.

Still, the personal experiences of Chernobyl's tour guides are important for provoking empathy in tourists, whether through their own past connection with the Zone or through their experiences exploring the Zone. Many tour guides are former stalkers, who entered the Zone illegally many times before becoming an official guide. My own tour guide to the Zone was a stalker, and his depth of knowledge about the disaster and respect for the trauma suffered there was apparent and contributed to the experience. Of course, there are fears of exploiting the emotional trauma, on the side of the guide and tourist. Tour Guide F, quoted in Yankovska and Hannam, describes the tension:

> I was there on the 26th of April (1986) and I remember how I felt that taste of iron on my tongue, headache and stomach sickness. I did not know what was going on, as there was no sign of difference in the air, but I felt something is going wrong. All the bees and bugs disappeared. It was scary...I know these details are interesting and exciting for tourists as they want to know more what people experienced on that horrific day. (935)

In "Educating the (Dark) Masses: Dark Tourism and Sensemaking," Catherine Roberts identifies emotion as a strong influence over the tourist experience of a place, so hearing first-hand accounts add an element of authenticity and confirmation of the 'darkness' embodied there:

> Where storytelling is multisensory (i.e. vocal, embodied, experienced in particular physical space, and not only through visual modes of text and image) attitudes of empathy and aspects of authenticity are enhanced...Guided tours are effective in reinforcing a visitor's emotional experiences, particularly if the guide is a relation of a site victim/survivor or, above all, a survivor of site history themselves. These first- and second-generation storytellers...lend relational authenticity; tourists borrow their memories and emotions in a unique 'guided' experience. (622)

In doing so, guides facilitate deeper engagement with the issues and contexts framing Chernobyl. Interpretation is beneficial for “fuller understanding and awareness” of the disaster and can “provide and promote opportunities and environments in which increased mindfulness, reflective processes, communal contexts, and meaningful exchanges with others may be experienced” (622). When tour guides introduce tourists to the re-settlers living in the Zone, and when tourists are invited into such intimate spaces of memory, the encounter offers a unique opportunity for empathy and experiential learning that exceeds the mere presentation of historical fact. Encounters also serve a secondary purpose for the settlers, providing them with needed goods and contact from the ‘outside’ world, since, as Tour Guide E notes, they often do not have much support: “No one takes care of them; no one tries to give support or medical help to fight with their damaged health and mind. This trip into the heart of the disaster and its surroundings makes everyone more conscious about the consequences and a need to volunteer for the suffered one” (935). Even though tourists undergo complex cognitive processes while on these tours, contemplating the reality of the disaster, it is this bodily experience of these lived spaces, with their emotive and affective dimensions, that account for the potency of Chernobyl’s radioactive memory.

Of course, the kinds of deep experiences possible in the Zone are dependent on many shifting, interconnected factors. The kind of deep engagement described above is somewhat ideal, and not everyone will have nor will want that kind of experience. In perusing the reviews of tours offered by the agency Chernobyl Tour on *Tripadvisor*, it becomes clear that most tourists booking through this agency had positive experiences - out of 3,152 total reviews, 3,104 rate their experience as ‘Excellent’ or ‘Very Good’ (“CHERNOBYL TOUR”). Tourists who rated their experience ‘Average’, ‘Poor’, or ‘Terrible’ seem to coalesce around several issues,

including the size of tour groups, translation issues, and an overabundance of historical information. One visitor writes, "The tour is interesting and the tour guides were great...However, when we arrived we were on a full bus tour with 45 people. When there are so many people it wastes a lot of time." She describes "spending more time on the bus than off it," which can be a frustrating experience, especially when they were promised smaller groups (sdwin100). Another visitor expressed similar frustrations, stating, "Had we have had smaller numbers we would have been able to spend more time exploring and looking at things, rather than feeling rushed which was a disappointment" (chilim870). Both describe how the large amount of people also contributed to it being harder to hear when the guides were speaking, and the wasted time spent waiting while the guides collected everyone. Other visitors describe translation issues, when a guide had trouble communicating. One describes not having an experienced guide: "She started to try to make a sentence and just stopped mid sentence and just get [sic] silent...she was not ready to do a tour" (OskarsK7). In that particular instance, a more senior guide had to take over the remainder of the tour, after noticing "the frustration of the people." Another visitor, describes the differences between the exact tour taken three years apart:

> My brother and I first did this exact tour in 2016, weeks before the new reactor cover was installed. It was awesome, we were left so inspired, in awe and very satisfied...Back then we were a part of just a trickle of daring tourists - no mega buses, no queues, no "disneyland feeling". It's not the fault of Chornobyl tours that Chornobyl is now cramped, overbooked and horribly vandalized - but I can guarantee you that it is their fault that they went full speed with industrializing the opportunity at the expense of people for whom $100 is a lot of money. In short, what I witnessed was a shameless sellout of an attraction I used to think was so cool. I wish I'd never gotten to see what Chornobyl tours has become. (Julia S).

It is clear that a variety of conflicts can structure a negative experience of the Exclusion Zone. The above comments are particularly troubling, in light of the Zone's growing popularity, initiated in large part by the release of HBO's *Chernobyl* miniseries, which has led to an increase

in the number of tourists visiting the Zone, and even prompting Volodymyr Zelensky to designate the site as an official tourist destination. While such a designation opens up the possibility of more concerted efforts to preserve and maintain the Zone, it also opens it up to commercial development, already seen in the new souvenir and food kiosks opening up near checkpoints.

Russian-language tourists, both from Russia and Ukraine, expressed similar commentary in their reviews. The majority are positive, with generous praise given to both the guides and the tour organization, which affirms how crucial the role of the guide is for tourists in shaping the experience. One visitor, Mariia confirms their importance: "Лично для меня, самое главное в экскурсионных турах - это гид (экскурсовод) то, как человек доносит туристам информацию, с какими эмоциями и посылом" (Chuiko).[6] Another reviewer echoes this sentiment: "Благодаря Аде и Вике мы увидели зону отчуждения изнутри, информация подавалась динамично и доступно, поездка прошла на одном дыхании, несмотря на жару. Команда Чернобыль-Тура любит свое дело и делает его отлично!" (julia_dia).[7] The reviewers who rated the experience poorly remarked on how boring the tour was: "Ехать туда следует осенью или весной, чтобы листьев на деревьях не было. Иначе ничего не видно. Также было достаточно скучно, слушая истории.. больше не поеду)" (909lizzie).[8] Anna, another tourist offers this terse assessment: "если вам приятно смотреть на развалины -

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[6] "Personally, for me, the most important part of the sightseeing tour is the guide, how a person delivers to tourists the information, with which emotions and message." (All translations of reviews done by me)

[7] "Thanks to Ada and Vika we saw the exclusion zone from inside, the information was presented dynamically and accessibly, the trip passed in one breath, despite the heat. The Chernobyl Tour team loves their work and does it excellently!"

[8] "Go there in autumn or spring so that there are no leaves on the trees. Otherwise, there's nothing to see. Also it was quite boring, listening to stories..I will not go again."

можно ехать. к сожалению, время делает своё и сейчас там уже выглядит мягко говоря запущено" (Anna).[9] Overwhelmingly, however, the reviews are extremely positive, with visitors reporting enthusiastically how enjoyable their experiences were. Mining the Russian-language reviews yields some interesting finds, such as when Sofya writes about how there was a mini-competition to see whose dosimeter scored the most at radioactive hot spots: "В конце поездки было мини соревнование чей дозиметр набрал больше на горячих точках, максимум за день насобирали значение аналогичное двум часам на самолёте" (Sofya M). The maximum dose was only equivalent to a two-hour plane ride. The fact that reactions to excursions seem to align consistently across ethnic and geopolitical boundaries confirms how standardized the Chernobyl tour has become, but also the transnational character of the disaster. Chernobyl's memory, while held most acutely by those who have direct experience with the disaster's trauma, is accessible to everyone, as it should be, because the disaster is everyone's responsibility.

Chernobyl's official status also stands to draw more visitors to the Zone, which is an ostensibly positive development, because it means that more people might have the opportunity to experience this memorial space, but it also raises some important concerns. More people mean more trash and further damage done to the material landscape of the disaster's memory. Tourists move objects around, contribute to an acceleration of decay, and present a threat to the wildlife taking over the Zone. Tourists engage in a myriad of unintentional behaviors that risk destroying the Zone, which is already quite fragile. Additionally, the newly acquired designation raises questions of standardization of content, of possible alterations to the landscape in terms of wayfinding and more explicit forms of material organization, and of state influence on the

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[9] "if you enjoy looking at ruins – go. unfortunately, time is doing its own thing and now it already looks, to put it mildly, neglected there."

operations of tourist agencies. These concerns are not inherently negative, but they all increase the potential for exploitation of memory for commercial gain, which is problematic. We have to wonder if this is the 'dark' side of dark tourism. While it is not entirely clear what changes will emerge out of this shift, we have to hope that any new developments will be informed by a recognition of the site's heritage value and all of the prerequisite ethical considerations necessary to maintaining the Zone as a site of meaningful engagement with the disaster's history and memory.

Monuments and Memorials

In considering the Zone itself and the specific sites within the Zone that tourists encounter, it is important to note that the Zone cannot be viewed as a monolithic whole, but as a site of variation and competing interests and narratives. Different sites within the Zone provide evidence of different histories, viewpoints, and perspectives. This section will look at the various monuments and memorials located within the Zone, the ones emplotted into the overarching narrative provided by the tour, to uncover moments of contestation. There are conventional memorials and monuments, but also counter-monuments, which often yield contradictory meanings and compel visitors to think about temporal instability and intersections of power. Each site has its own history, its own purpose, but all are in dialogue with one another, which means that their meanings are not static and fixed. As James Young notes in *The Texture of Memory: Holocaust Memorials and Meaning*, memorial space has a "fundamentally interactive, dialogical quality":

> For public memory and its meanings depend not just on the forms and figures in the monument itself but on the viewer's response to the monument, how it is used politically and religiously in the community, who sees it under what circumstances, how its figures enter other media and are recast in new

> surroundings. As will become clear, memorials by themselves remain inert and amnesiac, depending on visitors for whatever memory they finally produce. (xii-xiii)

Looking at specific monuments and memorials in this way will afford more opportunities to examine other kinds of tourist motivations, experiences, and responses that shape, and are shaped by, Chernobyl's memory.

After passing through the first zone checkpoint, with the proper waivers having been signed and identification checked, the tour bus heads into the Zone, to any of a number of places, often to one of the abandoned villages, such as Zalissya, where one of the re-settlers still lives, or to a completely empty, buried village, such as Kopachi, where tourists are allowed to explore and take pictures. Many of the former dwellings were demolished in an effort to bury the radiation. Venturing into the derelict homes is not allowed, due to the instability of structures, but many of the former homes still offer a glimpse into rural architecture with its bright colors and intricate wood stenciling. In the months after the initial explosion, many of the buildings and homes were looted, and the most contaminated ones were literally wiped off of the map. Most of the remaining villages in the Zone are in a state of dereliction since there is no program of preservation to maintain buildings; they are subject to the elements, periodic fires, and the impact of tourists and stalkers exploring the area. The site of abandonment is a familiar one, characteristic of post-colonial transition, when systems and infrastructures of support have collapsed or when vital industries fail. In many ways, the abandoned villages of the zone resembled the numerous abandoned villages and towns across the former Soviet Union, which constitute a topography of decline and neglect. Many of these ruins are the remnants of Soviet utopian fantasies that never quite panned out.

These derelict remains have become modern ruins, and maybe, more accurately, rubble. Gaston R. Gordillo chooses to use the term 'rubble' to describe sites that might typically be venerated as ruins. For Gordillo, rubble is not "shapeless, worthless debris," but "affectively charged matter that is intrinsic to all living places" (5). While conducting ethnographic fieldwork in Argentina, he encountered ruins at the base of the Andes, and was surprised to learn that the indigenous people of the region did not hold the same reverence for them as he did, and they did not even refer to them by that term: 'It took me a while to realize that what people found strange about the concept of "the ruin" is that it is a homogenizing abstraction that does not resonate with the sensuous texture of actual places and objects" (7). Material remains speak to a process of destruction and designating them as ruins often aligns them with the abstraction of elite institutions and official narratives rather than the lived realities embodied in them; viewing them as ruins is a way of 'containing' their affective resonance and unsettling implications. For Gordillo, rubble "deglamorizes ruins by revealing the material sedimentation of destruction" (10), revealing "what space is, how it is produced, how it is destroyed, and what is created by this destruction" (2). The lens of 'rubble' also allows us to see that these objects are inseparable from their present contexts, that they are not "dead things from a dead past, whose value originates far in time" (9). Defining something as a ruin means to associate it with a particular past and to disregard all that has happened since the moment it ostensibly became a ruin. This conceptualization might seem to dwell on negative connotations associated with destruction, but according to Gordillo, who draws on Benjamin, that destruction embodies a liberatory element - the destruction "of false or deceptive forms of experience" (83). Gordillo does not intend that we abandon the term 'ruin,' but simply to reorient it toward the "raw, disjointed nodes of ruptured multiplicity that is immanent to rubble" (10).

While in other chapters, I have referred to the abandoned Zone as being filled with ruins, due to the distinct materiality of the experience of visiting the Zone as a tourist or other kind of visitor, it is helpful here to read them as rubble, especially as they continue to decay into less recognizable forms. Doing so also makes explicit the bodily nature of the experience of rubble, which draws much of its theoretical underpinnings from Henri Lefebvre's claims that the production of space is felt through the body and "in a profoundly material sense" (Gordillo 12). Ruins and rubble are evidence of an absence and the disruption of social life, and that absence and disruption are felt as a haunting, "an affect created by an absence that exerts a hard-to-articulate, nondiscursive, yet positive pressure on the body, thereby turning such absence into a physical presence that is felt and that thereby affects" (31). The affect produced by rubble, then, stands in opposition to that of other conventional monuments erected intentionally for commemoration or memorialization; their decay and negative associations act as counter to the "claims to posterity" and immortality of more conventional monuments (149). Whereas the rubble, barring any efforts of preservation, is slowly starting to disappear, these other monuments are designed to remain and therefore "signal that those places (and, by default, not others) are *worth remembering*" (201, emphasis in original). The disparity in value designated by these two kinds of monumentality are part of what Gordillo, along with the thinkers he cites such as Benjamin, Adorno, and Lefebvre, sees as a defining mechanism of the teleological view of history rendered by capitalism and ideas of progress, whereby destruction is anticipated and necessary, but also hidden in the abstraction of monuments of commemoration and memorialization and in the fetishization of ruins:

> Drawing on Marx's... emphasis that capitalism turns sensuous human labor into a commodity that therefore into abstract labor, Lefebvre...argued that capitalism generates the same abstraction in space. Commoditization, he emphasized, reduces the sensory, multifaceted texture of places to quantifiable, homogeneous

> abstractions to be sold and bought...'The ruin" is part of this abstraction of space, but one that is often ideologically erased in narratives that present it as priceless spatial quality, that is, as "heritage." What the ruin-as-abstraction highlights is the object's *pastness*. (8)

Rubble not only emphasizes the present, but also provokes us to think about the process of their destruction. The fact that some re-settlers still live amongst the rubble amplifies the relationship between rubble and the lived context of the disaster. And while the logic of capitalism does not account for the particularities of Chernobyl, the teleological history of nuclear power operates in a similar manner, and so the rubble of the Exclusion Zone belongs to a constellation of destruction amounted by nuclear power on bodies in spaces around the world, a constellation of radioactive hotspots that speak to the ruptures caused by the use of such destructive power.

We have to wonder, too, if the accusations leveled against capitalism are currently at work in the tourism of the Zone, in the ways that the Zone is marketed, packaged, and narrativized in tours. This is not to say that these guided tours through the Zone serve no edifying purpose or cannot lead to deep engagement with the historical context and reality of the disaster's consequences, because they absolutely can. However, the logic of tourism contributes to the commodification experience and convenient packaging of history and memory for consumption. The increase in popularity, and therefore the demand, for tours and 'real' experiences, comes a greater potential for exploitation, revision, and abstraction in the form of aestheticization. Even now, in the itineraries on the Chernobyl Tours website, a visit to the "house of the only self-settler Rozaliya Ivanivna" is listed as one of the stops, reducing her to a tourist attraction ("CHERNOBYL TOUR"). And while Rozaliya Ivanivna has a valuable perspective on life in the Zone and the scope of the disaster, the idea of showing up at her house with forty-five foreigners who do not speak the same language, raises further questions of intrusion and exploitation. Additionally, considering the implications of ruin porn and the

dissemination of images over social media for ratings and popularity, paying more attention to the rubble becomes an imperative. Rubble is more than just the provocative background to a tragedy. My point in discussing rubble, then, is to combat the totalizing narrative of containment and heroism that is often presented by the more conventionally recognizable monuments within the Zone. The rubble surrounds them, and that proximity alters the relationships between the bodies of visitors and the spaces they are temporarily inhabiting, as a qualifier to the meaning materialized in them. The Zone, a layered landscape or ruins and monuments, is a palimpsest, as Laurie Beth Clark proposes, comparing them to texts. The palimpsestic nature of the Zone comes from the "layering is the product of historical forces, both violent and commemorative" (84). While in these "layered environments" we can discern specific texts and differences, but, as Clark explains, "more often, we are emotionally impacted by their contradictory valences, producing a complex mélange of responses that we may or may not be equipped to unravel" (Clark 84). The dialogic relationship between the Zone's monuments and the rubble allows for deeper engagement with the radioactive memory concentrated there in between the flux of decay and permanence.

Just outside the power plant's administrative offices stands the Prometheus statue, looming over visitors and workers as both a reminder and warning. The history of the Prometheus monument itself is virtually unknown, as though its own memory has been lost as it has gained new meaning. It was first erected in the middle of Pripyat in front of the movie theater of the same name, although its origins are not as important as what it has come to symbolize nearly thirty years after the event. This monument's meaning extends beyond its obvious intended significance as a reminder and warning. Prometheus was the symbol of the

city, but also of the aspirations of the Soviet nuclear project. Nuclear power was the ultimate sign of Communist utopia:

> Atomic science gave great power to those constructivist visions of future communist society, perhaps greater than any other region of science and technology, for its applications in medicine promised longer life; in light industry, better food and perishable goods; in mining and metallurgy, more exact ways to locate and process valuable reserves; and above all else, in energy generation, the ability to provide electricity, anywhere, anytime, too cheap to meter. (Josephson 5).

The promise of this atomic-powered future brought increasing legitimacy to the state and its vision. A popular slogan of the time was "A peaceful atom in every home!" (Мирный атом в каждом доме!); such rhetoric of the "peaceful atom" flourished in the post-war period in the Soviet Union. Such positive promotion is an elision of its own, considering how intricately this new push for peaceful nuclear power was connected to the military industrial complex of the Cold War. The proliferation of weaponry necessitated finding a useful purpose for the overabundance of nuclear material left behind. Similar Prometheus monuments can be found in industrial cities throughout the former Soviet Union. They mark the age of rapid technological and industrial development as well as demarcate the space as a utopian one. However, after Chernobyl, that utopia is now an apocalyptic wasteland. The slogan had now become a joke: "Chernobyl - the peaceful atom in every home!" - the aspirations of the Soviet state realized in a painful, ironic twist of fate (Josephson 5).

When the Prometheus monument was moved from its place in the center of the city, it was also decentralized from its place of prominence in the mythology of Soviet progress. In its new location, the Prometheus monument gains new meanings; it is a text, one to be "written" on, one that interacts with its surroundings to create new associations and interventions. The statue might incite interest simply as an artifact from the abandoned city of Pripyat or from its symbolic

meaning, but a closer consideration reveals other unsettling connotations. The discerning visitor with a knowledge of nuclear history will read this monument in terms of the number of accidents that have occurred throughout the world, but more specifically in terms of the astounding number of nuclear accidents that had taken place in the Soviet Union, including the partial core meltdown of reactor 1 at the Chernobyl Nuclear Power Plant earlier in 1982. The Prometheus monument cannot be separated from the continuing struggle to contain the disaster, of which the construction of the new containment shelter is emblematic. The monument is also a reminder of Ukraine's reliance on nuclear power, which, according to the World Nuclear Association, generates about half of its electricity. Two new reactors are currently under construction, and a majority of its nuclear fuel still comes from Russia. In that respect, the Prometheus monument is a monument to Ukraine's precarious position in terms of the future of its energy infrastructure. Of course, its most obvious meaning arises from the fact that this monument shares the same space with a memorial monument to victims of Chernobyl.

The Prometheus monument is now sitting in front of the plant's administrative offices, but nearby, across the Memorial Square, is a second monument dedicated to the memory of the victims of the Chernobyl disaster. The monument consists of a low wall on which hang twenty-eight plaques, each inscribed with the name of a liquidator or power plant worker who died from acute radiation exposure during the cleanup. In the middle of the wall are an arch and a bell. On the largest plaque, in the center, are the atomic energy symbol and the words, in Ukrainian: "Життя заради життя" (Life for life). The austerity of the victims' memorial, understandably, does not have the same grandeur as the Prometheus monument. The names are hard to discern from far away and the spatial organization of the plaques encompasses a significant width of wall. The monument to victims seems to serve as evidence of the tragedy connected with the

image of Prometheus, but it is not the main element in the Chernobyl narrative, a reality that is born out on a variety of levels in Chernobyl memory. The lack of attention to the victims' monument is not surprising, given the particular prominence accorded to the figure of Prometheus, whose size is hard to ignore. The twenty-eight names are, nevertheless, important: they are "familiar, comforting, and recognizable signs of real people, literal evidence of humanity" (Doss 151). The twenty-eight liquidators, together with the three plant workers killed in the initial explosion, are the thirty-one victims of the disaster. They are important, but this number, 31, so definite and unyielding, ignores the hundreds of thousands of other victims, most of whom will remain unnamed. Additionally, there is no space within Memorial Square to remember them. Whereas flowers are placed on the monument at every anniversary of the disaster, the other victims have been marginalized.

This monument memorializing the victims of Chernobyl should have been a place for people to unite and a locus for the empowerment of the community. Daniel Herwitz, in his article "The Monument in Ruins," characterizes the role of the monument in precisely this same manner:

> Monuments in modern times are often forged out of experiences of ruination, which stir communities to monumental changes in their terms of empowerment. When monuments address ruins, rubble, loss, or decimation, they tend to convert these experiences into communalizing memory, public resolve, power. The ashes of the past, acknowledged as irreparable, become symbolically reconstructed into something else: the hard currency of stone. Around the physical solidity of the thing, the ensuing process of mourning becomes a process of solidarity, of resolution. The power of the stone becomes the occasion for the genesis of power. (Herwitz 232)

The monument to Chernobyl victims, however, is not imbued with this kind of affective power; its location means that it is not even accessible to the wider community, which was largely dispersed anyways after the evacuation. How could survivors unite to remember the victims

when they are slowly becoming victims themselves? This monument is seen mostly by tourists, many of whom cannot read Ukrainian and therefore cannot absorb the reality of the victims' names. In reference to Chernobyl monuments in Belarus, an area hit particularly hard by the catastrophe, Tatiana Kasperski examines the ways in which monuments fail to adequately "remember" the magnitude of the disaster: "As for monuments dedicated to the disaster, they also help shift the focus from concrete causes of the accident and its ongoing health impacts to more abstract ideas of national fate, tragedy and losses" (94). Chernobyl monuments in Ukraine function similarly, drawing attention to the disaster without acknowledging the true extent of its tragedy. This strategy is reflected in many monuments to Chernobyl, as they are either abstract structures overlooked by passersby, or, conversely, too literal, in a way that reduces their meaning. The ubiquitous arch and bell monuments do not necessarily accompany increased welfare, support, and awareness of the realities of nuclear power's slow violence. Perhaps that is the primary problem - the "hardness" of monuments is too hard to communicate the memory of this event and its consequences.

In the town of Chernobyl, there is another notable monument, the Chernobyl Liquidators Monument (Памятник ликвидаторам аварии на Чернобыльской АЭС). The monument was erected by surviving liquidators, who were concerned about their status as victims. Ivan Simonov created the project. Vladimir Monakhov, chairman of the Moscow faction of Soiuz Chernobyl (Chernobyl Union), a collection of organizations dedicated to Chernobyl survivors, mentions this concern in an interview with Radio Liberty in 2013:

> The social security organs and our other organs of executive power for some reason always present us liquidators of the Chernobyl accident as victims...When are people going to start to look at us liquidators of the Chernobyl accident as defenders of the fatherland as opposed to some kind of wretched beggars? ("Zaschita prav", qtd in Johnson 123).

The monument depicts four firemen, as well as a dosimetrist and doctor, running toward the disaster, symbolized by a rendering of the power plant's cooling tower. Stone encloses this power plant, representing the closure of the disaster. Jutting upwards from the middle of the monument is a large column with a sphere - the earth, which although fragile, rises triumphant above the plant, protected. There is a cross at the very top of the monument to symbolize faith; its position above the power plant tower depicted below signifies life over death. The inscription on the monument reads in Ukrainian: "To those who saved the world" (Тим хто врятував світ). The monument is located next to the Chernobyl fire station, which is still manned with firefighters who protect the exclusion zone from fires, which are particularly dangerous as they risk releasing latent radiation from vegetation. The heroism of these men cannot be underestimated. Lyudmila Ignatenko, wife of deceased fireman Vasily Ignatenko, remembers her husband leaving to go fight a fire at the reactor that night in *Voices from Chernobyl*:

> The smoke was from the burning bitumen, which had covered the roof. He said later it was like walking on tar. They tried to beat down the flames. They kicked at the burning graphite with their feet…They weren't wearing their canvas gear. They went off just as they were, in their shirt sleeves. No one told them. They had been called for a fire, that was it (Alexievich 5-6).

The next time she saw her husband, he was in the hospital, where he eventually passed away. At the time, Lyudmila was pregnant with the couple's child; the girl died shortly after birth due to heart failure and liver cirrhosis, both caused by radiation exposure in the womb. The emphasis placed on the role of the liquidators provides a compelling narrative, with all of the disturbing details of horrible deaths by radiation poisoning, details that only sensationalize and dramatize, inevitably reinforcing the singularity of the disaster while also satisfying our need to understand the invisible dangers of radiation through visible images of death. Monuments to liquidators

conjure up these kinds of images, since they experienced the worst of this disaster. The monument has become a significant site for visitors to the Zone to pay their respects.

There are countless monuments to these heroes of Chernobyl located in most cities and towns across Russia, Ukraine, and Belarus. In fact, the heroism of liquidators is a prominent element of the official Chernobyl narrative, which tells of a disaster thwarted only by the heroism of the Soviet people, who were able to save the world from certain disaster. This interpretation was so dominant now that it "recast Chernobyl from a symbol of everything wrong with late-Soviet society into a narrative of heroic triumph that recalls the texts of Soviet Socialist Realism" (Johnson 116). In this narrative, represented in media, films and commemorative editions, "liquidators emerge as the last generation of Soviet heroes" (Johnson 124). Yet this narrative, promoted by monuments, memorial rituals, public ceremonies, and documentaries, elided the more pernicious details of the regime's attitude to the disaster, particularly in the late Soviet period. In "Remembering Chernobyl Through the Lens of Post-Soviet Nostalgia," Emily Johnson observes that "[p]ressure from below gradually helped shift rhetoric on Chernobyl and encourage the emergence of a memorial cult" (121). Consequently, the narratives of heroism and tragedy coexist as people are called to remember the sacrifice of liquidators but also their heroism. As an example, a monument to liquidators was installed in December of 2017 on Poklonnaya Hill in Moscow in what is Russia's largest memorial complex dedicated to the Great Patriotic War. Situated among other monuments dedicated to the victory and tragedy of World War II, the 69-million-ruble monument, created by People's Artist and Sculptor of Russia Andrei Kovalchuk, depicts a scientist, engineer, builder, and soldier striding confidently forward. Whether they are walk toward the disaster, having been called to duty, or away from the disaster, having contained the immediate threat, is unclear. Kovalchuk modelled the figures from

photographs of real people who participated in liquidation and containment efforts. In the opening ceremony, the current president of the Chernobyl Union, Vyacheslav Grishin, offered his own remarks about the long-awaited installation:

> Это событие для нас очень знаковое, тем более на Поклонной горе, которая символизирует мужество и героизм, проявленный за многие столетия истории развития нашего государства. Нельзя обойти тот подвиг, мужество, героизм, профессионализм, который был проявлен ликвидаторами. (“Monument to Liquidators”)[10]

He frames the monument in terms of its heroism, which admittedly is hard to miss. Similarly, Vladimir Asmolov, the deputy director of Rosenergoatom, which operates all of Russia’s nuclear power plants, emphasized that this monument symbolizes both war and victory: “Это была наша война и наша победа” (“Monument to Liquidators”).[11] Considering the prominence of this particular monument, it is clear that the narrative of heroism is still a state-sanctioned narrative. Of course, it is not the only narrative communicated by Chernobyl monuments and memorials, but it is the narrative that gets a privileged position.

While the construction of monuments and memorials to the efforts and sacrifices made by liquidators seem commonplace today, liquidators themselves played a signifcant role in drawing attention to their participation. Johnson speaks to the Russian context, which is distinguished in this instance separately from Ukraine and Belarus, because of the Soviet nostalgia displayed in post-Soviet Russia’s Chernobyl commemorations. Angry about the strict silence set in place by state authorities about Chernobyl, former liquidators would write to

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[10] “This event for us is very significant, especially on Poklonnaya Hill, which symbolizes the courage and heroism shown over many centuries of the history of the development of our state. The feat, courage, heroism, and professionalism that was displayed by liquidators cannot be ignored.” (Translations by me)

[11] “This was our war and our victory.”

newspapers, formed grassroots organizations, participated in some latent political activism, and even staged hunger strikes in order to raise awareness. The legacy of this organizing led to the creation of many grassroots support networks that are still in operation today. They repeated rumors and the "false promises" used to recruit people to fight the disaster as justification for their frustration. Additionally, they drew comparisons between liquidators and veterans of The Great War, which was as expected, considering how the clean-up was cast in military terms as a war that demanded sacrifice in order to be won. Liquidators featured as soldiers on the front line, fighting unimaginable battles. War veterans did receive benefits, such as access to health care, tax privileges, free transportation, priority queuing, and access to new housing, so why not Chernobyl veterans (Johnson 122). Their efforts were successful in getting legislation passed in many of the various post-Soviet nation states, although many of those benefits never materialized, particularly in Belarus and Ukraine, because of extreme economic hardships suffered after the dissolution of the Soviet Union.

The successful recasting of the Chernobyl narrative in terms of heroism yielded uneven results, erasing some crucial elements of the clean-up and turning it into a recognizable trope that can then be manipulated or co-opted for other political purposes, as Kasperski notes in the case of Belarus and as Johnson asserts is happening in Russia. They also offer "coherence or a rationale that helps explain why events occur in the ways they do. Notions of inevitability, predictability, and causality are central to such conventions and become binding agents that seem to cement fragments of events into seamless, whole stories that satisfy our apparent need for closure" (Skoller 39). The fact that Chernobyl was the product of a culture of apathy, secrecy, corruption, and incompetence, that the regime assured Soviet citizens that the situation was under control when it was not, that liquidators were not told of the dangers as they worked, and

that a tremendous health crisis is being ignored, might disrupt this narrative and reopen the wound that has been so carelessly stitched up. As one former liquidator advises in *Voices from Chernobyl*:

> Don't write about the wonders of Soviet heroism. They existed - and they really were wonders. But first there had to be incompetence, negligence, and only after those did you get wonders: covering the embrasure, throwing yourself in front of a machine gun. But that those orders should never have been given, that there shouldn't have been any need, no one writes about that. They flung us there, like sand onto the reactor. (Alexievich 76)

To a large extent, this narrative of heroism and tragedy has been successful in suppressing alternative narratives. This kind of criticism is often elided, as well as the disorganization of the clean-up, the variety of individual motives for participating, and the amount of compulsion necessary for 'heroic' volunteering. These kinds of details do not detract from the sacrifice of liquidators, but they do help to demythologize the human element of this disaster, reminding us that the heroes were real individuals and not part of some monolithic whole reducible to its actions.

However, challenging the primacy of this narrative is difficult, because the idea of Soviet heroism is deeply ingrained in Soviet ideology. In his *Encyclopedia of Soviet Life*, Ilya Zemtsov defines it as a "mode of conduct presented as a moral ideal of communist society that requires of the individual constant readiness for an impressive feat and a life of activism under particularly difficult, even dangerous conditions" (149). Heroism was necessary for the building of the bright communist future as a way of reframing self-sacrifice on the part of individuals and the masses, and the violence of its generation. The title "Hero of the Soviet Union" is given to soldiers during wartime, and "Hero of Socialist Labor" bestowed on workers with high productivity. Images of heroes circulated in the media, on film, and in literature as an ideal to which any

person could aspire. Evgenii Dobrenko explains that, there is a violence fundamental to the formation of the hero that is concealed in images of socialist realism (217-8). Zemtsov confirms:

> In its essence, Soviet heroism is quite inhuman and amoral. Millions of human lives have been sacrificed by the authorities in the name of illusory ideals for the real purpose of maintaining and strengthening their regime...The vast suffering thus incurred receives its ultimate reward in the elevation of the Soviet people in the rank of a "nation of heroes" (strana geroev). (Zemtsov 150).

And the firemen and other liquidators who assisted in the clean-up of Chernobyl are heroes, without question, but the veneration of the firemen in this particular monument reads as not only inadequate to describing the breadth of heroism but also their relative invisibility in terms of the distribution of support today. Given the magnitude of the sacrifice, including the risk to bodily security, the heroism embodied in this monument conceals the violence done to bodies during the time of the disaster's containment efforts and the legacy of that violence that is being perpetrated today in the neglect shown to these victims. This monument cannot be separated from its wider context, and so becomes a call to remember, and an acknowledgement of "the significance of memorialization within this community of sufferers" and their need "to remember their suffering in the light of meaningful sacrifice and perhaps even the Soviet ideology of masculine heroism" (Dobraszczyk 131).

I have noted the similarities between the commemoration of Chernobyl and the Great War several times, but the comparison deserves more consideration. Although it is true that veterans of the war did eventually receive social benefits, the recognition of their status was not a uniform nor immediate development. The veneration of the war as an intrinsic part of national identity did not even come until decades later. Russian sociologist Lev Gudkov, in an article entitled "The Fetters of Victory: How the war Provides Russia with its Identity," examines the

memory of war in contemporary Russia, noting a familiar pattern of heroization and victory. He notes that, just as in the case of Chernobyl, parts of the war experience have been elided:

> Collective memory (mass consciousness) has virtually repressed an entire level of experience: the cheerless everyday life during the ward and the post-war years, the coercive labour, the chronic hunger and poverty, the overcrowded conditions of life…All of this is now seen as burdensome and unnecessary, as were the invalids in the post-war period (they were left to the mercy of fate, people were ashamed of them, turned away from them, hid them with an unpleasant feeling of guild and a sense of "the ugliness of life" – everything was done to keep them out of the official gala picture of peace-time life). (Gudov)

Many veterans did not want to remember or did not have the tools to express that memory productively within everyday social life, but the fact that they were not encouraged to do so did not help either. Gudov elaborates further, acknowledging that, in contrast to the tedious everyday realities of war-time sacrifice is a competing narrative of victory that has steadily solidified and increased as the most important event in Russian history. He connects the prominence of this conception of the war to a desire for pride in victory as compensation for the failure of Soviet achievements: "All of the most important interpretations of the present are concentrated around Victory; it provides them with their standards of evaluation and their rhetorical means of expression." Contributing to this veneration of Victory is the Soviet cultural apparatus, which promoted these "ideologically processed, packaged, and rhetorically shaped" images and ideas, as well as the ubiquitous victory memorials and monuments. Remembering the war in this way has serious repercussions for the way that the past is conceived:

> Victory in the war retrospectively legitimizes the Soviet totalitarian regime as a whole and uncontrolled rule as such; justifies the "costs" of Soviet history and the accelerated military-industrial modernization – the repressions, famines, poverty, and enormous numbers of deaths after collectivization -; and creates a version of the past that has no alternative and provides the only possible and significant framework for interpreting history. (Gudov)

Consequently, the personal traumas suffered by veterans and those involved in the war effort are subsumed under a narrative of heroism and victory. The memories of those experiences exist, but they must compete against this dominant narrative. Works such as Svetlana Alexievich's *The Unwomanly Face of War: An Oral History of Women in World War II* help in the process of recovering these more disqualified knowledges of war, but the concern is that those experiences are disappearing as those who remember pass away. What Gudov demonstrates is particularly applicable to the case of Chernobyl, where more official means of cultural sanctification promote an official narrative of heroism, which is not divorced from tragic recollection, but nonetheless, contributes to a silencing of the disaster as a continuously unfolding event that still affects bodies and spaces today.

Yet there are monuments and memorials that do work against this official narrative of Chernobyl heroism. Other memorial monuments can be found in the town of Chernobyl, 15 kilometers (9 miles) south of the power plant. A stop here is frequently part of longer tours in the Zone, typically the more private ones that involve an overnight stay in the town's visitor accommodations. The town is only partially abandoned. Although it was fully evacuated nine days after the accident, it did not receive as much radiation as the regions to the north and west. Today, it houses the offices of the State Agency of Ukraine on the Exclusion Zone Management, which oversees the management of the Zone, and apartments for employees are also located here. Aside from the areas necessary for accommodating workers, the town is largely overgrown, but the Wormwood Star Memorial Complex is also located in the town's historic center. Built for the twenty-fifth anniversary of the disaster, the complex is a state-sanctioned memorial park designed by Ukrainian artist Anatolii Vasilievich Haydamak, who was also instrumental in the design of the National Ukrainian Chernobyl Museum in Kiev. Several memorial monuments

make up the complex, and rather than analyze each one individually, it is helpful to look at the complex as a whole. Some of the memorial monuments include a memorial to the children, which depicts a red origami crane atop a broken rock; it is a symbol of hope and healing. There is also an art installation, "Hiroshima-Chernobyl-Fukushima", which brings the Japanese nuclear events into dialogue with Chernobyl. Another memorial "Postal Square" consists of empty mailboxes around a metal tree filled with birdhouses. In the middle of the complex is a memorial to displaced villages made up of a path lined on either side with signs depicting the names of the 189 settlements that were resettled, buried, or abandoned. In one direction, the signs are white with black lettering and in the other direction, they are black signs with white lettering effaced by a red slash. A stone map of the Zone marked with candles denoting each village spans one section of the complex. The "Trumpeting Angel" monument, made of what looks like scrap metal, stands nearby. This monument references what many see as a prophecy offered by St. John of Patmos about Chernobyl in the Bible: "The third angel sounded his trumpet, and a great star, blazing like a torch, fell from the sky on a third of the rivers and on the springs of water - the name of the star is Wormwood. A third of the waters turned bitter, and many people died from the waters that had become bitter" (Revelation 8:10-11). 'Chornobyl' means "wormwood" and so the prophecy has been read through the lens of apocalypse in line with the religious connotations attached to the disaster and its aftermath. The complex also includes a newly renovated museum, the "Zirka Polyn" Museum, which opened for visitors in 2018.

The Wormwood Star Memorial Complex is an art installation and memorial space and its milieu is largely symbolic. Symbols become a means of expression in the face of Chernobyl's incomprehensibility for Ukrainians, as Sarah Phillips claims in "Chernobyl's Sixth Sense: The Symbolism of an Ever-Present Awareness." She charts Chernobyl's "symbolic fallout," or how

the disaster "has become a polysemous symbol through which persons seek to render intelligible the nuclear accident and its medical and social consequences" (159). The reading resonates with Paul Dobraszczyk's notion of the Zone as a space where "voids become all pervasive" and "challenge any desire to forget," which means that memorials,

> as carriers of memory in rhetorical form, have become a way in which some form of stability can be regained, whether in physical monuments that allow for collective memorialization of tangible common losses, no matter how small those may be in relation to the larger effects of the disaster, or in the connection of those memories to more abstract and rhetorical ideas of national fate, tragedy and loss. (Dobraszczyk 132)

In the face of such incomprehensibility, symbols serve a compensatory function when the reality of the disaster is often invisible and traumatic, allowing Ukrainians, in particular, to creatively engage with the dramatic shifts in their perception of the world as they negotiate the trauma of the past and contemplate the future:

> The Chernobyl accident has led to a developing creative memory and has awakened a heightened sense of conscience among Ukrainians. The tragedy has compelled people in Ukraine to confront disturbing doubts about the country's past and its future, a process that has generated a wealth of collective symbolic forms. Consequently, Chernobyl symbolizations serve as a set of resources: they produce memory, and they are the grounds for making a new society. (Phillips 160)

The formation of symbols constitutes the complexities of "how people represent themselves to themselves and to each other", and creatively reveal the diversity of knowledge and experience contained in the act of remembering the disaster. Phillips sees this act of symbolic representation as a 'sixth sense' that "connects bodies, memory, and place in new perceptions of the social world, and is reflected in symbolic attempts to "claim" Chernobyl for Ukraine" (160). This sixth sense is oriented toward the future as it reconstitutes the social world, as a kind of radioactive memory.

Due to the Chernobyl's complexity, the symbolic forms of Chernobyl's memory are polysemous, as Sarah Phillips argues, and help to render the invisibility and the unknown around Chernobyl "more material, concrete, and, therefore, intelligible" (162). We can then view the artistically and evocatively rendered sculptures and memorial monuments in the Wormwood Star Complex as part of this larger network of symbolization. Although not exhaustive, Phillips examines several varied symbolic forms in Chernobyl's memorial representation, including Chernobyl as God's Judgment, Chernobyl as War, Children of Chernobyl, and the destruction of Ukrainian land, all of which are reflected in the materiality of the Wormwood Star Memorial Complex. The "Trumpeting Angel," with its Biblical reference frames this memorial work. The associations with wormwood and bitterness contained in the meaning of 'chornobyl' have come to represent the contamination wrought by the disaster. Additionally, many Ukrainians see Chornobyl as a punishment from God for the hubris embodied by the use of nuclear power on "God's domain" of nature (Phillips 163). As I will show in Chapter 3, we can detect this same symbolism in Ukrainian poetry on Chernobyl, too. Poets harnessed familiar symbols to present the post-apocalyptic world. As in the representation of liquidators seen in other memorial monuments, Chernobyl as War is depicted in the presentation of equipment, radiation suits, medals and other memorabilia showcased in the "Zirka Polin" Museum. Hall Four of the museum is dedicated to the international recognition of the liquidators' heroism. The museum also helps to situate the symbols into a larger Chernobyl narrative, because that symbolism identified by Phillips carries into the spaces of the museum. For example, the central hall of the museum is designed as a space of contemplation and reflection. Children of Chernobyl are symbolized not only as the hope and healing evoked by the red origami crane in the children's memorial, but also in the interior of the museum which features cradles hanging from the ceiling,

as though they are flying. The destruction of Ukrainian land can be detected in the Memorial to displaced villages and the stone map of the Zone, which symbolize the loss of not only all of that land to radiation, but also the loss of the agricultural connection to that land which is part of Ukrainian self-identity and soul of the nation. As the "breadbasket" of Europe, the contamination of the land is felt most acutely, and constitutes a significant element to images of grief and mourning about Chernobyl. Such mourning is familiar, and also invokes the wider decline in the agricultural way of life brought upon by the collapse of the Soviet Union.

Phillips locates these symbols in a process of localized communication among Ukrainians, but that also carries over into the wider more global sphere of communication to visitors about what Chernobyl is and what it means for Ukraine. Symbols are also employed as a means of claiming Chernobyl for Ukraine, as can be seen in the museum displays, which interweave official documents and symbolic imagery, often folkloric in nature. Zirka Polin Museum and the Chernobyl Museum in Kiev all utilize this strategy by including ethnographic detail in what seems like a "startling juxtaposition," but such imagery underscores the moral guilt felt by Ukrainians for allowing this disaster to happen (Phillips 176-77). These symbolic, specifically Ukrainian images also help visitors recognize and learn about the deeper roots of Ukrainian culture and Chernobyl's place in them. Anatolii Haydamak confirms the symbolic interaction in the complex's design, as paraphrased in the following:

> According to Anatolii Haydamak...the visitor faces the live truth of the real action as soon as the symbolic frame of the dosimetric control crosses and stops to the platform under whose glass the reactor is located. Here the apples roll, cradles and birds fly, photos scatter...Each element of the interior of the halls has an emotional load - the floor, ceiling and walls are included in the exposition space. (SAUEZM)

In visiting the complex, tourists are invited to engage with not only the historical context of the disaster, but also the ways in which the Chernobyl provoked deeper meanings in Ukraine. The

affective interplay of material and symbolic speaks to the larger traumas and ways of processing that trauma, and through these representations, visitors learn about Ukrainian culture and also the impact of power, both nuclear and Soviet, on the lives of those closest to the space of this disaster.

The final notable monument of the exclusion zone is the Monument the Heroes and Professionals, dedicated to those who constructed the original sarcophagus over the reactor. In 2006, in commemoration of the twentieth anniversary of the disaster, the monument was erected directly in front of the sarcophagus of reactor 4. It is the one place that tourists are allowed to photograph the reactor. The monument consists of a large pillar carved with a bell and a lightning bolt shaped crack at the top. Directly in front of the pillar two large stone hands enclose a sarcophagus. At the bottom of the monument are four plaques, three of which are engraved with the words: "To the heroes and professionals to those who protected the world from nuclear disaster. In honour of the 20th anniversary of shelter object construction." These words are translated into several different languages – Ukrainian, Russian, English, although the English translation is grammatically incorrect and barely intelligible. The sarcophagus that surrounds reactor 4 is an interesting structure in terms of both its existence and ultimate symbolic meaning. The sarcophagus currently enveloping the dangerously exposed reactor was built quickly over a period of seven months. It was built as a wholly temporary structure, one that has grossly outlived its original lifespan. The original sarcophagus is falling apart and in desperate need of replacement, and it is almost miraculous the decaying structure stood as long as it did. Although the inscription on the plaque dedicates the monument to those who protected the world from certain disaster, the form of the monument, with its central image of the sarcophagus, undoubtedly extols this failing structure. In many ways, this particular monument is essentially a

monument to another monument, that of the sarcophagus itself. The sarcophagus is a monument to the containment of disaster and the heroism involved in preventing more widespread destruction, but it is also a monument to the futility of such a venture of nuclear power in the first place. The sarcophagus entombs the apex of nuclear energy development in the Soviet Union; it ostensibly symbolizes the death of the atomic era, but instead of it being a symbol of victory over this disaster, the sarcophagus can be read as a symbol of the unequivocal failure of the entire Soviet nuclear project. However, in dialogue with this monument, the sarcophagus unintentionally challenges the infallibility of other monuments by existing as a countermonument, a "monument that, for centuries, even millennia, to come, will signify an historical failure rather than a victory." Paul Dobraszczyk asserts that the shelter is a monument to the void and the "obscene material excess" of the invisible toxic contents in the reactor (127).

The countermonument challenges everything that regular monuments presume to represent. The monument's hard, rigid, fixity, in both form and meaning, become undone in the countermonument. According to James Young, the countermonument "flouts any number of cherished memorial conventions: its aim is not to console but to provoke; not to remain fixed but to change; not to be everlasting but to disappear; not to be ignored by passersby but to demand interaction" (30). The sarcophagus was a countermonument, a structure that could not be ignored, that did not offer comfort and consolation. The monument to its construction and the necessity of the sarcophagus's construction are fundamentally incompatible in terms of their meaning, demonstrating the limitations of the monument to communicating the memory of the disaster. The sarcophagus marked our continued investment in the maintenance and safety of the site. While the Chernobyl monument crystallizes the disaster as a fixed point in time, the sarcophagus reminds us that the disaster continues into the present day. The visible signs of its

decay - the rust stains, the crumbling walls, and the holes - attested to its passage through time. In many ways the sarcophagus was the most enduring monument, even in the fact that it was not able to endure. It signals the failure to contain the radiation, and serves as a fitting analogy for the invisible, yet pervasive, force of radioactive memory.

And today, a new 1.4-billion-dollar containment structure sits atop the original sarcophagus, but even this one will need to be replaced in one hundred years. This new structure is a sleek and metallic dome 108 meters high, 162 meters long, and spans 257 meters in width (EBRD). The arch-shaped structure is gigantic, large enough to fit the Roman Colosseum inside, and it weights 36,000 tons. Referred to as the New Safe Confinement (NSC), its new name is utilitarian and unembellished, attempting to shed its associations with death and loss that the original sarcophagus absorbed: “In short, the move from Sarcophagus to Shelter implies a different future memorialization of the accident, one that offers the assurance and memory of maternal protection, even if that comes at the cost of the former sense of heroic entombment” (Dobraszczyk 128). The NSC is also framed in terms of its technological sophistication and engineering and is frequently described with details of the advanced design of its construction. Work on the structure began in 2010 and was completed in November of 2016 when it was moved into place. The structure’s final commissioning tests were completed in April of 2019, when the NSC came into full operation; the shelter’s internal systems will eventually allow for the start of the reactor’s deconstruction. Funding for the project, which was awarded to French companies Bouygues and Vinci, came from the Chernobyl Shelter Fund, a fund into which over 45 countries made donations, and which is administered by the European Bank for Reconstruction and Development, the largest contributor. It is notable that most of the funding for this 2.1 billion dollar project came from Europe, with Russia contributing around 22 million

Euros in total (between the Chernobyl Shelter Fund and the Nuclear Safety Account used for an interim fuel storage facility), what seems like a paltry sum compared to the degree of responsibility attributed to Russia. Funding of the project provides another vector from which responsibility for the disaster is negotiated.

The reactor will require a new sarcophagus periodically over the next ten to twenty thousand years due to the long half-life of the radioactive elements in the reactor core. Without some kind of containment structure, some four tons of radioactive dust particles would be swept into the atmosphere by the wind and absorbed into the ground when it rains. Additionally, 630,000 cubic meters of radioactive waste, 200 tons of nuclear fuel, and 43,000 cubic meters of high-level waste are contained within the structure (Chornobyl NPP). The sarcophagus, in its constantly reinvented form, has duration in a way that the Chernobyl monument does not. A thousand years from now, the monument might still remain, but it will remain stuck in the past, and will signify a moment that is disconnected from the future, while the sarcophagus will always embody the present and past simultaneously; simply because of the necessity of its existence, it will serve as an everlasting reminder of the radioactive danger lurking beneath. Time is the important factor, as James Young writes:

> The countermonument would turn this over: it forces the memorial to disperse – not gather – memory, even as it gathers the literal effects of time in one place. In dissipating itself over time, the countermonument would mimic time's own dispersion, become more like time than like memory. It would remind us that the very notion of linear time assumes memory of a past moment: time as the perpetually measured distance between this moment and the next, between this instant and the past remembered. In this sense, the countermonument asks us to recognize that time and memory are interdependent, in a dialectical flux. (47)

The NSC reminds us that Chernobyl is a 'hyperobject', a term referring to "things that are massively distributed in time and space relative to humans" (Morton 1). Hyperobjects exert a marked influence over "human social and psychic space" and leave their traces on "human art

and experience (the aesthetic dimension)" (Morton 2). Hyperobjects remind us that nuclear power is measured in geologic time and gesture toward a future beyond humans. The monument to the completion of the original Shelter Object will eventually appear anachronous and strange. Additionally, the ruins of abandoned cities that suffuse the monument with its signifying power will have turned to rubble or barely identifiable waste. Yet, the sarcophagus will continue to provoke the uncertainty and anxiety of impending ecological disaster.

This discussion of monuments and their "hard currency of stone" inevitably touches on the idea of hard and soft cultural memory as outlined by Alexander Etkind. Using the analogy of computer hardware and software, he conceptualizes the interaction between different kinds of memory: "Soft memory consists primarily of texts (including literary, historical, and other narratives), whereas hard memory consists primarily of monuments (and sometimes, state laws and court decisions)" (39). According to Etkind, monuments do not "speak" until they are spoken about and interrogated, and imagery, texts, and opinions will disappear with every generation unless they are attached to monuments and memorials. Each is required to enliven and sustain cultural memory: "The hardening of memory is a cultural process with specific functions, conditions, and thresholds. It is not the mere existence of the hardware and the software but their interaction, transparency, and conduct that give cultural memory life" (Etkind 40). The problem with the entire Chernobyl memory project is that there is an overabundance of hard memory, while the soft memory has been pushed aside. The task remains to bring them into clearer dialogue with one another. There is a monument in nearly every major city across the former Soviet Union commemorating this disaster, but there is almost no generative dialogue about what the event means to those that continue to live with the disaster's consequences. Every year, large ceremonies are held in these cities, to remember what happened, but rarely is

anything said about what is still happening, about what will be done for those most acutely affected by Chernobyl. The glaring problem with how this event was handled was the lack of extensive health studies conducted on liquidators, as well as on populations living near or on irradiated land. Monuments outside the Zone, even while being so prolific, are far less visible in public space due to the characteristically abstract design of most Chernobyl monuments, but also because they are easily ignored in the midst of mundane life. However, the monuments within the forbidden exclusion zone surrounding the power plant do attract a considerable amount of attention, in large part, because of their location and because of the aura that location imparts. These monuments are the products of memory, but they also function as "social frameworks of memory," which, as Maurice Halbwachs explains, are points of reference that communities use to concentrate their images of the past (35). In this role, they visually dominate the memory landscape and inevitably reinforce certain narratives. While this might hold true for most monuments, the monuments in the exclusion zone occupy a peculiar role as delineated by the nature of the zone itself.

Given the proliferation of monuments and memorials in the Zone, visitors have multiple opportunities to engage on a deep critical level with the disaster and its aftermath, grounded in the experience of the Zone as material space. Reviews of various Chernobyl tours confirm the affective resonance of the Zone's memorial space. Visitors describe their experience in the Zone as "incredibly moving and emotional," "immersive and authentic", and "informative and insightful," or if searching by Russian, tourists describe a "увлекательный тур," фантастическая поездка" and "незабываемо" ("CHERNOBYL TOUR").[12] The quality of the

[12] "exciting tour", "fantastic trip" and "unforgettable"

experience, and therefore, its rhetorical potency, however, seems to be dependent on the size of the tour group, the experience, knowledge and "passion" of the tour guide, and the ability to explore (within reason) the spaces of the Zone on their own. There are also troubling implications uncovered in the comments of visitors pertaining to the growing popularity of dark tourism, and the unsettling trend of commodification that is emerging, evidenced by the appearance of Chernobyl-branded ice cream and souvenirs positioned around the Zone. Furthermore, the increase in tourism raises additional questions of voyeurism and motivations for visiting the site among tourists, who often stage photographs to heighten the eerie abandonment of the Zone, further erasing the reality of this place as a populated space. Dobraszczyk asks, "to whom does the memory of Pripyat rightly belong - the tourist or the suffering witnesses?" (139). Although Jeff Goatcher and Viv Brunsden disagree Dorbraszczyk's assessment, and instead see tourists as engaging in a conscious attempt "to create an attentive representation of the pervasive anxiety of the risk society" (Goatcher 132). Both perspectives hold import. It becomes clear that the memorial space of the Zone is polysemic, contentious, and made up of a variety of competing interests, which means that Chernobyl's memory is shifting and malleable. The objects and sites within the Zone "speak" in different ways and often with contradictory effects, but taken together, they all represent the vitality and potential of the Zone as a site of memory, the experience of which expands its purview beyond its arbitrary boundaries. Before leaving, all visitors are scanned in full-body radiation scanners, a reminder that the memory contained within the Exclusion Zone is indeed radioactive.

Recent developments in the Zone have altered the space of memory even further, pointing to ways that the Zone gestured toward the future. The emergence of a latent awareness around Ukraine's energy future can be seen in the appropriation of radioactive space for the use

of solar power production. The Solar Chernobyl Project was conceived of by a consortium of companies under the name RODINA – ENERPARC AG with the goal of implementing green energy initiatives on sites affected by Chernobyl. Construction on the solar power plant began in 2017 and was completed the following year. According to its website, since July of 2018, the plant has been generating energy for Ukraine's energy grid. Considering Ukraine's dependence on nuclear power and the relationship to Russia that such a dependency entails, it is an important development, not only restoring the area of former nuclear power plant into a potential energy-producing center, but also revitalizes the region and proves that Ukraine can divest from its energy reliance on Russia. Chernobyl's disruptive potential is made explicit and helps us to envision what a post-Chernobyl could look like. This is not to indicate that the past should be left behind, but, quite the contrary, the past reimagines the future for the better. The juxtaposition of this alternative future and the destruction of the past is incredibly potent and helps us think through the failure of nuclear power. Given this development, we must wonder if the dark tourist label is adequate to describe Chernobyl's Exclusion Zone and the kinds of interactions occurring there. Michael Bowman and Phaedra Pezzulo ask a similar question in their article "What's so 'Dark' about Dark Tourism?". They contend that when sites are labeled as 'dark', "an implicit claim is made that there is something disturbing, troubling, suspicious, weird, morbid, or perverse about them, but what exactly that may be remains elusive and ill-defined" (190). They are critical of Foley and Lennon's original conception of dark tourism, because the term has come to denote a lot of negative assertions about what constitutes a dark site and the dark tourist, and doing so ignores some of the more generative and positive potential of these places as sites of meaning making and political change:

> Negotiating memory is not just about preserving history, but also about shaping the present and the future. As such, it seems worth further exploring how some

> tours at sites of death open up possibilities for solidarity or alliance-building, particularly those that are sites of environmental disasters…In addition to providing forums for mourning and remorse, tours can help assess damage, educate key constituents, and galvanize much needed support. Acts of remembering what has and still may be happening ideally can provoke cultural change. (194)

For Bowman and Pezzulo, what makes a site ‘dark’ “seems to be a complicated matter of perspective and privilege” (191). Chernobyl’s designation as a dark tourist site is one that is imposed externally, from the influx of Westerners visiting the Zone, but it does not necessarily describe the multifaceted heterotopic nature of the space. Many elements of Chernobyl are disturbing and grim, but that is not all that defines Chernobyl. Pezzulo introduces the term ‘toxic tourism’ as a corrective, to bring attention to the environmental consequences characterizing such sites and demonstrate the effects of pollution on local communities. In *Toxic Tourism: Rhetorics of Pollution, Travel, and Environmental Justice*, she condemns the practice quite harshly: “Tourism contaminates the people and the places where it occurs. Tourism corrodes. Tourism offends. Tourism exploits. In a sense, some might even conclude, tourism kills” (2). There are several downsides to tourism in the Zone, from the increase in trash left behind to the hastening of decay wrought by human activity, and the growing commercialization can be offensive to the Zones, memory, but even that term does not seem quite adequate, considering the sentiments expressed by tourists. Regardless, Chernobyl’s Exclusion Zone as a site of memory is an important space for examining the history of this continually unfolding disaster, but also for envisioning the future of Ukraine and the wider future of global energy.

The Ukrainian National Chornobyl Museum

Located just a three-minute walk from the Kontraktova Ploshcha metro station in Kiev, in a former fire station on Khoryv Lane, sits the Ukrainian National Chornobyl Museum. The

material of the museum actually begins outside, with a memorial monument of a mother and child, with a bell on each side of her, all under three arches. The mother is praying, and the bells, so ubiquitous in Chernobyl representations, are a call to mourn, but also to remember. Sarah Phillips also notes that this call to remember symbolized by the bell "compelled Ukrainian citizens to question the Soviet system, inciting social and political movements" (174). Also outside are a few Soviet-era vehicles, which serve as markers of the time period of the disaster. The museum first opened on the four-year anniversary of the disaster in 1992. When one first enters the museum, there is a small exhibition display available to view for free, as well as a temporary exhibition room on the ground floor. The display recently featured an exhibit on Fukushima, while the larger room featured information about the wildlife of the Zone. The entry fee is just 24 UAH, and another 60 UAH for an audio tour in a number of languages, and there is an additional fee for photography, which is many viewers found disconcerting even though it is standard fare for Ukrainian museums. One reviewer indicated that this was a big part of her poor review:

> Не понравилось - типичный музей с советским уровнем сервиса. Экспонаты, может, есть и интересные, документы. Но чуть не за каждый шаг надо доплачивать, плюс экспонаты расставлены в низких стеллажах, не удобно смотреть. Мы доплатили за возможность фотографировать и нас заверили, что будет в зале будет светло - ничего подобного! (AnyaAndrej)[13]

The dim lighting does often present a problem for reading the exhibits. However, the audio tour also comes highly recommended, because much of the materials and explanation placards are only in Ukrainian or Russian.

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[13] "I did not like it – typical museum with a Soviet level of service. There might be some interesting exhibits and documents. But for almost every step you have to pay, plus the exhibits are arranged in low racks, so were not convenient to look at. We paid extra for the possibility of photographing, and they assured us that there would be light in the hall – no such thing!"

To enter the main permanent exhibition rooms, visitors first make their way up a long set of stairs covered in with the image of an upside-down apple tree, the tree of life. Signs listing the names of villages literally wiped off the map by Chernobyl hang from the ceiling. Visitors descending the stairs will notice a red slash across the names, echoing the memorial to displaced villages in the town of Chernobyl, discussed earlier. The entire museum consists of only three large rooms, and so there is a wide variety of objects, images, and information occupying the visual field. At the top of the stairs, an usher directs visitors to the first exhibition room, which features a display of mannequins dressed as liquidators and firemen hanging from the ceiling, looming overhead on a diagonal, entangled in firehose. In this first room is also a small-scale model of reactor 4 with blinking lights that present an elementary understanding of how water and steam circulate in a reactor, but the model is not very technical. Lining the walls is a dizzying array of artefacts related to the disaster, including hundreds of photographs of liquidators, uniforms, identification cards, medals, newspapers, government documents, and letters. There are also several screens showing footage of the disaster clean-up. The lighting is dim, but the display cases and mounted images are spot-lit. On guided tours, or with a little coaxing of the ushers, visitors can see a diorama animating the disaster, from the explosion to the building of the original sarcophagus. In the second hall continues much of the same imagery suspended among metal scaffolding along the walls. Tree branches extend from the walls at various points, and a helicopter rotor juts into the room from the connecting corridor. A deformed animal fetus adds a macabre detail. One display acknowledges the international aid sent to Ukraine in the disaster's aftermath. And yet another screen shows footage of nuclear testing, related thematically as other instances of the damaging use of nuclear power. There are

maps of Pripyat, exposure maps, and diagrams. Photos show side-by-side comparisons of pre- and post-Chernobyl Pripyat, documenting the dramatic changes.

However, it is the third hall, the largest one, that is the most surreal, a “bizarre temple-like space” (Blackwell 4). Visitors are greeted by an iconostasis made up of some fragments from churches now burned down or abandoned the Zone. The iconostasis is wrapped in barbed wire and a sign that reads “Caution Radiation!” sits in front of it. The central part of the floor is designed to look like the hall of a reactor, replicating the familiar square pattern from which the control rods extend into the core below. In the center of the room, over the reactor top, is a wooden canoe from the Polyessie region of Ukraine filled with stuffed animals and toys left by children who have visited the museum. The boat is suspended in the middle of a church altar ciborium, supposedly from a church in Krasne village in the Zone. Stools are positioned to one side of the boat display for visitors to contemplate the various displays from underneath a netting draped from the ceiling, photos of Soviet life spilling down from the center. On one wall, large octagonal structures are filled with photographs of children who have become ill or have died from illnesses related to Chernobyl. Another wall features scenes dedicated to the rural life of the villages; the images are overlaid with window frames, as though the people pictured in them are looking out from the windows of their village homes. Empty, ghost-like contamination suits are arranged around the room, eerily frozen and foreboding. Religious iconography, symbols from Ukrainian folklore, and artwork from local artists, children, and from around the world intermingle freely in the space. Many of the symbolic forms noted by Sarah Phillips are identifiable, although how visitors should interpret them is never made clear, on purpose. Andrew Blackwell writes of his experience of the room, “I tried to understand the room’s message, and could not” (4).

The Chernobyl Museum can be quite baffling to visitors, although that is not necessarily an insurmountable obstacle to understanding the museum. Andrew Blackwell, in his travelogue *Visit Sunny Chernobyl, And Other Adventures in the World's Most Polluted Places*, offers his own summary:

> There's a special blend of horror and civic pride on display at any museum dedicated to local industrial disaster, and the Chernobyl Museum is surely the best of its kind. The place incorporates history, memorial, commentary, art, religion, and even fashion under a curatorial ethos that is the mutant offspring of several different aesthetics (Blackwell 3-4).

It certainly does not look like a typical museum, nor does it "read" like one. The dim lighting, seemingly haphazard placement of items, the relative lack of signifying placards much less wayfinding signage, the density of media saturation, and the overt symbolism challenges our conceptions about what a museum is supposed to do, and what a museum experience is supposed to be – clearly marked, thematically organized, and accessible. Most visitors understand this to some extent, because around seventy-five percent of the 570 reviews on the museum's *Tripadvisor* page rate the museum highly as either 'Excellent' or 'Very Good'. They found it "heartbreaking and fascinating", "quite moving and very informative", and "impressive." One reviewer commented, "This museum was one of the highlights of our visit to Kiev. It provides an incredibly in-depth look into the community, the people and the heroic (and more often than not fatal) effort of workers to contain the damage. There is [sic] huge amount of artifacts, photos and videos" (John B). According to their website, the museum's mission is to "help mankind realize the scale of the catastrophe through the fates of thousands of those people who witnessed the accident - its participants, witnesses, and victims," so that we come to terms with the role of science, technology, and our own hubris in creating this disaster ("About Us"). In elucidating the consequences and lessons of Chernobyl, the museum becomes a warning for the future. Rather

than present a historical depiction of the facts of the disaster - the decisions that led up to the disaster, the raw statistics, the nuclear physics, or any kind of chronological ordering - the museum opts for a more symbolic, philosophical, and affective strategy. Many viewers found it effective, such as one, who wrote of her positive experience: "Когда я зашла в этот музей, у меня дрожь прошла по телу...Очень впечатляет...Он полностью погружает в ту атмосферу ужаса и глобальности проблемы..." (Irana).[14] Although not entirely unexpected considering the two projects share the same designer, the Wormwood Star Memorial Complex adopts the same approach to working through the disaster's history. In the face of the void created by Chernobyl and its disruptive impact, symbols have become an important means of communication about the disaster and its consequence when other forms of expression fail. According to Sarah Phillips, symbols are also "the grounds for making a new society" and tools that help us re-envision the future (160).

It is important to note that the symbolic register of the National Chernobyl Museum is directly accessible to Ukrainians, since they emerge within a shared cultural experience and understanding of not only the larger historical context, but also the disaster's consequences. Susan Crane, in "Memory, Distortion, and History in the Museum", insists that "historical consciousness continually exceeds those documentable moments which result in texts and narratives, precisely because it refrains from or resists incorporation in institutions, texts, and practices" (Crane 46). As a *lieux de mémoire*, the museum is concerned with establishing historical consciousness, but the recognition of a historical temporality in the context of Chernobyl is characterized by a traumatic excess that is difficult to represent and communicate.

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[14] "When I entered the museum, a shiver when through my body…Very impressive…It completely immerses you in that atmosphere of horror and global nature of the problem"

Bryan C. Taylor examines the rhetoric of American nuclear museums in "Radioactive History: Rhetoric, Memory, and Place in the Post-Cold War Nuclear Museum." He explains that because nuclear museums must negotiate the tension between the proponents and opponents of nuclear weapons, an so "serve as sites of struggle for the control of rhetoric that mediates public understanding of nuclear weapons development"; however, the amounting evidence showing long-term impacts on safety, health, and the environment "confirms the impossibility of 'containing' the effects of nuclear weapons events" (59). Like radiation, those effects "evade control and circulate unpredictably within and across local communities, regions, and nations" (60). The Chernobyl Museum confronts similar tensions as it negotiates visitors' expectations and works to represent the trauma contained within the experience of the disaster. Yet, rather than 'contain' this excess, and confirm an official narrative, the museum, instead, transforms this excess into the material of its exhibits.

A large part of a museum's rhetoric lies in its materiality and a visitor's experience of the space. The Chernobyl Museum recognizes the crucial function of materials to the museum experience in its organization of artefacts, images, and artwork. The museum's larger design is made up of documents, the material of history, interpreted as symbols materially arranged in the exhibits. The symbols are made legible for Ukrainians in an effort, as Phillips contends, to claim the disaster as Ukrainian. Underscoring the cultural context through folkloric imagery and ethnographic detail, is important, as Lisa King explains, because without the cultural background, "distortions in understanding the purpose and function of space are likely to result" (King 679). While some visitors might question the sometimes baffling, sometimes bizarre juxtapositions on display, there is an intentionality to the presentation of these materials that seeks to position the visitor in an overt space of memory. And even though memory is often

impenetrable, subjective, and emotional, it also provides a wealth of alternative knowledge not found in the official narratives of the disaster. Visitors might have to work a little harder to make meaning due to the museum's refusal to offer clear signposts for interpretation, but that, too, is intentional, because Chernobyl's memory is not monolithic and contained. Chernobyl's memory is messy, layered, contentious, and radioactive, spilling over its boundaries, marked by disruption and the breakdown of comprehensibility. It resists narrativization, and, so, consequently, the curators of the museum offer none, and because the material organization follows no intelligible logic, visitors become aware of the explicit placement of objects and images and are then prompted to think about how "knowledge is constructed" (Crane 45).

However, as Susan Crane notes, this kind of prompting can frustrate and put off visitors, who come into the museums with certain expectations only to have them thwarted. Crane explains, "The more curators or historians make themselves visible to museum visitors, the more the visitors react warily, unsure if they are really being asked to engage in discussion (which would necessarily involve opinion), or whether they are simply being instructed in a new way" (Crane 48). While most visitors report having an engaging experience with the museum, nearly twenty-five percent of those who left reviews expressed dissatisfaction. One visitor did not appreciate the artistic presentation: "This museum is a chaotic, if at times creative, arrangement of artefacts related to Chernobyl. There is no real information, and no coherent story of the accident or its aftermath. We spent about 10 minutes walking through the whole exhibit and gained very little from it" (Sophie T). Another visitor laments the lack of information:

> The museum itself is all of 3 rooms. The majority of it is an artistic representation of the incident. There is no info on what went wrong. Even worse, there is no information on the heroes that risked their lives at Chernobyl. There is almost no info on the firefighters or Liquidators. (Meowy)

While there is no specific ‘information’ about individual liquidators in any of the few information placards, there is a wealth of contextual detail relating to their experience illuminated through the personal objects collected in the displays, such as identification cards, medals, and letters. These objects testify to the fact that Chernobyl happened. However, most of these objects are only in Russian or Ukrainian. If a visitor purchases the audio guide, much of this kind of information can also be found there. Another visitor did not like how the museum connects Chernobyl with other nuclear events: “The museum deals with the aftermath but completely leaves out what happened and why it did. All this is topped off by a video loop from Tepco describing their view on the current status [of] Fukushima. This is not a museum” (worldproof). And yet another visitor was “ rather disappointed by the museum” and wrote that they were “certainly expecting to see more and get a real feel for the catastrophe,” just a “mixed bag of memorabilia” that does not offer “a sense of the scale and the far reaching effects of the devastation” (awaywegoagain22). In contrast to the documentary, objective presentation of history, the Chernobyl Museum is about memory, revealing the excess contained in the same documents that history relies upon, only without the narrative.

The primary reasons for dissatisfaction among foreign visitors, seem to coalesce around issues of translation, the lack of interpretive clues, and the absence of detail around the initial explosion at the reactor. These are legitimate concerns. If visitors cannot read the exhibits, because materials are not translated into their language, this is an obstacle to deeper engagement. When visitors are not alerted to the museum’s larger intentions, then the experience of the Chernobyl Museum can be disorienting. It is worth noting that visitors who had a positive and engaging experience at the museum also mentioned that they had either already been on a tour of the Exclusion Zone, had previously researched Chernobyl, had paid for an audio guide, or been

part of a private tour of the museum, indicating that the museum's more symbolic presentation of the disaster's aftermath benefits from being grounded in historical context. Having this foreknowledge of the disaster allows for the materials in the museum to "speak" to visitors beyond just rote historical fact, which confirms the museum's intentions to focus mainly on the aftermath of the disaster. Often, the spectacle of the initial explosion and drama surrounding how such a disaster happened elide Chernobyl's serious long-lasting, but more invisible consequences. The Chernobyl Museum attempts to make visible those effects in a bodily, affective way, which visitors can find disconcerting. Additionally, the museum's refusal to deliver a tidy, easily digestible narrative is intentional, and reflects the complex, ephemeral, and contingent nature of memory. The dichotomy between objectivity and subjectivity collapses and is reconstituted to position the viewers as witnesses to the trauma of the disaster. They are prompted to develop a historical consciousness in their awareness of the impact of history on the bodies and spaces of those most affected by Chernobyl, affecting the bodies of visitors. The coding of these materials as distinctly Ukrainian raises important questions of identity and underscores the power struggle inherent to the claiming of the event. Ukraine claims the suffering for itself, showing how "Ukraine is forever tied up in the negative legacy of nuclear energy," and placing the responsibility for the accident itself onto the Soviet Union. Phillips argues that the Ukrainian symbolism "functions to reiterate that Ukraine and the former USSR (read Russia) are separate; it is also a way to portray to foreigners the suffering that Ukraine experienced during Soviet rule" (Phillips 177). Furthermore, the introduction of other nuclear disasters - nuclear bomb testing, the atomic bombing of Hiroshima and Nagasaki, and Fukushima locates Chernobyl within a larger constellation of nuclear power's violence, which ideally provokes the visitor into critically considering the larger role of nuclear power, in any

form, in our own lives, and how our knowledge of that power is produced. In this way, the National Chernobyl Museum is a place of radioactive memory.

Conclusion

Pierre Nora laments the loss of memory in everyday life that has precipitated the emergence of *lieu de mémoire*, seemingly casting memorial monuments and other sites and objects of memory in a negative light. Stiegler celebrates the technics of memory, but also emphasizes that the vulnerability of those technics to destruction points to the fragility of memory. Chernobyl confirms many of these observations about the dialectic between memory and forgetting. What is remembered is always predicated on what else has been forgotten, and that tension is both fragile and powerful. However, as I have shown, the examination of Chernobyl's memory in these material sites and objects benefits from a more nuanced approach within that dialectic, one that accounts for the public-facing mission of these sites and visitor responses to them. In examining the rhetoric of Chernobyl's memory as contained in these sites, we can detect not only how these sites "speak" to visitors, but also how visitors "hear" them. Because that interaction involves proximity, it necessitates an analysis of the bodily and material dimensions of memory. At these sites, the visitor's body is in direct engagement with the materiality of memory and looking at that engagement helps us understand how these sites become meaningful, legible, partisan, and consequential. A rhetorical approach also takes into account how these sites and objects of memory gain meaning from its dialogic connections to the environment in which it is situated, as well as through visitor motivations and the external forces such as tourism and commodification. In their current form, the monuments and public rituals surrounding those monuments do not adequately represent the breadth of this disaster. What is

missing from these monuments are the voices of people, not only the ones who experienced the disaster firsthand, but also the voices of people who can initiate a critical dialogue about the victims, where the responsibility for this disaster ultimately lies, and the future of nuclear energy. Without these voices, the monuments merely contribute the disregard for these serious issues; these "forms of public memory fail to maintain a meaningful connection between the tragic past and the present…and thus obscure the tragic experience of their former inhabitants" (Kasperski 95).

In a way, Chernobyl's memory challenges some of the conceptions introduced by Stiegler and Nora and shows that the radioactive memory evoked by these sites is potent and affective; they carry the 'memorable' experience of these places with them. They are exteriorizations, but they do not indicate a loss. Indeed, beyond the sites and objects mentioned in this chapter, Chernobyl's material memory is widely dispersed across the world in various memorials and monuments, in traveling museum exhibitions, virtual tours of the Zone, and public commemoration ceremonies. Images such as the ones displayed in the National Chernobyl Museum also circulate in film, on social media, and in photographs on the Internet, much of which is discussed in other chapters, showing how, just like the spread of radiation, the disaster's memory can be found everywhere, if you know where to look. The challenge remains then to think about what role preservation will play in some of these sites that are exposed to not only the elements, but also the activity of humans. In "Radioactive Heritage: The Universal Value of Chernobyl as a Dark Heritage Site," Nicholas Hryhorczuk proposes that Chernobyl should be designated a UNESCO heritage site, because of its states as a historic tragedy, but also as an expression of hope for humanity, and a symbol for change. He argues for the global importance of the disaster, and the Zone:

> The change encountered when experiencing Chernobyl is multifaceted and complex. Chernobyl, like Auschwitz and Hiroshima, provides a forum for self-examination. When visiting these sites, we examine them historically, collectively, and personally, We question our knowledge and beliefs about radiation, and its effects on our health and environment. We also question our belief in our own infallibility and our arrogance in thinking that we can master the enormous power of the atom without adverse consequences. Chernobyl and Hiroshima expose the devastating effects of such power. (1054)

Such a designation also invokes the need for some kind of further preservation of the site, which is deteriorating, and would, therefore, mandate the need for more support for the area. Perhaps, the Chernobyl Exclusion Zone's lack of preservation extends from an ill-defined relationship with that past that results in an inability to decide what to do with this space, this history, this memory. Regardless, the memory examined in this chapter is malleable and subject to change, but examining it also expands the space, both materially and symbolically, from which to understand how material locales become "specific apparatuses of public memory" (Blair et al 32). Etkind writes provocatively, "Monuments without inscriptions are mute, while texts without monuments are ephemeral (177)." The shaping of memory depends on the "interaction, transparency, and conflicts" between the hard and soft elements, or the material and discursive aspects "that give cultural memory life" (177). Somewhere in the encounter between the visitor, who thinks and feels, and the monument, which persists and signifies, is radioactive memory. These encounters, while not always productive, have the capacity to provoke deeper engagement with the causes and impacts of the disaster and encourage us to consider alternatives.

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Chapter 3
A Terrible Kaleidoscope: The Anthropocene Lyric in Chernobyl Poetry

> *Man is trying to tear himself away from the earth. He is trying to master different categories of time, different planets, not just this one. The apocalypse – nuclear winter – has already been described in Western literature, as if they were rehearsing it, preparing for the future.*
>
> - Valentin Borisevich, from *Voices from Chernobyl*

Chernobyl was catastrophic in its proportions and in the reach of its impact. As radioactive as the splitting of the atom for nuclear power, the event led to a splitting of consciousness, experienced traumatically by both individuals and communities located near the power plant. The potency of the radioactive material in the core could not be contained by the Iron Curtain, even with glasnost, and so contributed to the collapse of the Soviet Union. Just as its radiation was carried across the European continent, thousands of miles away, Chernobyl's reverberations were felt in all areas of life. Chernobyl constituted a world-shattering event for many and altered the ways people experience history, time, and space; it was a momentous cultural and symbolic event, requiring a redescription of the world, a re-envisioning of the future, and a reconsideration of the relationship between human and the environment. A new language was also needed to articulate the apocalyptic landscape; yet such a task inevitably uncovers some uncomfortable realizations and truths about the role of nuclear power in our energy future, about mankind's ruthless pursuit of progress, and about the far-reaching consequences of those

decisions. The apocalyptic ruptures of Chernobyl found new articulation in Ukrainian poetry, coming close, in some ways, to Iurii Shcherbak's injunctive to create a' Chernobyl epic.' In poetry, poets were able to describe the world anew, with language and imagery that illuminated a post-Chernobyl emergence onto the Anthropocene.

The Anthropocene, a term coined by Paul Crutzen in 2000, refers to our current geological age, characterized by human dominance over the environment. It is a time marked by the awareness that human activities have created distinct geological changes, ones that will be felt far into the future. The Anthropocene is an apocalyptic time that is oriented toward a future without humans and embodies the anxiety that comes with greater awareness of impending environmental catastrophes, both natural and man-made. The beginnings of the epoch are still being debated. Some propose that the Anthropocene starts from the first appearance of humans, or the beginning of agriculture, while others trace it to industrialization or the widespread use of toxic chemicals, polluting machinery, and war. Still, others identify the beginning of the Anthropocene epoch to the Atomic Age and the detonation of the first atomic bombs, based on the existence of radionuclides in the earth's strata, as a group of international geoscientists proposed in a 2016 article published in the journal *Science*. The group of scientists, led by Colin N. Waters of the British Geological Survey conclude, "Potentially the most widespread and globally synchronous anthropogenic signal is the fallout from nuclear weapons testing" (Waters et al.). Through the lens of the Anthropocene, time and space are vast and thick, with deep pasts and deep futures, and catastrophes are immense in scale and consequence. While some Anthropocenic events are explosive, many often embody the slow violence of invisible and gradually unfolding environment crises. The term 'Anthropocene' has become popularized in

recent years, filtered through various genres including ecocriticism, environmental literature, and ecopoetics. In this chapter, ecopoetics is the focus, as both a critical practice and a formal engagement with specific images and themes. With its capacity to expand and condense time, challenge our perception through the creative construction of images, and provoke both emotional and intellectual engagement in the reader, poetry is an ideal medium, as Tom Bristow notes, “to reanimate anthropocentric sensibility” and “gesture towards affective and sensory qualities that mediate empathy” (2). Poetry can educate readers about this new epoch in which we find ourselves by prompting us to remember the far-reaching consequences of events such as Chernobyl; conversely, the Anthropocene can be a frame through which to ‘read’ the poetic representations of Chernobyl.

Post-Chernobyl poetry responds to the apocalyptic disruptions caused by the world’s worst nuclear disaster. Tamara Hundorova defines Chernobyl as a cultural and symbolic collapse that altered perception of reality and the ability to describe it. She explains that the disaster exploded the dominant conception of reality revealed a multiplicity of other possibilities and alternatives that led to “a desire for a plurality that precipitates the ruin of the socialist realist narration that advocates the monologic” (Hundorova Ch. 12). Socialist realism, the monologic of the Soviet Union, facilitated the development of the Soviet nuclear imaginary that contributed to the disaster in promoting the radiant future powered by the ‘peaceful atom,’ eliding not only nuclear power’s origins in the atomic bomb, but also the costs of misuse. Socialist realist poetry monumentalized the atom and atomic power, in alignment with an ideology that privileged progress over nature, and post-Chernobyl poetry confronts that past and its ideology while manifesting a new Anthropocenic appraisal of history. The apocalyptic character of Ukrainian

post-Chernobyl poetry naturally encompasses the concerns of the Anthropocene, because poets writing about Chernobyl inevitably "find creative and instructive ways of placing the human at the scene of ecological breakdown" (Bristow 108). Post-Chernobyl poetry has an implicit memorial concern in grappling with the trauma of the disaster itself, but it is also interested in a more radical kind of memory, one that prompts readers to remember deeply into the past and re-situate human experience within the broad expanse of time and space in order to rethink the idea of home on this planet and the interconnectedness of the human and non-human. The poems in this chapter encompass Chernobyl's trauma, the pain and violence done to the earth, and an extrapolation of the personal and local into the global and geological. Poets give voice to the anger and vulnerability of the Anthropocene, while also posing questions about responsibility for the earth and the future, as well as the role of the poet. Chernobyl's Anthropocenic manifestations in poetry become radioactive with the potential to help condition a memory that is "attentive to the fabric of our planetary systems in which we are present and are sustained" (Bristow 112).

Before turning to specific poems, it is worthwhile to consider the role of language involved in world-making after the coming of atomic power. Such a discussion necessarily extends beyond the Soviet context, demonstrating that the mechanisms for legitimizing nuclear power and persuading the public to buy into the vision of a nuclear-powered future are similar across geopolitical boundaries and indicative of the political power enmeshed in the decisions about the future of our energy reliance. Chernobyl is not simply a Soviet disaster, and so characterizing it purely as the fault of a flawed reactor design, or human error, or Soviet bureaucratic ineptitude ignores other influential factors such as the underlying political

motivations for the promotion of nuclear power, the historicized pursuit of progress, nuclear power's links to nuclear weaponry, and the disparity in the production of knowledge around nuclear power that tempers public concerns over danger. Language, in particular, is important here, because the poems in this chapter must work to combat the obtuse character of the scientific vocabulary that prevents the wider public from adequately knowing the dangers of nuclear power and the ways that political power invests in its continued use. In *Voices from Chernobyl*, Vasily Nesterenko, former director of the Institute for Nuclear Energy at the Belarussian Academy of Science agrees, "Roentgen, micro-roentgen - this is the language of someone from another planet" (Alexievich 207). The poets considered in this chapter communicate to readers in a language accessible to all, the language of human experience and emotion that recognizes our inhabitation of a shared space. As scientists and political actors looked to harness nuclear power, they encountered the difficult task of making the destructive power of the atom palatable to the public, actively working to actively stifle concerns. In fact, the role of language in describing the global nuclear project has a tendency to flatten and sanitize the impact of nuclear energy's ruinous potential on bodies and spaces, often through creative metaphors. The use of metaphors is, on one level, understandable, especially in light of radiation's invisibility and experiential inaccessibility. As a "deeply contentious and politicized (yet poorly understood) socio technical issue," nuclear power also encourages metaphorical framing (Renzi et al. 627-8). Because knowledge of nuclear power is quite complex and esoteric, that knowledge often finds its way into public discourse through the use of careful metaphors, a practice that can be traced back to the creation of the atomic bomb.

After two atomic bombs were dropped on Japan, the world was forced to come to terms with its new nuclear reality and the potential for destruction that it entailed. Glenn D. Hook has

examined the nuclearization of language in relation to the increased use of nuclear weapons in his work "Making Nuclear Weapons Easier to Live With: The Political Role of Language in Nuclearization." He notes the relationship between language and power in nuclear discourse, "both as a product and as an expression of the distribution of power in society" (68). He breaks down the implications of several metaphors employed by scientists, politicians, and other nuclear war strategists to foster acceptance of nuclear weaponry within the wider public, which "make nuclear weapons easier to live with and, possibly, easier to use again" (68). This language-based strategy was part of a "covert nuclearization" that incorporated non-nuclear language, primarily human metaphors, into the nuclear sphere. Examples include references to a bomb's ability to 'cripple and 'disable' rather than 'exterminate' and 'massacre,' or naming the weapons 'Little Boy' and 'Fat Man,' or utilizing life-cycle metaphors such as 'birth of a new era' or a 'new generation of weaponry' or referring to how an atomic bomb ages and enters retirement, and how a bomb 'does the job.' This kind of language not only "functions to neutralize, sanitize and cleanse the terminology used in nuclear discourse" (69), but also "helps to foster the professional detachment necessary for planning extermination" in those who develop and deploy them while making them "normal and acceptable" to the public (72, 74). Therefore, when it comes to describing damage done by a nuclear weapon, it is about 'victims' become 'collateral damage', or the term 'surgical strike', which implies precision, calculation and necessity, is completely at odds with the unmitigated destruction of an atomic bomb. Fundamental to Hook's examination of language is the role of power, which he connects to the "power of men in science, nuclear war planning and politics" (71), as well as the power of the military-industrial-complex, which has a vested interest in the creation of a reality favorable to the use of nuclear weapons (68). The

power of language simultaneously to create and dismantle reality is key here to both the support and opposition to the global nuclear project, because while the nuclearization of language is responsible for our tacit tolerance of the nuclear in everyday life, our recognition of the "linguistic cosmetics" of nuclear metaphors and who produces them can also help combat their complicity in constructing our nuclear reality:

> Becoming politically literate in this sense can help to clarify how the unequal distribution of power to communicate militates against attempts to make nuclear weapons more *difficult* to live with. For fundamental to the legitimacy of the nuclear political system is the need for the hegemonic view of reality to communicate the opposite. (74)

As Hook also notes, while these types of euphemisms and metaphors are not exclusive to nuclear discourse, the significance of this observation lies in the stakes presented by the nuclear project as one we might or might not wish to endorse in the future.

Although Hook is referring to nuclear weapons, similar mechanisms of language are applicable to nuclear power. This is not surprising considering the dependent relationship between nuclear energy and nuclear weaponry, and how both industries rely on an extensive governmental infrastructure, including funding and research, for their development. After all, without nuclear weapons, nuclear power would not have emerged. The same rationale is utilized to "sell" people nuclear power, which, despite its viability as an alternative energy source, comes with great risk. Helen Caldicott, a physician and anti-nuclear advocate, deconstructs the frequently touted propaganda line that nuclear power is efficient, safe, and environmentally friendly. She, like Hook, also notes the slippery role of language in promoting the nuclear project:

> Nuclear power is often referred to behind closed doors in the U.S. Department of Energy as "hard" energy whereas wind power, solar power, hydropower, and geothermal energy are referred to as "soft" energy pathways. Clearly the same psychosexual language used by the Pentagon generals to describe various aspects of nuclear weapons and nuclear war has been translocated into the nuclear power vocabulary of some very powerful and influential men in the electricity generating field. As a physician, I contend that unless the root cause of a problem can be ascertained there can be no cure. So too the pathology intrinsic in the nuclear power gang needs to be dissected and revealed to the cold light of day. (Caldicott xvi)

In her book, Caldicott outlines the energetic, financial, and human costs of the increasing push to adopt nuclear power as a solution to global warming, costs that are absent from advertisements. In doing so, she has a similar aim to Hook's, mainly, to underscore the power structures that bolster the industry. For instance, one of the main selling points utilized by the Nuclear Energy Institute (NEI), which is responsible for much of the propaganda for the American nuclear industry, is that nuclear energy is both "cleaner and greener" than other sources of power:

> Sentences such as "our 103 nuclear power plants don't burn anything, so they don't produce greenhouse gases" imply that nuclear energy is a more environmentally conscious choice than, say, electricity produced from coal or oil – the traditional sources of fuel across the globe – one that will produce far less carbon dioxide and thus spare us the global warming problems now associated with these other energy sources. (Caldicott 3)

Taken at face value, this is not an incorrect statement. Any "smoke" seen coming out of a nuclear power plant is actually just steam, which is produced as water inside the reactor boils. However, as Caldicott explains, while the plant might not release carbon dioxide, "the production of nuclear electricity depends upon a vast, complex, and hidden industrial infrastructure that is never featured by the nuclear industry in its propaganda, but that actually releases a large amount of carbon dioxide as well as other global warming gases" (4). We are persuaded that the nuclear reactor is "an autonomous creator of energy," when in fact, the

process of mining, refining, and transporting nuclear fuel relies on fossil fuels and coal (4). She also draws attention to the gaps, left unmentioned, in nuclear propaganda: the lack of oversight and unequal regulation over aging power plants, global security threats, increased risks to health, and the problems of nuclear waste. Tasked with selling the viability of nuclear power, an extensive public relations campaign crafts a fantasy, one that hinges on persuasive language that imagines this destructive energy as the answer to climate change when it is, only marginally, the lesser in a hierarchy of deleterious options.

In the context of Chernobyl, we are slightly removed from concerns of climate change and renewable energy. In order to make nuclear power a priority for the state and a viable option for the Soviet Union's energy future, nuclear power would need to be ideologically sound. Stalin's death in 1953 marked a turning point in the Soviet Union as new technological developments, particularly the possibilities promised by the atomic age, ushered in a new era in the construction of a communist society. For the scientists and engineers working with this new form of energy, the "bright Communist future" would be powered by the atom. The development of the Soviet nuclear industry was hardly inevitable, as Sonja Schmid shows in her book *Producing Power: The Pre-Chernobyl History of the Soviet Nuclear Industry*. Apart from economic and political considerations, the ideological framework must coincide with the overall goals of the state. Schmid notes that scientists and engineers in the 1950s played an influential role in promoting nuclear power's potential and legitimacy by primarily "invok[ing] the international prestige of Soviet science," and "conceptualiz[ing] nuclear energy so as to make it consistent with the established ideological imagery of peace and progress" (Schmid 20). Additionally, Paul R. Josephson examines the widespread nature of nuclear culture, which drew upon the cult of science and technology that had long been part of Soviet culture, almost as a

counterpoint to pre-Soviet backwardness and its reliance on agriculture (301). From its inception, the achievement of communism was predicated on scientific and technological advancement, specifically the need for industrialization and electrification, as evidenced in Lenin's "Report on the Work of the Council of People's Commissars" given at the 8th Congress of Soviets in December of 1920:

> *Communism is Soviet power plus the electrification of the whole country*. Otherwise the country will remain a small-peasant country, and we must clearly realize that. We are weaker than capitalism, not only on the world scale, but also within the country. That is common knowledge. We have realized it, and we shall see to it that the economic basis is transformed from a small-peasant basis into a large-scale industrial basis. Only when the country has been electrified, and industry, agriculture and transport have been placed on the technical basis of modern large-scale industry, only then shall we be fully victorious. (516, original emphasis)

Echoes of Lenin's vision for the communist future can be traced to the multiple Five-Year Plans, the Stakhanovite movement, the space program, and the Soviet Union's nuclear project. From its inception, then, this kind of utopian aspiration was embedded in the foundations of the Soviet Union and its extensive efforts to construct Soviet society anew from the rubble of the Russian Empire. Of course, "Utopias can be infectious. Atomic fantasies spread quickly on both sides of the Iron Curtain" (Hecht 8).

Given growing suspicions about the proliferation of nuclear weapons during the Cold War, persuading the public proved imperative. The development of nuclear power, so connected with the production of weapons, needed to be re-branded and the attention shifted away from nuclear power's unpleasant wartime beginnings. In a decades-long drive to sell nuclear power as a viable source of energy, the population was inundated with visions of a Soviet technological utopia, and the possibilities it afforded, through biographies of Russian scientists, histories of

Russian scientific advancement, and scientific prose published in literary journals, as well as radio, television, and news programming dedicated to scientific achievement (Josephson 321). Josephson describes the public response to the promotion of science and technology as largely enthusiastic and positive, marked by a notable level of participation by citizens, who would write in with ideas and proposals for future scientific endeavors, or become engineers, and who equated success in areas such as nuclear research with "the legitimacy of the Soviet system" (321). Valentin Borisevich, the former head of the Laboratory of the Institute of Nuclear Energy at the Belarussian Academy of Sciences, recalls his own entry into nuclear physics, as recorded in Svetlana Alexievich's *Voices from Chernobyl*:

> I loved science fiction, I dreamt of traveling to other planets, and I decided that nuclear energy would take us into the cosmos. I enrolled at the Moscow Energy Institute and learned that the most top-secret department was the nuclear energy department. In the fifties and sixties, nuclear physicists were the elite, they were the best and brightest. The humanities were pushed aside. [...] In our world everything was a secret. The physicists got the high salaries, and the secrecy added to the romance. It was the cult of physics, the era of physics! (179)

Not only would nuclear power solve the post-war economic problems and growing national security concerns, according to nuclear proponents and scientists, but it would also lead to numerous advances in medicine, the automotive industry, and agriculture, which would revolutionize everyday life and power communism. Yet, these grandiose plans were not always based in science, but in Utopia, in keeping with the ever-shifting utopian impulses that dominated the post-Revolution decades and reached its peak under Stalin.

The aesthetic of utopia was Socialist Realism, a mode of cultural production adopted by Soviet writers in the early 1930s, but which seeped into all realms of art. Socialist Realism, outlined by the bylaws of the Union of Soviet Writers, "demands of the artist the truthful,

historically concrete representation of reality in its revolutionary development"; the definition's lack of specificity "allowed the concept to be deployed as a weapon against any deviations, ideological and formal alike" (Kahn et al. 673). This official program of Soviet construction advanced the goals of socialism even if the reality depicted in literature and art, for example, did not actually coincide with how Soviet life actually looked and was experienced. Socialist Realism depicted life, not as it was, but as it would be in the 'bright Communist future.' For Evgenii Dobrenko, in his book *The Political Economy of Socialist Realism*, Socialist Realism cannot be divested from socialism, because it produces socialism with a dominance that is so all encompassing as to grant materiality to reality. He contends that it was not propaganda, but "the ultimate radical aesthetic practice": "Hiding" or "glossing over" truth, portraying it through representative types, "romanticizing" it, and the like are *merely mechanisms of aestheticization*." (4). In other words, without socialist realism, there is no socialism:

> If we were to remove socialist realism - novels about enthusiasm in industry, poems about the joy of labor, films about the happy life, songs and pictures about the wealth of the land of the Soviets, and so on - from our mental image of "socialism," we would be left with nothing that could properly be called socialism. Nothing would remain but dreary workdays, routine daily labor, and a life of hardship and inconvenience - the same reality that can be attributed to any other economic system. Thus once we "distill" socialist realism, there is nothing "socialist" left in the residue. Therefore, we may conclude that socialist realism produced socialism's symbolic values by de-realizing everydayness" (Dobrenko 5).

In lieu of actual, realized socialist life, the political economy of socialist realism created a product that was then consumed and lived by Soviet citizens. The pervasive nature of its aesthetic power ensured that socialist realism became a surrogate reality, making up for what was lacking in Soviet society. In this sense, the city of Pripyat, by nature of its being an 'atomic city' and de facto realization of the mandate of scientific advancement, serves as a testament to

man's dominance over nature and the 'success' of that vision. The symbolic capital produced by socialist realism included narratives and images of scientific and technological progress, which helped to solidify nuclear power's formative role in powering communism.

This teleological vision of Soviet progress precluded the idea of failure. Within the parameters implemented by the state to achieve their aims, there was little for alternatives, as is evidenced by periods of cultural and political repression in the Soviet Union, where dissent was censored or excised. In this sense, the failure of nuclear power in the Soviet Union was unthinkable, even impossible. Michel-Rolph Trouillot, in *Silencing the Past*, the 'unthinkable' refers to "that which one cannot conceive within the range of possible alternatives, that which perverts all answers because it defies the terms under which the questions were phrased" (Trouillot 82). He characterizes the Haitian Revolution as unthinkable for its time, because the idea of a slave insurrection had been repressed under discourses of "Negro obedience" and an ontological order that saw black skin as inferior and primitive (77). According to Trouillot, the discourses about race in the eighteenth century created a worldview with many relatively unquestioned conventions, such as the "contention that enslaved Africans and their descendants could not envision freedom - let alone formulate strategies for gaining and securing freedom" (73). This view, held by the majority of white Europeans and Americans, did not leave room for the possibility of revolution, so when the Haitian Revolution began in August of 1791, it threatened to alter slavery and racism by forcing many to confront the humanity of those enslaved. Their humanity had been almost completely erased before the revolution as a means of legitimizing slavery, and so this challenge to the status quo was unexpected (83-87). Unfortunately, as Trouillot details in a comprehensive historiographical examination, the

revolution became subject to a second silencing, as historians have either trivialized the effects of the revolution or completely ignored it. Despite the many differences between events such as the Haitian Revolution and Chernobyl, Trouillot speaks to the pervasive power of certain discourses made by those in power and the disproportionate influence they hold over the telling of history.

Discourses of nuclear power work in similar ways, as narratives built around the efficacy, viability, and safety of nuclear's future energy potential. These discourses, channeled through advertisements, scientific conferences, and governmental committees and lobbies, have a powerful influence on the ways we understand the role and dangers of nuclear power. Today, they are tasked with the job of countering the negative images of nuclear power that circulate simultaneously in the media and crafting their own visions of utopia. Nuclear power frequently straddles this line between apocalyptic destruction and climate change panacea, neither of which are entirely explanatory, because not every nuclear event is so explosive, but nor so is any nuclear event safe. Despite the tension, dominant discourses of nuclear power's safety, reliability, and environmental benefits seem to hold more sway, effectively containing the excess of radiation's dangers. The debate over nuclear power in India illustrates the embeddedness of these discourses, as Rahul Mukherjee demonstrates by looking at the conceptual and material infrastructures of nuclear reactors and cell towers in *Radiant Infrastructures: Media, Environment, and Cultures of Uncertainty*. India's nuclear energy project is intricately linked to ideas of not only national development and progress, but also the social aspirations of individuals looking to power their own lives. As Mukherjee details, despite the news reports expressing concerns over the radiation of these increasingly visible nuclear reactors (and cell towers) on the

landscape, such structures “embodied the dreams of modernity for many Indians, and therefore could not be brought down” (2). Mukherjee describes the various attempts by nuclear power industry and government to re-brand in the face of increased scrutiny and public backlash, particularly after Fukushima in 2011:

> Post-Fukushima, when the protests against construction of new nuclear plants intensified in India, the nuclear establishment decided to rebrand itself. In collaboration with the National Geographic channel, the Nuclear Power Corporation of India Limited launched a series of advertisements...One particular ad, however, goes beyond framing nuclear energy as illuminating lives through the power of the atom. It portrays the proximate encounters between living beings and nuclear reactors as benign, thus promoting the reactors as safe technologies producing clean and green energy. (138)

The complex discursive interplay taking place through various media channels mobilizes specific nuclear imaginaries that help visualize the promises and expectations of the future and can be both dystopic and optimistic in their outlook. Although there are serious concerns about the impacts to people’s health and the environment being raised by local populations, the national imaginary identifies nuclear power as “key to India’s development” and “equally powerful in exerting a hold on people’s imaginations” (Mukherjee 73). These nuclear imaginaries, communicated through very pervasive mass technologies, hold sway over the construction of society and its political and economic investments, and therefore, over people’s lives. They also ensure that those with the most power at their disposal have a disproportionate voice in the telling of history and its future. Because of their pervasive character, these nuclear imaginaries, such as the one maintained by Socialist Realism in the Soviet Union, become memories that persist beyond their initial purview.

Valentin Borisevich, quoted above, also notes that the power of the Soviet Union’s nuclear imaginary was deeply entwined with the cult of science. The dominance of this vision of

a nuclear-powered communist future played a role in the mishandling of Chernobyl, a disaster that was unthinkable within the parameters issued by state authorities regarding the aims and expectations of nuclear development. As quoted in Alexievich's book, he explains:

> Even when Chernobyl blew up, it took a long time to part with that cult. They'd call up scientists, scientists would fly into Chernobyl on a special charter, but many of them didn't even bring their shaving kits, they thought they'd be there just a few hours. Just a few hours, even though they knew a reactor had blown up. They believed in their physics, they were of the generation that believed in it. But the era of physics ended at Chernobyl. (179)

No one could believe that Chernobyl happened, because it was not accounted for in the Soviet nuclear imaginary. The glorification of industry, scientific advancement, and the success of communism depended on the infallibility of that vision, so any alternatives, including the possibility of massive failure, were discarded, and the sociotechnical dream of the future flourished through various media, including literature and poetry. Under the direction of socialist realism, poetry and literature were mobilized as part of an extensive public relations campaign, selling the viability of nuclear power. Even as the hold of socialist realism loosened later on in the Soviet era, the strength of the vision remained. The poetry of Ivan Drach offers a compelling example and a transitioning point for thinking about the shift to post-Chernobyl thinking. A prolific poet, Drach's poems are known for their complexity and innovation. His relationship with Socialist Realism is complicated. At the beginning of his career as a dissident, his poetry represented a departure from official tenets, and drew harsh criticism, while later, in the 1970s and 80s, he adopted a more conciliatory attitude toward dominant cultural mandates.

In 1974, Drach's collection *The Root and the Crown* (*Корінь і крона*) was published, and in it, is a cycle of poems titled "Breath of the Atomic Power Station" ("Подих атомної") dedicated to the Chernobyl Nuclear Power Plant, its builders, and the town of Pripyat. With this collection, Drach follows in the footsteps of Ukrainian playwright and screenwriter, Yurii

Levada, who wrote the play *Hello, Prypiat* (*Здрастуй Прип'ять*), which was staged in the spring of 1974. The play confronts the threat to the environment that accompanies progress within a specifically Ukrainian context, part of what Serhii Plokhy sees as a means of 'claiming' Chernobyl for Ukraine, despite the Russian incursion that many industrial, technological projects entailed:

> Back in the mid-1960s, Ukraine's communist leaders had rushed to jump on the nuclear bandwagon as an emblem of modernity - their republic had finally joined the exclusive nuclear club. Writers were prepared to overlook the fact that modernity was coming to Ukraine in the garb of the Russian language and culture, undermining the cultural foundations of their imagined modern nation. (289)

Levada's play, then, not only becomes a way of marking the newly constructed power plant and city of Pripyat as Ukrainian, but also mitigating the concerns raised by the local communities. The characters who are against the idea of the power plant are coded negatively as either "wartime collaborators with the Nazis" or "backward-looking peasant women," all of whom are depicted in opposition to the Soviet nuclear imaginary and all the progress it promises (290). Additionally, *Hello, Prypiat* "promotes nuclear energy as the cleanest source of electricity, asserting its compatibility with environmental protection. Any notion that nuclear power might pose a threat to people or the environment is dismissed" (290). In a similar way, Drach's cycle of poems also performs a reconciliatory function that collapses the opposition between technology and nature in a Socialist Realist style.

Drach's poem "The Legend of Polisia" ("Поліска Легенда")[15] personifies the envisioned relationship between nuclear power and the environment in a marriage between the Prypiat River and Atom, who emerges by the matchmakers "Laundau, Sinelnikov, and Kurchatov himself"

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[15] All English translations of Drach's poetry are my own.

(“Сватами за нього приходили Ландау, Синельников і сам Курчатов”), three prominent Soviet physicists - Igor Kurchatov was the director of the Soviet atomic bomb project. Young Prypiat figures as a kind of nature sprite of history, borne from “where the villages still breathe with ash, where every last meter was fought over/ Where everything groans with history, where every blade of grass burns us” (“Де села ще дихають попелом, де воював кожнісінький метр,/ Де все стугонить історією, де кожна билинка - пече нам”). The “river-bride” (ріка-наречена) turns all other suitors away for Atom. However, she must also calm the fears of the birds and fish - Nature - who fears the power of the Atom. Prypiat tells them not to worry, that Atom’s love for her will ensure that their concerns will not have been expressed in vain, for his reactors, where he “is hidden away, guarded by a million locks” (“Він причаїться в реакторі, нього мільйон замків”) are testament to his power, as his “steadfast atomic thrones” (“непохитні атомні трони”). The young river-bride will give herself in marriage to Atom in service to her people. In hindsight, Drach becomes prophetic when he depicts the power plant’s reactors as revered monuments notable in their global reach. “The Legend of Polisia” is the primary poem that deals with the power plant and nuclear power so explicitly, although the others included in the cycle frame the plant and the city of Pripyat in positive, benevolent terms. The poem “Mariia from Ukraine - No. 62276: From Auschwitz to the Chornobyl Power Station” (“Марія з України — №62276: від Освенціму до Чорнобильської атомної”) is about one of the city’s builders, a Ukrainian woman named Mariia Iaremivna Serdiuk, who spent time in Auschwitz. Despite the trauma of her past, she remains good-natured and compassionate. Drach juxtaposes Mariia and her unshakeable love for people, as a beacon of hope, with the radiant future provided by the power plant. Her goodness and the goodness of nuclear power are analogous: “In fate’s gigantic reactor you flew marked by the atom/ to show us clearly that light

emanates from people" ("В гігантськім реакторі долі летіли Ви міченим атомом, / Щоб нам все помітити чітко, що світло на світі з людей"). Such a grand trajectory of history interprets the coming of the atom as a harbinger of the future from the ashes of war. The framing of nuclear power as a positive force in the world against the brutality of the war and Holocaust serves to soften the coming of atomic power, thereby attenuating the fears that the encroachment of this new technological industry.

Drach received the prestigious Shevchenko Prize in literature for this volume of poetry, becoming a "prophet of new times" able to capture "the powerful new rhythms of the epoch of the scientific and technical revolution", as Iurii Shcherbak writes in *Chernobyl: A Documentary Story*. The poems of this cycle do not often feature as exemplary of Drach's poetic style, nor are they especially memorable in light of his later disavowal of the Soviet regime and its handling of Chernobyl, but they do show how poetry was instrumental to constructing the Soviet nuclear imaginary, particularly in its Ukrainian context. Drach's poems not only showcase the nuclear-powered communist utopia, but also educate and persuade the masses as to the benefits of atomic energy, painting it as positive and beneficial for Ukraine through a sense of shared history and solidifying the common vision of the future. Drach later "regretted his enthusiasm for nuclear power and the nationalization of the atom following the accident" (Plokhy 292). Unfortunately, the optimism of this poetic cycle would eventually be superseded by a new criticism and political activism against the Soviet state and its nuclear legacy, especially in regard to the fate of his son, Maksym. A medical student in Kiev at the time, he helped treat the first patients from Chernobyl transported to the hospital. Days later, he was sent to the Zone to monitor the health of people in the villages and measure radiation levels, all without any protection of his own. The experience exposed him to high levels of radiation, which led to his hospitalization for radiation sickness

and long-lasting health problems. As quoted in Plokhy's book about Chernobyl's history, Drach speaks of the effect of the disaster on Ukraine's, and his own, outlook: "Chernobyl roused our souls, showing us in real terms that we were on the edge of a precipice, an abyss, and that all our cultural efforts were a vanity of vanities, a waste of effort, a rose under a bulldozer" (qtd. 293). He channeled his regret into political activism, becoming one of the leaders of Rukh (Movement), an organization that helped pave the way for the democratic revolution that led to Ukrainian independence.

In his poetry, Drach's regrets are expressed most ominously in his narrative poem "The Madonna of Chernobyl" ("Чорнобильська мадонна"), in which the personified Prypiat River is replaced by the Virgin Mary. The religious overtones underscore the apocalyptic nature of the disaster and its traumatic impact on Ukraine. In Ukraine, the Madonna has come to encompass both the pagan adoration of Mother Earth, and her associations with birth and fertility, and the more religious connotations linked with her as the Mother of God, the "embodiment of embracing love, life-asserting origin, liberation from the sins through light, enlightenment and transformation" (Sukhenko 238). In "On the 'Female' Motive in the Ukrainian Post-Chernobyl Nuclear Fiction: The Ecocritical Perspective on the Myth," Inna Sukhenko analyzes Drach's poem and its depictions of the Mother, who appears in several forms: " the soldier's mother, the old village woman, the God's Mother, the martyress, the Scythian's mother, the Earth Mother, the Mother of the Apocalypse" (239). Through the different incarnations of Madonna as mother, the poem constitutes a moral and philosophical reflection on the causes and consequences of the disaster. Yet, as Sarah Phillips acknowledges, much of Drach's criticism is communicated through images of mothers and children, relationships that are "complex and fraught with tension":

> Drach inverts the archetypal representation of "mother with child," substituting it with a "mother with no-child." His poem is a disturbing commentary on Chernobyl that problematizes relations between the generations in Ukraine; it also reiterates the devastating effects of the disaster for both mother and child, and Ukrainian society as a whole. (169)

According to Sukhenko, Drach's poem is "a kind of cry made by the author himself, by the suffering environment, Ukraine, each human, humanity. This poem is a warning for people, this poem calls to be vigilant, humane, true and nature-oriented" (Sukhenko 239). The descriptions of flora and fauna interwoven throughout the poem, invoke the common ties to nature uniting Ukrainians in their shared loss. Incidentally, the use of nature in the poem, also speaks to the emergence of a new ecological consciousness, one that is distilled through familiar and recognizable themes. As Sukhenko claims, Drach's ecological consciousness implies a political orientation, one that is based on a "pre-Soviet tradition of environmental respect" and looks toward the future that incorporates a more complete awareness of the precarious relationship between humans and nature.

"The Madonna of Chernobyl" is fragmented and episodic, as though any narrative cohesion has been fractured by the radiation and the illusion of wholeness is inadequate to represent the tragedy of the disaster. At several points, Drach's lyric subject laments the lack of words capable of representing Chernobyl in moments of direct speech: "I envy those who have words. There are no words in me" (Я заздрю всім, у кого є слова. Немає в мене слів.) Of course, as is the custom, Drach does manage to find the words, though often through the voices of other authors by the inclusion of various epigraphs from their works on Chernobyl (Hundorova Ch. 3). In keeping with the conventions of socialist realism, as Hundorova notes, the injunction to signal your ideological position, subsumes the polyphony of voices under the "total authoritative word" in the rhetorical mode of irrepresentability (Ch. 3). Drach's invocation of the

topos of silence, then, speaks to the inexpressibility of the trauma and the inadequacy of language. Drach also employs different styles, symbols, and rhyming patterns and switches between the real and symbolic, sacred and profane to express the multi-faceted dimensions of grief, guilt, and loss caused by the disaster. Such sentiments and the need to reckon with why Chernobyl happened characterize the post-Chernobyl shift in literature as writers in particular, grappled to discern any larger meaning behind the disaster.

Interestingly, writers played a significant role in the activism that emerged in the years following the disaster. This activism would not only lead to Ukrainian independence and eventually, the fall of the Soviet Union, but also helped keep Chernobyl's memory in public consciousness:

> [Ukrainian writers] demanded the creation of a special commission to investigate the consequences of the Chernobyl disaster, bringing the activities of the ministries of energy and health under public control, and conducting referenda on the construction of new power plants. The Ukrainian authorities sounded a retreat. Suppression alone was no longer an option. (Plokhy 298)

Serhii Plokhy details their efforts in his history of Chernobyl and shows how writers and journalists were instrumental in challenging the power of the Soviet state and promoting an environmentally informed democratic program. They published essays and articles in leading journals, organized rallies, drafted letters, and petitioned the state for large-scale change. Ukraine's first ecological organization Green World (Зелений світ) emerged from these efforts, as well as a major environmental rally in November of 1988. Rukh was created soon after as a more politically oriented operation designed to gain real political power and influence. Part of their program included a total divestment from nuclear power in Ukraine, as well as a comprehensive health monitoring program for local communities exposed to radiation.

> The Rukh program called for the shutdown of the Chernobyl nuclear plant and of all the other RBMK reactors in Ukraine; a halt to the construction of new nuclear

> power plants in Ukraine, no matter what reactor type they were designed to use; medical examinations for the entire population of Kyiv and other regions adjacent to the Chernobyl power plant; and rehabilitations measures for those adversely affected by the disaster. (304)

Plokhy's book gives a detailed account of the political changes in post-Chernobyl Ukraine, but the literary changes are also worth noting. Chernobyl was a kind of death knell of the Soviet Union, but also of any remaining tenets of Socialist Realism; the disaster tested the limits of its ideology and the Soviet nuclear imaginary. The trauma and shock of the disaster was processed through literature, over which Chernobyl cast its long shadow.

Tamara Hundorova links the Chernobyl disaster to Ukrainian postmodernity, evidenced in the literature of the 1990s. In *The Post-Chornobyl Library: Ukrainian Literary Postmodernism*, Hundorova links the disaster to the emergence of postmodernism in fiction. Following Adorno and Lyotard's conceptualization of the Holocaust as a crisis of culture, history, and knowledge, a turning point encompassing a catastrophic 'after.' Similarly, Chernobyl entails its own 'after,' and Hundorova sees postmodernism as not only the result of that catastrophe, but also as a set of tools to elucidate this new reality with its "symbolic fallout" (Ch. 1). Drawing on Derrida's concept of nuclear criticism and Frank Kermode's theory of apocalyptic discourse, she outlines several of the key elements of this particular brand of postmodernism, which is concerned with a post-catastrophic reality defined by the failure of modernity. Chernobyl's traumatic disruption shatters certain notions of continuity, direction, hierarchy, and meaning; the post-disaster world is difficult to understand, which then complicates attempts to grasp it, as Hundorova notes:

> Postmodern representation loses rational coherence and completeness because, firstly, the subject is neither capable of comprehending the whole of reality nor

> constructing it as a totality; and, secondly, it is not at all clear what reality is and where it can be found, since it is successfully imitated by hyperreal simulacra (Hundorova Ch. 4)

The complexity of representation is also a moral concern for writers and other artists, who attempted to filter the disaster through personal experience despite the trauma being so disruptive. The relationship between the artist and their world was irrevocably severed. Poets such as Drach, coming out of Socialist Realism, then, often found themselves without the language to fully comprehend and represent this new reality. After his confession of having no words "Немає в мене слів," because the ability to verbalize is "stupid and random" ("дурна і випадкова"), he also confesses his envy of everyone who can paint: "Not a single color takes to me / I've masked my torn essence with grey" ("До мене жодна фарба не встає, / Сховавши в сіре суть свою роздерту.)" He envies "everyone for whom the sound pours" because "the Geiger counter beeps so unnaturally ("Лічильник Гейгера пищить так потойбічне"). As a poet, however, the words are not there. The capacity to represent the disaster and its consequences was "complicated in the framework of a socialist realism form of expression that seeks to comprehend and represent the objective and final "truth." This teleology leads either to a rhetoric of accusation against others or to a rhetoric of personal heroism" (Hundorova Ch. 3). We can see this teleology reflected in Drach's "The Madonna of Chornobyl" as the poet creates a montage of voices and doles out blame on scientists, fellow Ukrainians, state authorities, but does not have the words to fully express his own guilt and responsibility: "My whole world is silent, / Wrapped in evil / In verbal cellophane…" ("Мовчить мій цілий світ, / Загорнутий в лихі /В словесні целофани...").

Ukrainian postmodernism of the 1990s derives its particular features from this melding of Socialist Realism and catastrophic postmodernism, which culminates in a carnivalesque play

with the idea of apocalypse; the apocalypse becomes a means through which to criticize the culture of Soviet and post-Soviet Ukraine. Apocalypse becomes the subject of literature and poetry, not necessarily directly, but in terms of its revelatory capacity to uncover the fractures within culture and society. Hundorova connects this destabilizing function with the way radiation spread and pervaded after Chernobyl. So prevalent and overt is this understandable preoccupation with catastrophe in post-Soviet Ukrainian writing, that it becomes a spectacle in the literature of the 1990s. While Hundorova recognizes several works that deal explicitly with Chernobyl, the bulk of her analysis concerns texts that do not even reference the disaster itself. She examines works from some of Ukraine's most well-known writers, such as Oksana Zabuzhko, Yuri Andrukhovych, and Serhiy Zhadan. For example, she looks at Zabuzhko's 1996 novel *Fieldwork in Ukrainian Sex* through a feminist perspective to expose the complexities of gender and identity. Chernobyl and the subsequent collapse of the Soviet Union was destabilizing; that instability can be detected not only in the literary forms and devices used in the literature of the 1990s, but also in the implicit critiques of culture and society contained within the often-fragmented narratives. Hundorova's theoretical framework is referenced frequently in discussions of post-Chornobyl poetry, and many of her points will prove beneficial for the current discussion, as a means of opening up the traumatic experiences embedded in the poetry. Yet, beyond the particularities of Ukrainian postmodernism are the consequences of the disaster that are felt more globally and that embody a more pointed consideration of the wider impacts of humans on the environment.

One of the main characteristics of the post-Chornobyl text is the repudiation of teleological notions of history and the progress heralded by science and technology (Hundorova Ch. 1). Implicit in the nuclear imaginary and Socialist Realist construction of reality is the

struggle of man over nature. This conflict is not exclusive to the pro-nuclear discourse in the Soviet Union but is a necessary framing for all nuclear projects. Harnessing the power of the atom is seen as the ultimate act of dominance over nature. Returning to Inna Sukhenko's ecocritical reading of "The Madonna of Chornobyl", we can see how Drach uses images of nature to invoke the deep bonds between Ukrainians and the land in order to underscore the damage done to the environment. Building upon that reading, we move toward a consideration of the Anthropocenic turn in Chernobyl poetry and its ethical impulse to understand our relationship with the world. Temporality is key here, because the Anthropocene regards time as a crucial element, confronting us with the "striking and unsettling" realization that "our present is in fact accompanied by deep pasts and deep futures, according to David Farrier in *Anthropocene Poetics: Deep Time, Sacrifice Zones, and Extinction* (6). Poetry is ideally suited for looking at these deep pasts and futures because of the ways that it embodies the Anthropocene, not only in its themes, but also in terms of poetic devices employed to compress and expand perceptions of time:

> Poetry can compress vast acreages of meaning into a small compass or perform the kind of bold linkages that it would take reams of academic argument to plot; it can widen the aperture of our gaze or deposit us on the brink of transformation. In short, it can model an Anthropocenic perspective in which our sense of relationship and proximity (and from this, our ethics) is stretched and tested against the Anthropocene's warping effects. (5)

Farrier identifies three lines of analysis that illuminate the "peculiarly wrought (and fraught) intimacies of the Anthropocene" in poetry, in particular (8). He outlines concepts of deep time, sacrifice zones, and extinction as the means through which poetry reveals and attempts to comprehend the precariousness of living on the planet during, especially during a myriad of what Anthropocenic scholars would see as widespread, unfolding catastrophes.

For Farrier, who borrows the term from James Hutton, deep time refers to the "fact of living in a present so intruded upon by deep pasts and deep futures" (17). In the poetic form, this deep time is signaled by the layering and juxtaposition of time within *thick time*, which is the "lyric's capacity to put multiple temporalities and scales within a single frame, to "thicken" the present with an awareness of the other times and places" (9). The thickness of time manifests in a material, textural, and weighty descriptions of place and space. The awareness of a broad expanse of time, conjured through the poem's images, "allows us to imagine the complexity and richness of our enfolding with deep-time processes and explore the sensuous and uncanny aspects of how deep time is experienced in the present" (9). As for Chernobyl's deep time, the existence of radionuclides in the environment are testament to the disaster's duration. Poetry can remind us of the processes of time and the impacts of our actions as they give form to radiation either through its presence as articulated in some poems, through the description of everyday objects, of daily activities, or through absence, of physical traces, in the absences left by loss, and from the lack of temporal stability imposed by the creation of a before and after. Additionally, the consideration of deep time opens up a space for looking at how Chernobyl is implicated in the slow violence done to bodies and spaces by nuclear power.

Farrier's other line of inquiry, in terms of "sacrifice zones," also holds relevance for Chernobyl's poetry. Sacrifice zones, along Naomi Klein's terms, are "expendable places that can be forfeited for the sake of sustaining developed-world lifestyles," (11) constructed out of the spaces of disaster, including the spaces of memory, and the literal space of the Exclusion Zone. These spaces have been left in the wake of the disaster but demarcated by attempts to contain Chernobyl's excess. However, these zones alert us to sacrifice on two levels: what has been sacrificed in the name of scientific and technological progress, and what has been sacrificed to

forget the most unsettling aspects of the exercise of nuclear power for the sake of political expediency, namely that the consequences of radiation extend beyond the spatial and temporal boundaries assigned to them. For example, the founding of Pripyat as an atomic city effectively altered the trajectory of the region, terraforming the landscape into a model city of the future, the limits of which stretched only so far as the planned, paved streets and modern amenities allowed, because, of course, the benefits afforded by nuclear power did not extend uniformly to the villages just beyond the city's limits. The creation of Pripyat and the pre-Chernobyl nuclear zone affirmed the localized reach of nuclear power at the same time that the state was promoting a kind of future of boundless possibility attached to the atom. The idea of the model future city informs the activities and structures of everyday life. We can also see notions of sacrifice being negotiated in the simplification of the relationship between nuclear power and its surrounding communities at work in the decisions made as to what constitutes an acceptable distance to live next to the power plant, what becomes an acceptable level of background radiation for workers and residents, and how residents are alerted to the risks and possible dangers of nuclear power. The creation of these zones reveals just how fragile and contingent our organization of and relationship to nature actually is.

The third trajectory of Farrier's analysis of Anthropocene poetics is borrowed from Donna Haraway's idea of "making kin," based on how relationships between people and between species, between the human and the non-human, are more interconnected and dependent than we are led to believe. In an interview, Haraway describes these relationships as ones of belonging and perspective:

> It's not necessarily to be biologically related but in some consequential way to belong in the same category with each other in such a way that has consequences. If I am kin with the human and more-than-human beings of the Monterey Bay area, then I have accountabilities and obligations and pleasures that are different

> than if I cared about another place. Nobody can be kin to everything, but our kin networks can be full of attachment sites. (Haraway)

When we think about others as kin, we adopt a certain responsibility for them. This responsibility extends radically beyond the bounds of the human and the animal, to include dirt, microbes, and multispecies encounters. 'Making kin' is predicated on a collapsing of separation between living things and our innate need to be near others. In terms of Chernobyl, we can discern efforts made by writers to not only re-contextualize and "make strange" the objects, spaces, and linkages entangled in Chernobyl's constellation of slow violence, but also to provoke readers into making kin with the living beings affected by Chernobyl. And, for Farrier, in a way that is particularly relevant to post-Chernobyl writing, the exposition of *making kin* requires apocalyptic thinking: "If life is a form of *poiesis*, then to appreciate the depth of kin-making entanglements, we need an apocalyptic imaginary: one that can envision deep futures of world-making and world-unmaking" (13). Making kin is apocalyptic, because in the Anthropocene, relationships formed between living beings are haunted by the awareness of the precarity of life and the threat of extinction. The Anthropocene poetics of Chernobyl is a kind of empathy building project that prompts us to envision ourselves as radioactive beings.

Taken together, the analytical horizons outlined by Farrier attempt to "reaffirm the world in its complexity, and to account for our accounting of the human's place within the world" and compels us to imagine a world as though "our sense of the household was larger than the dwelling place at which we reside" and "our duty of care extended beyond our families to the planet and its inhabitants over the next millennium," as Tim Bristow affirms (12). Deeply felt catastrophes necessitate a new way of thinking about the legacies of our time on Earth and how those impacts bound us up spatially and temporally with the deep pasts and deep futures before and after us. Bristow writes, "Poetry prepares us for this challenge" (12). Because poetry and

language are culpable in the world-making that contributed to the glorification of nuclear power, it is natural that they can also assist in the world-(re)making precipitated by the Anthropocene. It is possible to detect this impulse in the poetry and literature of Chernobyl. The subsequent discussion, then, focuses on several poems that deal with the disaster explicitly from three well-known Ukrainian poets, Lina Kostenko, Lyubov Sirota, and Oksana Zabuzhko. I have chosen their works because of how each poet engages with Chernobyl's radioactive memory with poignant depictions and descriptions. The poetry of Chernobyl is invested with the aim of describing and reading the disaster's landscape, which inevitably extends spatially and temporally. Robert MacFarlane, in *Landmarks* (2015) writes of the physical landscape, "It is true that once a landscape goes undescribed and therefore unregarded, it becomes more vulnerable to unwise or improper action" (MacFarlane 27). The same can apply to the landscape of trauma and its affective depth. Part of the burden of the task is to describe a new reality in which we cannot "elevate the human species to the top of the tree of life," as Bristow maintains (12). Through apocalyptic imagery, motifs of absence, the instability of time, and the descriptions of material objects induce us to think beyond ourselves, toward the density of time and an environmentally grounded future.

The works featured in the following sections engage with deep time, but they also encompass a closeness to the disaster, giving voice to the traumas suffered by the disaster. The deep time invoked in these works equate to a deep memory of the violence of nuclear power; their works can be personal, but more often, are oriented outward in space and time, hinting at the global and geologic scales implicated by our use of nuclear power on the environment. Adopting this orientation is not intended to redirect focus away from the acute loss and suffering of Ukrainians and Belarussians and the most vulnerable communities of Chernobyl; in fact, it is

intended to recontextualize that suffering as part of a larger net of responsibility entailed by the fact of our sharing the planet with one another. In reading their words, and engaging with the themes, rhythms, juxtapositions, and contexts, we are invited to contemplate the violent processes put in motion by the human conquest of nature, and the dangers, which are at times, imperceptible. We are made kin by the duration of radiation that affects so many in unforeseen ways and unites us in our shared experience of that danger. Hundorova's recognition of the apocalyptic undertones of Ukrainian postmodernism of the 1990s is expanded to include a drastic reassessment of our relationship to others and the environment.

The poems in this chapter concern not only the memory of the disaster, but also the deeper, weightier, and, perhaps, more unsettling meanings behind the use of nuclear power. They vividly describe Chernobyl's radioactive memory and help readers start to unravel what Deborah Bird Rose might call its "dense knots of embodied time," made up of the far-reaching strands of countless pasts and futures (131). These dense knots, like poetry, become "a complex of matter and sensation and memory" (Farrier 127). For Farrier, the poem is also a "knot in time" that "can both stretch and compress a moment of perception to reveal the flux of scales that enfold us in deep time," uncovering the "uneven gran beneath the apparently smooth surface of the world" and "figures that concretize the Anthropocene's provocations to what we imagine our future to hold" (Farrier 127). From there, we can develop a framework for thinking about what Masco terms the 'nuclear uncanny', or the, as Joseph Masco explains, "material effects, psychic tension, and sensory confusion produced by nuclear weapons and radioactive materials" (Masco 28). Notably, one of those entangled strands plays out in gender, and the privileging of female-authored works in this chapter is not a coincidence. Spencer Weart, in his illuminating study of nuclear imagery found that women's opposition to nuclear power was based in a tendency "to

think in terms of safety, the environment, and their children" and that "to many women nuclear energy stood fort the worst in technology" (367). While the dominant strands of the Chernobyl narrative are coded largely in masculine terms, with traits conventionally associated with a certain masculinity. These elements, such as the heroism, duty, scientific expertise, and even guilt, are read in terms of a masculine subject, the suffering as a consequence of the disaster are aligned with a female body. Much of the symbolism and language have a feminine character to them, whether in the images of motherhood, either through associations with the Mother of God in Ukrainian religious practice, or the more pagan fecundity of Mother Earth, as well as the bodily vulnerability and genetic concerns conjured by the idea of radiation. Additionally, the environmental inclination has long been associated with the fertility and life-giving associations of nature, in contrast to the masculine rationalism, science, and ideological rigidity of man.

Emily Jones, in "Writing the Hyper-Disaster: Embodied and Engendered Narrative after Nuclear Disaster," looks at two novels, Christa Wolf's *Accident: A Day's News* and Ruth Ozeki's *A Tale for the Time Being*. Both novels are about women and nuclear disaster - Chernobyl in Wolf's, and Fukushima in Ozeki's - and how women understand the disaster through the body: "In attempting to depict the incomprehensible, both authors turn to the material world and specifically the female corporeal experience as a way of grounding what might otherwise become an abstract understanding of the very real catastrophes at the heart of their texts" (95). Jones explains that Wolf mobilizes women's narratives in opposition to Hegemonic history as the narrator of Wolf's story becomes preoccupied with the spread of radiation and the consequences of nuclear disaster while also waiting to hear that her brother has successfully come out of surgery. Many of the realities of radiation's spread and the impacts of our drive to utopia are contemplated through motherhood, which "underscores what the narrator

perceives to be a moral difference between the mean of science and women” and also “suggests that the men regard themselves as exempt from the kind of moral thinking required of women, by virtue of the latter's responsibility for giving life to and nurturing the next generation” (100). Whereas in Ozeki’s novel, the fragmented narrative becomes representative of the disaster’s fracturing effect, but also necessary to understanding the impacts of Fukushima. The “lurching back and forth in time” between the stories of three women is emblematic of the disaster’s destabilizing of time (105). The Fukushima disaster lies in the background but obliterates other timelines when it emerges from the narrative. The female experience of disaster lends the ineffability of radiation and its apocalyptic proportions a fragile materiality that recalls the precarity of the Anthropocene, along with its geologic expanse. So, while not the most dominant strain of analysis, the foregrounding of women and the female body in these works as well as the experiences of each writer as a woman, will prove useful, particularly at intersections of corporeality and the environment

Lina Kostenko

Lina Kostenko is one of the most renowned and revered Ukrainian poets. Known as a leader of an informal group of Ukrainian writers known as the Sixtiers (Шістдесятники), who were anti-totalitarian and strongly associated with the dissident movement. In their poetry, the Sixtiers attempted to reclaim the poetic subject and the poetic language that were jettisoned under Socialist Realism. Already, the impetus was in Kostenko to describe the world freely, against the state, if necessary. Such conviction earned her harsh criticism, enough so that she published very little in the eleven years after her first three poetry collections. In a 1977 collection of Kostenko’s poem in translation, Michael Naydan, the translator describes

Kostenko's poetry as "the poetry of natural language, free from pretensions" and praises her "highly articulate and controlled narrative voice" that "plays on the many possibilities of language to reveal the deeper personal level of experience inherent in traditional folk wisdom" (139). She writes widely on Chernobyl, from whole poems dedicated to the disaster, to explosive fragments scattered through larger works. In her Chernobyl poetry, Kostenko's civic and lyric mission are united, as noted by Tatiyana Vitalyevna Filat, who also maintains that "the theme of Chernobyl is constantly present in the artistic consciousness of the poetess" (163).[16] Kostenko's lyrical project relies on images of nature and Ukrainian folklore, as well as her personal experiences, emotions, and memories. Filat explains that the theme of Chernobyl in Kostenko's poetry "often constitutes the foundation and center of the lyrical experience" and even other themes are coupled with "memories of Chernobyl, allusions to it, forming a mosaic of the author's thoughts and feelings, addressed to contemporary reality (164).[17] Frequently, Kostenko centers her lyrical impressions and concerns within the context of the Anthropocene, invoking the deep relationships with time and place that gesture toward our shared entanglement with Earth. Lina Kostenko's Chernobyl poetry exemplifies the idea that "Knowing ourselves through places is the most ancient and human attribute" (Bristow 37). She uses her own experiences of the Zone to communicate the trauma of the disaster. The emotional force of her descriptions

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[16] "В целом, основную составляющую чернобыльского цикла можно датировать 1988- 2012 гг., что свидетельствует о том, что тема Чернобыля постоянно присутствует в художе- ственном сознании поэтессы, входя и в прозаические произведения писательницы. Таким образом, собственно гражданская позиция Лины Костенко и поэтическое восприятие мира ее лирическим субъектом находятся в гармоническом единстве."

[17] "Тема Чернобыля в творчестве поэтессы часто составляет основу и центр лирического переживания. Но чернобыльская трагедия настолько глубоко вошла в поэтическое сознание Лины Костенко, что даже в произведениях на другую тему возникают воспоминания о Чернобыле, аллюзии на него, формируя мозаику мысли чувств автора, обращенных к современной действительности."

capture the larger trauma of a world suffering under our lack of concern for its safety and viability in the future.

In *The Anthropocene Lyric*, Bristow puts forth the notion of an affective geography in Anthropocene lyric poetry based around the co-expression of emotion and space. His conception of poetry in the Anthropocene encompasses many of the recognizable concerns expressed by scholarship thus far, such as a need to chronicle the impact of humans on the environment, the development of an ecological consciousness, and the radical expansion of time and space, but it is the sense of place that Bristow amplifies that is worth noting. A sense of place is important to Kostenko's Chernobyl poetry, considering how much time she spent in the Zone. Kostenko started visiting the Zone in the years after the disaster as part of an initiative to preserve cultural heritage, an experience she writes about in journalistic essays and prose. Her Chernobyl poetry also contains a record of those impressions, meetings, and observations, all of which further strengthened the poet's environmental and ethical awareness of the fragility of human existence and a fraught history of progress and its effects on the Earth. We can see this concern explicitly referenced in Kostenko's poem "Flying Quatrains" ("Летючі Катрени").[18] The poem reflects on the spiritual, historical, and symbolic impacts that humans have had on the environment, while also questioning the role of the poet and the failure of language. In the opening lines, the lyric subject asks "What kind of poet is frightened for half a century? / My lips are used to the truth/ Why do they need the red wine of duplicity?" ("Що за поет як піввіку лякався? / Звикли до правди мої уста/ Нащо їм чорне вино лукавства?"). Considering that the next lines reference Chernobyl, we understand that the "half a century" likely refers to the coming of the atomic age,

[18] All English translations are my own.

which has been posited as a beginning point of the Anthropocene by geologists, who want to establish more formal temporal limits for delineating the epoch. Although, the time period also coincides somewhat with the solidification of control by the Soviet state over culture that began in earnest in the 1930s and culminated in the political purges that occurred from 1936 to 1938. The concomitant cultural repression and promotion of Socialist Realism silenced many artists or censored their artistic freedom.

Chernobyl appears as a leitmotif in the poem. One of the most striking images occurs in the second stanza. The criticism of the nuclear project is clear:

> We are the atomic hostages of progress,
> no longer have we forests,
> nor sky.
> And so we live -
> from stress to stress
> We have the alphabet of death -
> N P P.

> Ми – атомні заложники прогресу,
> вже в нас нема ні лісу,
> ні небес.
> Так і живем –
> од стресу і до стресу.
> Абетку смерті маємо –
> А Е С.

The use of the word “hostages” (заручники) is striking, because it emphasizes the lack of control people had over the matter, as well as the power differential involved in the growth and expansion of the nuclear industry, because decisions about nuclear power are rarely negotiated with the input of the public. In this stanza, atomic progress is also associated with the disappearance of forests and of heaven, an apocalyptic image signifying the severing of both our spiritual and earthly connection, which becomes particularly evocative in the Ukrainian context. The barest description conjures up the space of the Chernobyl Exclusion Zone in all of its

affective contours, so there are instances when the sense of place correlates to an absence conjured in the poem, an invitation to remember a place that is, in many ways, no longer there. Because we have forsaken the responsibility given to us to live in symbiosis with the environment, local and global communities are stressed, unable to shoulder the "full-body burden" of nuclear power, especially in conjunction with other environmental traumas. The last line is especially haunting, as it touches on the contamination made possible by language, through ideology, media, and the narratives we tell. Yet, the accusation also acknowledges the shattering of meaning initiated by trauma, thereby underscoring how subtle the difference is between power and violence. The NPP (AEC) stands for Nuclear Power Plant, or Атомна Електростанція (Atomic Electric Station) in Ukrainian, which focuses the blame of responsibility toward the creation of the nuclear power plant and also the conditions that made it possible. And if what we are left with is an "alphabet of death" then all language is bound up in an engagement with death, and therefore, can no longer use language to forestall, elide, or explain away the destruction of the environment and inherent violence of the drive to dominate the Earth, because death is infused in the very material of communication and world-making, alerting us to an ominous fate of predicted by the Anthropocene.

Kostenko frames Chernobyl with a new vision initiated by the apocalyptic repercussions of the encounter with the precarity marked by the Anthropocene epoch. In the next quatrain asks several questions "Where are we going? What trace do we leave? Who washed away memory like rain washes off watercolors?" ("Куди йдемо? Який лишаем слід? Хто пам'ять змив як дощик акварельку?"). The rhetorical question, directed also at the reader, invites us to remember the past in order to re-envision the future in the face of increasing uncertainty. The role of the poet is contemplated further, as a possible chronicler of the age, who writes using the

perception offered by the soul: “With anxious attentive eyes my soul will look at everything” (“Тривожними уважними очима моя душа подивиться на все”), including the “fatal consequences and reasons” (“фатальні наслідки й причини”) animating events such as Chernobyl. The perspective of the soul is in opposition to other intellectualized modes of perception and explanation, against the “all sorts of ‘isms’ and all sorts of ‘neo’” (“Всілякі «ізми» і всілякі «нео»”) that are not only unhelpful in their abstraction but also suspect for their contributions to the advancement of many policies, legislation, and practices that have accelerated and even intensified the human impacts on the environment. Defining the soul as a nexus of poetic creation in the encounter with the Anthropocenic scope of Chernobyl also necessitates looking inward, negating the “self-involved abstraction of a transcendental and immaterial soul” and rather cultivating an “immediacy to the material world we inhabit” (Hinton 311). In Kostenko’s poem, the poet is necessary but charged with an impossible task, she is simultaneously a “biographer of the people” with a difficult biography of his own (“Поети — це біографи народу/ а в нього біографія тяжка”). Later, she wonders if a “raped soul is capable of uttering a word freely?” (Поети чи зґвалтована душа/ спроможна вільно вимовити слово?”). “Flying Quatrains”, then, lays out Kostenko’s conception of a poet’s responsibility in the Anthropocene while grappling with her own personal emotions, displaying an important attribute of “humility in relationships with both human and nonhuman nature”, which Scott Bryson associates with ecopoetry (6).

Bryson also notes that “an intense skepticism concerning hyperrationality” directed against “an overtechnologized modern world and a warning concerning the very real potential for ecological catastrophe” (6), as noted in *Ecopoetry: A Critical Introduction*. Similarly, Kostenko condemns history for its role in heralding the arrival of the Anthropocene at several

points in “Flying Quatrains”. HIstory figures as a plow tearing up the land; it plows terribly (“Як страшно оре історичний плуг!”), the riches contained there, lost, possibly irrevocably (“Які скарби були - були і зникли!”). The poem’s tacit engagement with postmodernism “manifests as a disappointment with the great imperial and totalitarian narratives of history along with a romantic mythologizing of the national history” (Hundorova Ch. 9). Additionally, the ideas of progress carried by history are rendered a reality by scientists and institutions who “loved progress above all else (“Прогрес любили над усе”). She also laments the fact that the lessons of history are not taught anymore either (“Уроків історії не вчимо”), as well as the nuclear imaginary, when she writes, “Did mankind dream of this, or was it always so?” (“Це снилось людству чи таки було?”). The irony, which Kostenko employs frequently in the poem, is clear here, because mankind did indeed dream of grand scientific and technological advancements while also failing to account for the ecological impacts. Irony is also used to point out the nightmarish inverse of those grand dreams. For Kostenko, irony is the “lightning of the mind which illuminates all the depths of thought” (“Іронія — це блискавка ума / котра освітить всі глибини смислу”). The use of irony in the poem has the same function as a means of exposing what has been neglected and lost, and this sense of irony is applied to disasters beyond just Chernobyl. For instance, Kostenko addresses air pollution in this line: “The soul is the only state on earth where the freedom is as pure as ozone” (“Душа — єдина на землі держава / де є свобода чиста як озон”). Ozone can be both beneficial and harmful to humans and the environment, because the ozone layer protects the earth from powerful ultraviolet radiation from the sun, but on the ground-level, ozone produced by motor vehicles, industrial enterprises, and power plants, is a pollutant and harmful to the lungs. Air pollution shares similar geological, ecological, and epidemiological characteristics to radiation, both capable of permeating space

without prejudice and causing illness, cancer, and genetic damage. Because ozone, as a pollutant on earth, is hardly 'pure', the soul, residing on earth, is also spiritually contaminated, uniting the trajectories of Kostenko's Chernobyl project.

The deep memories of earth, revealed through the use of irony, unleashed at other points in the poem; this includes memory not only of Chernobyl but also of other disasters, and they prompt us to engage with extensive damage done to the environment, which exists in the constellation of violence and catastrophe inflicted by mankind's drive for progress. At one point, Kostenko, perhaps bitterly, perhaps sardonically, comments, "I would have a hut on the island of Borneo" ("Мені б курінь на острові Борнео"), implying a kind of exotic escape from impending ecological catastrophe away from "states with a view of Gorgon" ("Усі держави з поглядом Горгон"), however the island "is apparently already a testing ground", with the word "полігон" (polihon) translated to testing ground or proving ground, which are often military spaces used for the testing of weapons, even nuclear. The nuclear testing site in Kazakhstan is commonly referred to as the Polygon, but also implicitly references the atomic bomb testing in the Bikini Atoll, where soil levels in some areas are ten times higher than in the Chernobyl Exclusion Zone. Such devastation is often largely invisible, as Kostenko notes ironically, how, even after billions of years, the earth is still beautiful!" ("Скільки років землі - / і мільярд / і мільйон / а яка вона й досі ще гарна!") The irony comes from the next lines: "And smog and AIDS and the black smoke of Bhopal" ("І смог і СНІД і чорний дим Бхопала"), and a few lines later: "Forests, don't worry / not all is gone / The last free bison still walks the earth" ("Не бійтеся ліси / іще не все пропало / Останній вільний зубр / ще ходить по землі"). Bhopal refers to a 1984 accident at the Union Carbide pesticide plant in India that released thirty tons of methyl isocyanate, a highly toxic gas onto nearby shanty towns. The site was never fully de-

contaminated and contributed to a large number of health effects. The “last free bison” reminds readers of the threat of mass species extinction. Kostenko also prompts readers to remember the children affected by Chernobyl with the following line: “A stork flying over Chornobyl is not carrying a child to anyone” (“Летить лелека над Чорнобилем / нікому діток не несе”). Genetic memory is also affected by large-scale catastrophes, as all the chemicals, pollutants, and toxic substances disrupt ecosystems and bodies.

In “Flying Quatrains,” Kostenko maps environmental and cultural breakdown throughout the poem as she details a “profound uncertainty and distrust” of the recent totalitarian past (Hundorova Ch. 9). Using humility and irony, she challenges the teleological narratives promoted by the Soviet totalitarian regime, taking part in what Hundorova defines as Ukrainian postmodernism, which “undermines the ideological space of totalitarian culture and in addition accomplishes...a de-heroization of its heroic narrative” (Hundorova Ch. 8). Kostenko’s poem is unconcerned with heroes, because there are not any, and Kostenko’s presentation of a post-apocalyptic landscape undercuts any ideas of victory or heroism surrounding Chernobyl by displacing it completely in favor of an ominous depiction of reality with deep fissures and undulations that will endure far into the future. History is called into question as it is “perceived not as a linear concatenation of events leading to a bright future and not as a mythological cycle of various eras” but a malleable and contingent force that can be rewritten and decentralized (Hundorova Ch. 9). In the apocalyptic realization of Chernobyl, the immensity of disruption found “something terrible edging into view - something unconscious, sensuous, and primordially frightening, which undermined faith in aesthetic sublimation and the harmonious coordination of the real and the imaginary” (Hundorova Ch. 9). This ‘something terrible’ is the awareness of the Anthropocene, reminding us of the damage already accrued by the earth and warning readers that

as advancement increases on grander scales, the impacts become grander and more impactful, so that "you cannot measure the devastation of the soul with a dosimeter" ("Дозиметром не виміряєш дози / тотального спустошення душі"). Kostenko's poem signals the post-Chernobyl emergence of an awareness of our entanglement with Earth. She works with a different kind of memory, one that prompts us to remember not only Chernobyl, but also other global catastrophes that have marked geologic space and time, by re-describing post-Chernobyl reality in a way that emphasizes the connections that are often intentionally elided.

Kostenko's poetry manages to alert us to the ominous contours mapped onto the existing landscape. In the poem "Satan sleeps on the banks of the Pripyat" ("На березі Прип'яті спить сатана"), this mapping takes on a more metaphorical representation wherein the nuclear power plant is re-envisioned as Satan, whose mythopoetic associations with evil infuse descriptions of the landscape with death. He has taken up a "cursed" ("клятий") residence on the Pripyat River, where "he pretended to be a dried out willow" ("сухою вербою"), leaving his mark on the environment. Satan also leaves his mark on the former villages; his power, signified by an "atomic black candle" ("атомна чорна свіча") has sowed only misfortune and ruin ("Лежать йому села в біді і розрусі."). He wrote foul language everywhere in the houses ("Він скрізь по хатах понаписував мат.") and stole icons from houses ("Ікони покрав"), claiming the territory explicitly as his own. The "black reactor" is both "hell and his throne" ("Той чорний реактор – і пекло, і трон."). Such metaphors help to elucidate the trauma and make the threat of radiation "visible" in the contexts that are frequently invisible, using familiar religious imagery. Aligning nuclear power with the religious figure of Satan alludes to the moral stakes of this catastrophe, as our tacit approval of nuclear power is our own 'deal with the devil.' A similar mood animates the short poem "Snow within snow. The ice forged the river" ("Сніги в снігах. Ріку скувала

крига”), where the supernatural illuminates some of the affective functions of the places touched by Chernobyl. The last lines, in particular, emphasize the haunted, eerie qualities associated with an apocalyptic landscape:

> And that village has long been a ghost.
> Death passed through the forests.
> The clouds come and go. The moon purses its lips.
> And at night a wolf howls outside the village.
>
> А те село давно уже як привид.
> І смерть пройшла лісами напролом.
> І хмари йдуть. І місяць губи кривить.
> І виє в ніч вовчиця за селом.

The village as a ghost, the presence of death, the moon’s pursed lips in disappointment, and the howling at night have dark connotations and speak to the absences and fissures generated by Chernobyl. Within those gaps, readers are asked to remember the absences. Whereas “Satan sleeps on the banks of the Pripyat” connotes an absence of morality and the loss of a spiritual connection to the Earth, this poem gestures toward the lack of people and the disruption of historical trajectory, but simultaneously to the condensation of time, the closeness of death, and the reversion of Earth back to nature.

Kostenko’s Chernobyl poetry also finds beauty in the Zone’s resurgence of wildlife and the flourishing of nature, documented through Kostenko’s own ecological expeditions into the Zone. In the poem “The rain is like a shower. This day is so tender” (“Цей дощ – як душ. Цей день такий ласкавий”), she marvels at the rain, the day, and the blooming gardens. We know the Zone is being described: “Chornobyl. Zone. Twenty-first century.” (“Чорнобиль. Зона. Двадцять перший вік.”) Tatiana Filat characterizes such descriptions as constituting the Chernobyl chronotope. The term, popularized by Russian literary critic and philosopher Mikhail Bakhtin to describe how “spatial and temporal indicators are fused into one carefully thought-

out, concrete whole" where "[t]ime, as it were, thickens, takes on flesh, becomes artistically visible; likewise, space becomes charged and responsive to the movements of time, plot and history" (84). Building off of this application of the idea, the Chernobyl chronotope also takes on the additional thickening of time and history of the Anthropocene in Kostenko's poetry, capturing the eerie contradictions of the Exclusion Zone as a radioactive space in which the flora and fauna are flourishing in the shadow of a nuclear disaster. Kostenko describes the "deluge of lilac" that "break through the mud" ("Тут по дворах стоїть бузкова повінь. / Тут ті бузки проламують тини."), how pike move like submarines ("Тут щука йде, немов підводний човен"), and how the geese return here every spring ("І прилітають гуси щовесни"). Part of what the Chernobyl chronotope reveals in this particular poem is that this resurgence of nature is more so connected to the lack of people than to levels of radiation. Because of their shorter lifespans, the effects of low-level radiation do not manifest so acutely; for the animals in the Chernobyl Zone, humans are the detrimental variable. Still, while the Earth is still beautiful, Kostenko reminds readers that not all is 'safe', particularly for humans:

> People once lived over Pripyat - and disappeared.
> In the Red Forest, death caps grew,
> and Death walks, the only mushroom picker here.
>
> Жив-був народ над Прип'яттю – і зник.
> В Рудому лісі виросли поганки,
> і ходить Смерть, єдиний тут грибник.

Kostenko's poem offers a succinct, but detailed illustration of the Exclusion Zone, a place she knows well. Her 'place-making' encompasses the non-human, making the Zone feel familiar but alien at the same time, as though it belongs to a distant future. Bristow explains that this is characteristic of the Anthropocene lyric's figuring of place: "When coupled with Anthropocene lyricism, place is felt as it is encountered as being lived out by others, by more than ourselves, by

our situatedness in history and ecology. It is the space in which we best witness the fragility, beauty and indifference of flora and fauna, climate and season - the more-than-human world" (6). Kostenko depicts what we cannot readily see, what is not readily available to us either because we have trouble conceiving of time as a palimpsest or as layered, even thick, or because we do not wish to decipher the ominous portent of a future that is actually the present. The "lyric's perilinguistic bandwidth portends cognitive and intuitive possible worlds as a counterpoint to our contemporary understanding of place" (Bristow 4). Additionally, these poetic descriptions of place bring them into greater relief and conditions an alternative perspective on the interconnectedness of living organisms and the environment that is vital to the radically empathy implored by many poets engaged in an ecocritical project.

As much as the Anthropocene is elucidated in Kostenko's poetry, this framing offers potential for the poet, and as Bristow explains, "this theatre of the dialogic Anthropocene affords the reanimating of our social and cultural adaptation capacities in the light of ecological collapse" (8). Kostenko is able to construct the Anthropocene while also relying on its connotative expanse to reinvigorate the memory of Chernobyl. She frequently challenges the notion of one temporally or spatially bound 'zone'. In "Incrustations" ("Інкрустації"), a collection of shorter poems strung together, this play with the idea of the zone is expressed in the poem "Lakes stand in a handful of valleys" ("Стоять озера в пригорщах долин"), which presents this haunting image: "Raspberries ripen...and on everything, on everything / the dust of Chornobyl's traces falls" ("Малина спіє.. І на все, на все / Лягає пил чорнобильської траси."). She also writes that the dew is "like deadly sweat on the herbs and nuts" ("Роса - як смертний піт на травах, на горіхах."), and that "the most strontium is in the roofs" ("Але найбільше стронцію - у стріхах."). "Who said the roofs are traditional?" she adds sardonically

("Хто це казав, що стріхи - традиційні?). She juxtaposes the Zone-specific images with an unexpected semantic turn with the following lines:

> River. Tent. Lake. Hut.
> Aborigines of the island of Hope.
> Small children run barefoot.
>
> Ріка. Палатка. Озеро. Курінь.
> Аборигени острова Надії.
> Босоніж дітки бігають малі.

The scene of barefoot children running around an island is a disparate one that emphasizes not only the geographical distance and historical distance, but also the figurative distance between an abandoned village filled with strontium roofs and carefree children playing in the sun. However, any optimism is undercut in the next lines: "And where isn't the zone on earth now? / Where is the boundary between the zone and not the zone?" ("А де тепер не зона на землі? / І де межа між зоною й не зоною?"). Similarly, "Страшний калейдоскоп", perhaps Kostenko's most Anthropocene-aware poem, encompasses a wide variety of catastrophic elements, making a kaleidoscope of catastrophe. A kaleidoscope is "an optical instrument with two or more reflecting surfaces tilted to each other in an angle, so that one or more (parts of) objects on one end of the mirrors are seen as a regular symmetrical pattern when viewed from the other end, due to repeated reflection" (Wikipedia). It is also defined as "a continually shifting pattern" (dictionary.com). Indeed, that is what Kostenko accomplished in this poem as she mirrors different types of disaster against one another, reflecting on the shifting forms of catastrophe that mark history and the planet, divulging a pattern of violence to the Anthropocene epoch.

> A terrible kaleidoscope:
> At this moment someone died somewhere.
> At this moment. At this very moment. Every minute.
> A ship crashed.
> The Galapagos burns.

And over the Dnipro a bitter wormwood-star rises.
Somewhere an explosion.

Страшний калейдоскоп:
в цю мить десь хтось загинув.
В цю мить. В цю саму мить. У кожну із хвилин.
Розбився корабель.
Горять Галапагоси.
І сходить над Дніпром гірка зоря-полин.
Десь вибух.

Chernobyl is also situated alongside volcanoes, ruins, the shooting of a weapon, a flying comet. Many of these imagistic fragments are associated with explosion and light, confirming Naydan's claims of Kostenko's concern with illumination, mentioned earlier. While the world seems to be exploding, a "child is having fun", and "faces bloom, not erased by fear" ("Бавиться дитя. / Цвітуть обличчя, острахом не стерті."). Poetry, in its capacity to condense and expand time, thread together images in semantic montage, and reconceptualize modes of perception, also assists readers in understanding the scale of the Anthropocene. Tracing the ecocritical themes in Kostenko's poetry make it possible to see the specter of the Anthropocene that haunts Chernobyl and how the disaster forced poets to confront not only the consequences of the disaster, but the consequences of the larger series of events and decisions leading up to the moment of catastrophe as well as those projected into the future, challenging history, while also imploring readers to remember deeper into the past than is comfortable for many in order to probe unfamiliar and uncomfortable spaces.

Liubov Sirota

Lyubov Sirota is a Ukrainian poet, writer, playwright, and translator. Although born in Kazakhstan, her family moved to their homeland of Ukraine in 1975, and Sirota and her son moved to Pripyat in 1983. At the time of the accident, she was an up and coming playwright and

active in literary circles, including the literary group "Prometheus" which she re-organized after the disaster to spread the truth about what happened. Sirota has written many poems about Chernobyl, most of which are collected in a small book, *Burden* (*Ноша*), published in Kiev in 1990.[19] The poems are written in Russian. The title says it all, that the burden of Chernobyl is a heavy one, but one that each reader takes upon herself when reading these poems, which express the poet's personal anger and grief. Sirota remembers getting some fresh air on her balcony in the early hours of the morning when the reactor exploded. She, along with her son, was evacuated from Pripyat a few days after the explosion, and she has since endured chronic illness associated with radiation poisoning. Her poetry, while not the most intricate and innovative, speaks with the poignancy of first-hand experience and unrestrained emotion unadorned by unnecessary poetic devices and figurative language. Since the disaster, she has channeled much of her creative work into raising awareness of the disaster's health and environmental consequences, and she remains an outspoken opponent of nuclear energy. While not as well-known as a poet like Kostenko, her poetry vividly captures the potent radioactive memory of the disaster's trauma.

In her poem, "They did not register us" ("Не регистрировали нас") dedicated to "Vasily Deomidovich Dubodel, who passed away in August 1988, and to all past and future victims of Chernobyl," Sirota is particularly loaded with accusation, primarily leveled at authorities in their mishandling of the disaster, but she also places the burden of remembering and preventing

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[19] All English translations for Sirota's poetry are by Leonid Levin and Elisavietta Ritchie and are featured on a website put together by Paul Brians, https://brians.wsu.edu/2016/12/05/chernobyl-poems/. The Russian originals come from an online version of Sirota's poetry collection, https://stihi.ru/2004/01/13-396

further destruction on the reader. Her poem has a clear political orientation. The opening lines of the poem “They did not register us/ and our deaths/ were not linked to the accident” (Не регистрировали нас / и нашу смерть / с авариею связывать не стали”), direct the accusations at Soviet authorities who neglected to register, document, and monitor communities adversely affected by radiation contamination and forced resettlement. Consequently, Chernobyl’s consequences have not been documented in their specificity, which not only makes those effects easier to deny and dismiss, but also downplays the fears expressed by people worried about our energy future. Sirota continues, “They wrote us off as/ lingering stress, / cunning genetic disorders…” (“Списали нас / на беспризорный стресс, / на подлые врожденные недуги…”), leaving the ending unarticulated, because it does not matter how health problems were explained away, but that any illness reported was re-framed as somehow the fault of the victim, either because of their inability to manage stress, their own exaggerated anxieties, or a previously unforeseen genetic condition. She implicates scientific authorities in Chernobyl’s mismanagement. Olga Kuchinskaya, in the Belarusian context, points out that local populations were not given the tools or resources to adequately articulate their experiences of radiation, especially since they, despite the assumption that their proximity to the material structures of nuclear power should mean that they are the most risk-conscious, they are typically the least aware of the risks:

> Those who live with increased levels of imperceptible risks still have to learn to “experience” them - that is, to articulate the signs of radiation danger and radiation-related health effects. This work depends on available instrumental resources (tools and spaces for articulation) as well as interactive resources (opportunities for interaction with other perspectives). (Kuchinskaya 37)

Kuchinskaya, in *The Politics of Invisibility*, explains that the responsibility for establishing not only the contexts for radiation risk, but also providing space and resources through which to

articulate their experiences. For residents in rural areas, being sick can be an "impossible situation" made worse by "the inadequate health-care infrastructure, the lack of qualified personnel, the long distances to hospitals, the long waits in overcrowded outpatient clinics, and the expectation that one has to bring "gifts" (i.e., bribes) to be seen by a doctor" (36). Acknowledgement of the health effects would mean claiming responsibility for the caring of those bodies and spaces most affected.

Sirota's poem is not about linguistic play, or clever poetic devices, or even complex imagery that is difficult to parcel out; it is also not about grand, monumental, odic symbolism, because that register of language is associated with the illusion of the nuclear imaginary and Socialist Realism. The poetic has been replaced by the political, which supersedes any injunction to creatively represent the grief and anger felt in the face of such tragedy. The language Sirota uses has been stripped of any lofty imagery or refrains of technological monumentalism, as Leonid Levin and Elisavietta Ritchie's translation into English shows. Her personal experience and history of the disaster become political at the thought of people dying in vain, because death is not only untraceable but also will not be enough to prevent any more sacrifices to progress.

> But we--we are the payment for rapid progress,
> mere victim of someone else's sated afternoons.
> It wouldn't have been so annoying for us to die
> had we known
> our death would help
> to avoid more "fatal mistakes"
> and halt replication of "reckless deeds"!
>
> А мы - расплата за лихой прогресс,
> всего лишь - жертвы чьих-то сытых буден.
> Нам не обидно было б умирать,
> когда бы знать,
> что наша смерть поможет
> "ошибок роковых" не повторять
> и "действий безответственных" не множить!

The divide between "us" and "them" delineates the power differential between the authorities making decisions about the handling of Chernobyl and those affected by proximity, underscoring the distance, geographically and figuratively, between the Moscow-centered bureaucracy and local communities. The lack of accounting for Chernobyl's victims imposes a devastating silence, against which Sirota's lament sounds. The overt criticism is worth noting, considering the other mandate of silence and censorship marking the pre-glasnost era. The narrative crafted by Sirota, based in her own experience and the experiences of those "made kin" by the disaster, that is, of those involuntarily united in nuclear kinship, stands in stark contrast to the official narrative that privileges heroism and containment over that suffering.

> But thousands of "competent" functionaries
> count our "souls" in percentages,
> their own honesty, souls, long gone--
> so we suffocate with despair.
> They wrote us off.
> They keep trying to write off
> our ailing truths
> with their sanctimonious lies.
> But nothing will silence us!
> Even after death,
> from our graves
> we will appeal to your Conscience
> not to transform the Earth
> into a sarcophagus!
>
> Но среди тысяч "компетентных" лиц,
> считающих в процентах наши "души",
> душа и честь давно перевелись,
> и потому отчаянье так душит.
> Списали нас.
> Стараются списать
> во святость лжи
> больные наши были…
> Но нас ничто не вынудит молчать!
> И даже после смерти
> из могилы
> мы будем к вашей Совести взывать,
> чтоб Землю

в саркофаг не превратили!

The appeals to morality and God lend the poem the Biblical framing characteristic of much Chernobyl poetry, in response to the apocalyptic nature of the nuclear disaster. Part of Sirota's personal Chernobyl activism includes calls for a spiritual rejuvenation, one environmentally sensitive, to heal the polluted earth and the damage caused by moral pollution. Sirota's lament, in the most Biblical sense of the genre, resonates with Walter Brueggemann's interpretation of the lament psalms of the Old Testament as a "Jewish refusal of silence before God", based in the "understanding that an adequate relationship with God permits and requires a human voice that will speak out against every wrong perpetrated either on earth or by heaven" (Brueggemann "Voice" 22). This interpretation is expanded on in another work, "Lament as Wake-Up Call (Class Analysis and Historical Possibility)," from an edited volume on lamentation. In this chapter, Brueggemann outlines several retrospective conclusions emerging from his own work on lament. He draws out the more political and social dimensions of lament:

> Lament, set in the context of hymn, is the social code and social gesture of those who refuse to submit readily to settled power and settled truth and who find their own pain, loss, or anger to be more compelling than officially legitimated truth claims. Thus lament, in its very utterance, is an act of resistance and defiance that interrupts doxology, that asserts an alternative reality, and that believes that out of the candid embrace of pain new social alternatives may be generated. ("Lament" 223)

For Brueggemann, Lament is defined in opposition to the genre of praise, which "approves and legitimates present power arrangements, disregards those who suffer from that arrangement, and congratulates the beneficiaries of that system of power and meaning" whereas lament "critiques present power arrangements and the voices that legitimate them and insists that the disadvantaged and unrecognized who speak are themselves entitled to a better social

arrangement" ("Lament" 225). The revolutionary potential in lamentation is clear and aligns with Sirota's project. It also resonates with the larger historical and mnemonic repercussions of disaster and Chernobyl's effect on breaking the Soviet nuclear imaginary. Just as Drach's praise of nuclear power and the power plant became the lament of "The Madonna of Chernobyl," the praise of technological advancement, along with the bright nuclear-powered future promoted by state authority, now inspires deep reflection on the race of progress and its inherent destruction on the environment.

The religious overtones of Sirota's "They never registered us" become clearer in the second half of the poem when she hints at the divine judgement awaiting everyone in the following lines: "Your torment is done/ Our turn will come:/ prepare us a roomier place over there" ("Прошла твоя беда. / Настанет наш черед, / ты приготовь там место попросторней."). She implies that their fate may soon be our own. And in the last few lines of the poem, Sirota directly invokes God's intervention: "May God not let anyone else/ know our anguish! / May we be extinction's limit" ("Дай Бог всех наших бед / не ведать никому! / Пусть будем мы пределом истребленья."). In doing so, she is sounding a call to action with an "*insistence* that it may (or must) be otherwise in time to come" in what Brueggemann identifies as a trait of laments (226). The last part of the poem embodies the apocalyptic thinking characteristic of Chernobyl writing and the concomitant attempts to come to terms with the magnitude of the traumatic disruption the disaster caused. The use of the word "extinction" (истребленья) is also the language of the Anthropocene, which is, primarily, concerned with the threat of mass extinction in the form of global warming, natural disaster, pollution, and, of course, nuclear disaster. In this context, Sirota's sardonic comment, "We'll all end up there sooner or later", contains a warning for the future as well as a directive against forgetting aimed

at readers. Instead, she seems to be addressing all victims, the ones who have died in this catastrophe, the ones who will die, and those who remain and must become responsible for their memory. Because Anthropocene memory charts a long history of environmental trauma contained in the Earth-as-archive, on which radiation leaves its mark, remembering Chernobyl also invokes deep pasts and futures, demonstrating how entangled and fraught our connections with the environment, other species, and the wider human community. Pieter Vermeulen, in *Literature and the Anthropocene*, remarks that the Anthropocene "*alters the very temporality of remembrance*," and consequently, since the dramatic consequences of planetary destabilization are unevenly distributed," we are already remembering the future, because "some constituencies are already living - or indeed, *already mourning* - a reality that more privileged communities fear will become part of their future" (110-112). At least, remembering these kinds of catastrophes may provide impetus for re-envisioning that foreclosed future.

The Anthropocenic undertones of Chernobyl's are amplified further in Sirota's poem "Radiophobia" ("Радиофобия"). The term "radiophobia" emerged after Chernobyl to describe an obsessive fear of radiation that also includes a psychoneurological component that manifests as trouble sleeping, fatigue, joint pain, mood disturbances, muscle weakness, resembling fibromyalgia and chronic fatigue syndrome. And while the psychological impact of Chernobyl has been widely documented, "radiophobia" or "Chernobyl Syndrome" is not a clinical diagnosis, and the term itself has been used to disparage genuine and serious concerns. Aliaksandr Novikau points out that "radiophobia" was used by Soviet scientists and officials, demonstrating its signifying slipperiness and potential permutations (804). Just as the term circulated in health and scientific contexts, it also was used as a defense against claims of suffering, a way of deflecting and detracting from legitimate concerns. Nina Konstantinovna, in

Alexievich's *Voices from Chernobyl*, confirms, remembering how doctors told them that they were hypochondriacs: "People get mad at us: 'You're sick because you're afraid. You're sick from fear. Radiophobia.' But then why do little kids get sick and die? They don't know fear, they don't understand it yet" (116). She continues:

> My husband and I were too shy to admit it to one another, but our legs were beginning to go numb. Everyone complained, our friends, everyone, that you'd be walking down the street and you'd just want to lie down right there. Students would lie down on their desks and lose consciousness in the middle of class. And everyone became unhappy, gloomy, not a single kind face all day, no one smiling, nothing. (117)

Dismissal of the public's fear and anxiety was predicated on the belief that because "the nature of nuclear power is too complex for the lay public, it cannot make a truly rational choice concerning nuclear risk, but rather relies on emotions" (Novikau 806). Emotions are considered irrational, unreliable, and subjective, and so are easier to classify as the overreaction of an uneducated public. The lack of direct links to radiation exposure does not mean that people are not experiencing real, chronic symptoms; psychological health is equally as important to account for as physical health. In the translation of the poem by Elisavietta Ritchie, Sirota challenges the official deployment of the term as it is used against victims:

> Is this only – a fear of radiation?
> Perhaps rather – a fear of wars?
> Perhaps – the dread of betrayal,
> cowardice, stupidity, lawlessness?
> The time has come to sort out
> what is – radiophobia.
> It is –
> when those who've gone through the Chernobyl drama
> refuse to submit
> to the truth meted out by government ministers
>
> Только ли это - боязнь радиации?
> Может быть, больше - страх перед войнами?

> Может быть, это - боязнь предательства,
> трусости, тупости и беззакония?!.
> Время пришло, наконец, разобраться,
> Что же такое радиофобия.
> Это -
> когда не умеют смиряться
> люди, пройдя через драму Чернобыля,
> с правдой, дозируемой министрами

She proposes an alternative interpretation that views radiophobia as a condition of acute awareness of the ways that state and institutional power has attempted to erase what Ann Stoler calls the "duress" of colonial histories.

In *Duress, Imperial Durabilities in Our Times*, Stoler seeks to understand the force exerted by colonial histories on our current world through a re-examination of the methods, terminology, and strategies of analysis used to explicate history. While she is attempting to chart the recursive qualities that persist long after colonial regimes and infrastructures are seemingly replaced, detected in the duress exerted by those practices and visions that upheld the colonial-imperial project. Stoler describes duress as a dominant force in power dynamics, "neither a thing nor an organizing principle" but rather

> a relation to a condition, a pressure exerted, a troubled condition borne in the body, a force exercised on muscles and mind. It may bear no immediately visible sign or, alternatively, it may manifest in a weakened constitution and attenuated capacity to bear its weight. Duress is tethered to time but rarely in any predictable way. It may be a response to relentless force, to the quickened pacing of pressure, to intensified or arbitrary inflictions that reduce expectations and stamina. Duress rarely calls out its name. Often it is a mute condition of constraint...But it is productive, too, of a diminished, burned-out will not to succumb, when one is stripped of the wherewithal to have acted differently or better. (Stoler 7)

Examining the manifestation of duress, according to Stoler, helps to retrieve the occluded histories produced by geopolitical machinations. Duress and occlusion are linked to violence and power, and what Sirota is describing in "Radiophobia" resonates markedly with Stoler's interests, within the Soviet context. Soviet power manifested in various capacities to shape the

lives of communities both local and global, through repressive cultural mandates, war, both real and ideological, and state violence. While Sirota is outlining the contours of an insidious intrusion of power into the public and private spaces of citizens, an intrusion that was normalized and conditioned by the ideological structuring of everyday life.

What Sirota refers to by questioning the use of the term, then, speaks to the larger structures and ideologies that made Chernobyl possible, but also other nuclear disasters, such as Kyshtym in 1957, of which the public was only becoming aware after 1976. After Chernobyl, an increased awareness of the nuclear past provided further impetus for the misuse of the term 'radiophobia' to discredit the fear and anxiety generated by the realization that Chernobyl was not the first or only nuclear disaster suffered in the Soviet Union. Additionally, the opening up of history to critical reflection brought on by the fractures of Chernobyl and efforts for more openness had the unintended side effect of shedding light upon some darker moments in Soviet history and memory that could be shared more freely. Much of that history is still being contested today as we continue to measure the present using the same trajectories and teleologies of the past. Sirota alludes to the fracture in vision actuated by Chernobyl in the following lines:

> ("Here, you swallow exactly this much today!")
> We will not be resigned
> to falsified ciphers,
> base thoughts,
> however you brand us!
> We don't wish – and don't you suggest it! –
> to view the world through bureaucratic glasses!
> We're too suspicious!
>
> ("Ровно вот столько сегодня глотните!").
> С лживыми цифрами,
> с подлыми мыслями
> мы не смиримся,
> хоть сколько клеймите!
> Не пожелаем - и не предлагайте! -
> мир созерцать сквозь очки бюрократа!

Мнительны очень!

The use of the term ‘radiophobia’ in non-clinical contexts was part of a complex strategy of occlusion of the history of nuclear disaster in the Soviet Union, along with a massive disinformation campaign, and a lack of sustained material support for those affected. The term elucidates one of the “occluded histories of empire” invoking “acts of obstruction - of categories, concepts, and ease of knowing that disable linkages to imperial practices and that often go by other names” (Stoler 10). Susanne Bauer et al. point out that an framing radiophobia as only a mental health issue, “suggests that the problem resides not in the long-term radioactive contamination of the environment, but in the lack of people’s adaptation to it, or even in the lack of people’s will or desire to adapt to it” (158). This limited interpretation does not allow for public debates about how we find ourselves dealing with an event like Chernobyl, but “also avoids controversies over the real costs of the peaceful uses of the nuclear energy and the opportunities and dangers related to the development of national nuclear programs” (159). Radiophobia might not be attributed to radiation exposure, but it does go far in describing a society under duress, where the symptoms described by Nina Konstantinovna above are evidence of the “pressure exerted, a troubled condition borne in the body, a force exercised on muscles and mind” by power (Stoler 7).

Extrapolating further, toward a world “under duress” we can discern the same Anthropocenic turn. Sirota chastises the state, uniting all those affected by the slow violence of nuclear disaster against that power, through memory: “And, understand, we remember/ each victim like a brother!” (“И, понимаете, / каждого павшего помним, как брата!”). As much as the line is a declaration of unity and empathy, it is also directed at the reader, an invitation to think more broadly about the idea of community. Just as in the previous poem, Sirota’s concerns

encompass not only Chernobyl, but are oriented toward a more global environmentalism, suggesting not only that Chernobyl was not a localized disaster, but one that affected the world, but also that the disaster is only one part of a larger series of disasters inflicted upon the earth:

> Now we look out at a fragile Earth
> through the panes of abandoned buildings.
> These glasses no longer deceive us! –
> These glasses show us more clearly –
> believe me –
> the shrinking rivers,
> poisoned forests,
> children born not to survive…
>
> В стекла оконные брошенных зданий
> смотрим теперь мы на хрупкую Землю!
> Эти очки нас уже не обманут! -
> В эти очки нам, поверьте, виднее:
> Реки мелеющие,
> леса отравленные,
> дети, рожденные, чтобы не выжить…

The last lines in this portion are apocalyptic images, not even exclusive to Chernobyl. In the next lines, she directs the blame to men, and the male-dominated paternalism of the state: "Mighty uncles, what have you dished out/ beyond bravado on television?" "Сильные дяденьки, что вы им дали, / кроме бравады по телевизору?!"). The state's masculinity is in opposition to the environment's femininity. For Sirota, radiophobia is a result of a new vision of the world, a recognition of the interconnectedness of humans and the environment, and a call to intervene:

> Radiophobia
> may you be omnipresent!
> Not waiting until additional jolts,
> new tragedies,
> have transformed more thousands
> who survived the inferno
> into seers –
> Radiophobia might cure
> the world
> of carelessness, satiety, greed,

bureaucratism and lack of spirituality,
so that we don't, through someone's good will
mutate into non-humankind.

Радиофобия,
стань повсеместной!
Не дожидаясь добавочной встряски
новых трагедий,
чтоб новые тысячи,
пекло прошедшие,
делались зрячими, -
радиофобией, может быть, вылечим мир
от беспечности, алчности, сытости,
от бездуховности, бюрократизма,
чтоб не пришлось нам по чьей-либо милости
в нечеловечество переродиться?!

We can still heed Sirota's warnings and call to action, particularly considering the more recent resurrection of the term within conflicts over the expansion of nuclear power. Use of the term 'radiophobia' appeared after the nuclear disaster at the Fukushima Daiichi Nuclear Power Plant in May of 2011 as a way of downplaying fears about Japan's reliance on nuclear power and perceptions of safety of its remaining plants, many of which were built on or near earthquake fault lines. And Magdalena E. Stawkowski, in her article "Radiophobia Had to be Reinvented," demonstrates how the term has emerged in Kazakhstan, with regards to the Polygon, the former Soviet nuclear testing site, and the country's newly reinvigorated nuclear ambitions. There are plans to privatise the irradiated territory and open it up for commercial development. Nearly a quarter of the world's nuclear weapons were tested at the site, and winds transported fallout and radioactive dust across neighboring communities, and affected populations are experiencing an epidemiological crisis on a vast scale. The government has recognized over 1.3 million people were affected by the nuclear testing, but material support for these victims has been minimal. Stawkowksi explains that, in the Kazakh context, radiophobia is a denial of the reality of the Polygon as a continuing health and environmental crisis: "In Kazakhstan, the reframing of

questions about radiation and toxicity as a mental health issue exposes emergent biopolitical logics that privilege economic interests and deny state obligations to public health and environmental safety" (369). At the core of Stawkowski's analysis are the structures of state power, still shrouded in Soviet secrecy, but with a new focus on economic growth and development as an independent post-Soviet state. Similar challenges confront Ukraine and Belarus. It is a stark reminder not only of the durability of duress and its inherent violence, but also how easily these mechanisms of power carry over across contexts and geographies to silence fears of bodily vulnerability, future security, and distrust in the state, and to mask the threat of nuclear power.

One Sirota's most apocalyptic poems is "Fate" ("У перехода"). It is also one of her most 'radioactive' in the sense of how it attempts to make radiation visible. Consequently, in "Fate" the Anthropogenic impacts of the disaster are emphasized. The poem begins with the splitting of the atom in a cyclotron, a highly technological image, but one that is assigned a negative connotation in their juxtaposition with "decay" and split souls and sounds, which call to mind the screaming of splitting fibers and tissues. Needless to say, the opening lines are unsettling; the image of tearing (рвутся, in the original) also conjures images of what else has been torn, temporally and spatially. The unfamiliarity of that image is then contrasted to the familiarity of a backyard scene:

> A century of universal decay.
> In cyclotrons nuclei are split;
> souls are split,
> sounds are split
> insanely.
>
> While behind a quiet fence
> on a bench in someone's garden
> Doom weighs
> a century of separation

on the scales.

Век вселенского распада.
В циклотронах рвутся ядра;
рвутся души,
рвутся звуки
бешено…

А за тихою оградой
на скамье чужого сада
обреченность
век разлуки
взвешивает.

The tension is amplified by a sinister reminder that "Nearby...death brandishes a hasty spade." Sirota continues in this fashion, juxtaposing the familiar with the strange, the everyday with the monstrous, in order to illuminate the haunted post-apocalyptic landscape and the new reality in which we live. In *The Chernobyl Herbarium: Fragments of an Exploded Consciousness*, a kind of philosophical meditation on the disaster through the photograms of Anais Tondeur, Michael Marder, summarizes both what has been lost and what is at stake within the Anthropocene, beyond Chernobyl:

> Its ultimate casualty was the future of human dwelling in what we succinctly term our *natural environment*: in the midst of the elements of air and water, the earth and solar fire; with plants and animals; in proximity to forests and rivers, such as Pripyat'. It was symptomatic of the loss of a world where one could still breathe, live, and just be, the loss which could be sudden, triggered by an explosion, or gradual as in the case of global climate change. If practical consciousness lets us move quite effortlessly in our physical milieu, then the collapse of our immediate environment necessarily results in the detonation of consciousness. That is when thinking really begins. (42)

Marder, too, underscores the link between catastrophe and its revelatory potential in showing us the results of the violence of our actions. It is important to note that Sirota's apocalyptic dimensions are subtle here and speak of an ongoing crisis, rather than an instantaneously catastrophic one. Yet, that is the purview of the Anthropocene, where apocalypse is continuous

and slow moving, punctuated by disaster. In some ways, using the term 'apocalypse' seems too alarmist, visual, and singular, and inadequate to apply to Chernobyl, because apocalypse has become normalized. Lynn Keller, in the essay "Making Art 'Under the Apo-Calypso Rays': Crisis, Apocalypse, and Contemporary Ecopoetics," takes up this issue and contemplates how apocalyptic discourse can help us understand ongoing crises in addition to the promise of future destruction. Important for Keller is that a writer "write with an awareness of inhabiting a world already in crisis even as they also anticipate or prophesy more devastating changes to come" (23). Although, unlike the poetry analyzed in Keller's book, Sirota does not "offer some kind of revelry or pleasure" along with the "double awareness of crisis and apocalypse" (41).

Sirota accomplishes this by the incursion of the catastrophic into everyday scenes. She describes "festive streets" and "the mixed chorus of pedestrians and cars" ("А на улице нарядной / громыхает бесконечный / хор машин и пешеходов / смешанный…"), but also writes, "In the suburbs, choke-cherries/ came out with white flowers/ like gamma fluorescence" ("Вышла весною черемуха за город / в белом цветении - в гамма свечении."). And still: "Here, tomatoes ripened too early: / someone just ate one - the ambulance/ had to be called in a rush." She also describes how the sea, "the eternal source of healing" is "an enormous waste dump." Returning to Walter Brueggemann's assertion of the radical potential of lamentation to break the hold of power: "Once the impotent and marginalized find voice enough to cry out, the old patterns of unilateral legitimated power are irretrievably broken. That, of course, is why such power insists upon conforming silence. Once that conforming silence is broken, everything must be redescribed" ("Lament" 228). Sirota does re-describe the world, and it is grim. By the end of the poem, the descriptions are most nightmarish, a vision of future destruction, full of "morbid dew on pallid leaves" a sky "boiling only with crows, "no sounds, no smells...no more peace",

and “eternal separation...on the burnt out Earth.” Sirota’s poetry is indicative of the Anthropocenic awareness initiated by events such as Chernobyl, which are becoming increasingly more common. The layering of present and future acknowledges the thickness of time and the incursion of the future in the current world. The familiar imagery reminds us of a shared space, brought into closer proximity by continuous, overlapping catastrophes. And the grief and loss interwoven in the poems alert us to the violence of occlusion and what has been sacrificed for expediency in containing the disaster. A focus on the Anthropocenic features of Sirota’s poetry invites us to remember the crucial relationship between humans and the environment in an effort to prompt a re-thinking of the future.

Oksana Zabuzhko

Oksana Zabuzhko is one of the most celebrated and most widely translated Ukrainian writers of the post-Soviet era. Born in 1960 in Lutsk, Ukraine, she began writing poetry at an early age and has won several prominent national and international awards for her writing. She has an extensive literary background, having authored more than twenty works of poetry, fiction, and essays. She currently lives in Kyiv, where she works as a free-lance author. Her work frequently speaks to issues of national identity, gender, and democracy. Tamara Hundorova cites Zabuzhko’s highly successful novella *Fieldwork in Ukrainian Sex*, touted as “the most influential Ukrainian book in the fifteen years since independence,” as an example of the “post-Chornobyl text” that, while not explicitly about Chernobyl, confronts the new complexities of human and environmental interactions revealed by the disaster. Through a dissection of the macrocosm contained in the microcosm of everyday life, Zabuzhko’s poetry is located at the intersection of the apocalyptic and ecocritical, revealing the disruptions, occlusions, and realities wrought by the awareness of the scale and severity of the anthropocentric mark on deep time.

Zabuzhko traces its intrusion into the intimate relations of everyday life. At the core of this chapter is the idea of apocalypse and its revelatory potential as it is harnessed by writers. Hundorova has already identified some of the apocalyptic dimensions that constitute Zabuzhko's implicit engagement with Chernobyl, but I am interested in the more explicit engagements within her oeuvre and the moments in which the disaster is confronted with more recognizable details and images. In this section, then, I will be analyzing three of Zabuzhko's poems in an effort to discern and elucidate many of these themes and images that directly relate to Chernobyl: "Letter from the Summer House" ("Ліст із дачі"), "Love" ("Любов"), and "Pripyat - Still Life" ("Прип'ять. Натюрморт"). In comparison to Sirota's poetry, Zabuzhko's poetry is more lyrical in its presentation and less accusatory. Focusing instead on the intimate emotional entanglements and the embodied experiences of disaster, Zabuzhko's poetry turns inward and outward simultaneously, and consequently, presents an image of the precarious conditions of life in perpetual crisis through the 'making strange' of the spaces, interpersonal relations, and capacity for feeling that we might typically believe are safe from contamination, but are often the most vulnerable.

Zabuzhko's "Letter from the Summerhouse" ("Ліст із дачі") is an interesting and disturbing poem, one that chronicles the happenings at the dacha in the form of a letter.[20] The title, combined with the epistolary form, already set up certain expectations as to the subject matter of the poem, but if one were expecting a languorous lyrical poem about the idyllic Ukrainian countryside, she would be disappointed. Immediately, from the first lines of the poem, one is confronted with an apocalyptic image:

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[20] The English translations for "Letter from the Summerhouse" are my own. The other two Zabuzhko poems use translations by Lisa Sapinkopf.

> Hello dear. After the recent acid rains
> the garden has turned rust colored again:
> the blackened cucumber vines
> stick out of the ground, like scorched wire.
>
> Здрастуй, любий! У нас ізнову
> по кислотних дощах заіржавів город: почорнілі цурпалки гудиння
> над землею стирчать, як на згарищі спалений дріт.

Still, the epistolary delivery is startling. The idea of someone sitting down to languidly recount the horrors of the day is morbid. The images of acid rain and scorched wires are common visual tropes used to describe the post-Chernobyl landscape. Rust has multivalent meanings in this new landscape, both materially and symbolically. The radiation released by the accident contaminated the soil and were absorbed by plants, which reacted to the radionuclides with weakened immunity, growth suppression, and an increased occurrence of mutations. One of the consequences of the contamination is that many plants became susceptible to the growth of a rust-like fungus on their stems. Additionally, in the months after the disaster, a forest of pine trees near the nuclear power plant absorbed an unusually high amount of radiation and turned a reddish-amber color. The trees died very quickly, but the area has become infamously known as the 'Red Forest.' This rust is a visual marker of radiation damage, one that left its indelible mark on the nuclear post-apocalyptic imagination. In the decades after the disaster, rust has taken on a new symbolic connotation as a marker of decay in Chernobyl's exclusion zone. Metallic artifacts, exposed to the elements and neglected from lack of maintenance, start to rust, so its presence also indicates the passing of time. The scorched wires serve a similar purpose, reminding us of the modern ruins - the looted homes and buildings - of Chernobyl's abandoned exclusion zone.

And although there were sporadic reports of acid rain due to Chernobyl, the radiation in the air does not cause acid rain. If anything, rain may have dispersed some of those particles,

which is dangerous, but acid rain itself is caused by chemical pollutants created by cars and other industrial processes. The reference to acid rain then is more specifically connected with fears of environmental pollution. Acid rain and nuclear contamination share several of the same properties:

> Both are invisible forms of air pollution. Neither respect national or administrative boundaries. Both have attracted widespread public and political interest around the world. Both pose serious threats to health. Both produce long-term problems over a wide area, which will ultimately prove to be much more serious (and costly) than the immediate problems. Both have been created by the energy industry. Ultimately, both stem from an unbridled use of technology and a fundamental lack of concern about the long-term health of mankind and stability of the environment. (Park 2)

Zabuzhko's reference to acid rain in this poem underscores the very real reality of pollution and its effects on the environment and public health, while also underscoring the role of the energy industry and technological hubris in facilitating this crisis. On a more symbolic level, the idea of acid rain also conjures up the unnatural quality of pollution. Traditionally, rain is part of nature's cycle of growth and rebirth, nourishing the land and preparing it for crops. When rain becomes acidic, what once was beneficial and life-giving is now toxic and destructive, and if the rain is now dangerous, what other potential dangers await us and where are we truly safe? These are the kinds of questions that we must confront in a post-Chernobyl world.

As the poem continues, the writer mentions that she is not sure that the orchard will bear fruit and that the soil is "dirty," an image that rhymes with a "mutant" birth later in the poem. She is afraid of the trees and the earth:

> to tell you the truth, I'm afraid to walk between the trees:
> with every step I feel I'm closer to the spot
> where a rotting carcass lies in the tall grass
> swarming with worms, grinning in the sun.
>
> як по правді, то я боюся ступати між ті дерева:
> щокрок усе дужчає відчуття, ніби я наближаюсь до місця,

де у високій траві лежить піврозкладене стерво
і масною червою кишить, мов сміється на сонці.

Death is a defining feature of the landscape depicted in "Letter from the Summer House." The image of a rotting carcass is visceral and unsettling. Not only does such an image frustrate our sensibilities with its very starkness, but it also confronts us with our own mortality. This is the central motif of this passage. When the writer remarks that she is afraid because each step takes her closer to the carcass, she is saying that she is afraid because she is approaching death, and not an abstract death in the far-future, but a death that is closer to home, literally, in her backyard. The fears are not unfounded, for there is real danger in the landscape. Sarah Phillips, in her article about food consumption practices in Ukraine after Chernobyl, explains that Chernobyl altered how Ukrainians relate to food, and, in turn, their own health, illness, and the body. She writes: "Radiation is invisible, odorless, and tasteless. It is at once everywhere yet nowhere, and its consumption in food products - especially for those living near Chernobyl - is practically unavoidable" (30). Certain types of plants, dirt, fungi, and water sources are more acutely affected by radiation than others. Three staples of the rural diet, mushrooms, berries, and milk, in particular, contain higher levels of radionuclides than other food products. And while immediately after the disaster efforts were made to monitor radiation levels in the environment and regulate the export of susceptible produce, institutional corruption and lack of economic resources have meant that those measures were abandoned quite quickly, leaving hundreds of thousands of people in the dark about their own health risks.

The fear is significant in this poem and defines not only the physical space of the poem, but also the psychological space. She is afraid of the potential dangers lurking outside, the strange noises, the presence of an ominous tree in the garden, one hit by lightning, which looks like a giant burnt bone:

> Well, sometimes I think that it
> lords over the garden and the trees we planted
> are slowly losing their minds, like mad dogs.
>
> Так от, мені часом здається, що це вона
> верховодить над садом, і свійські дерева помалу
> тратять природну тяму, мов заражені сказом пси.

Of course, the trees are not actually losing their minds, but that remark signals an even more severe turn toward the psychological dimension of this disaster. The letter-writer also mentions that she keeps an axe nearby - just in case, an alarming detail that is treated so casually within the poem yet speaks to the psychological effects of trauma. Madness is a symptom of trauma. She is experiencing a large amount of paranoia and mental instability if she is worried about the trees going mad. However, in the context of Chernobyl, madness is an acceptable and understandable response to a catastrophe that eludes comprehension. The madness expresses the constricting conditions the writer now finds herself leaving with. The disaster fundamentally altered the relationship between humans and the land: the garden is traditionally a place of mastery over nature, cultivating life and beauty, and after Chernobyl, the garden is now a threat. The dacha, a reprieve from the worries and stresses of everyday life, is not a safe space anymore. There is no safe space anymore, and this uncertainty and vulnerability is Chernobyl's legacy. The nuclear imaginary has given way to a new Anthropocenic imaginary.

At one point, the writer relates the news that a neighbor has given birth to a baby born with hair and teeth already. The days-old baby speaks prophetically and with a warning. She writes:

> ...maybe it's a mutant,
> because yesterday, when he was only 9 days old he cried out:
> "Extinguish the sky!"
> then fell silent and hasn't said a word since;...
>
> можливо, й мутант, бо вчора,

тобто маючи дев'ять днів, закричав:
"Погасіть же ви врешті це небо!" —
і замовк, і більше нічого не каже…

The extent of Chernobyl's consequences on public health is largely unknown, due, in large part, to a campaign of disinformation and secrecy perpetuated initially by the Soviet government, and subsequently by the chaos and corruption of the post-Soviet era. The residents of Pripyat and the surrounding villages were not made aware of the risks of radiation, and even liquidators, charged with the clean-up of harmful radioactive debris, worked in hazardous conditions without being told of the dangers they faced. Furthermore, in the decades since the disaster, the lack of comprehensive health studies monitoring victims is alarming. Chernobyl's victims are essentially lost to the epidemiological record, and we do not know what kinds of illnesses and psychological stresses they face. Consequently, there is only speculation. Chernobyl's victims, in order to prove that their health problems are related to Chernobyl, must be able to prove that they were exposed to certain levels of radiation, but also must obtain medical consensus that their illnesses are connected to that exposure, a nearly impossible task that leaves the sufferer marginalized and unable to claim disability benefits and reparation. Victims must live in a constant state of bodily uncertainty that imposes its own psychological burden. An additional burden accompanies the anxiety that the effects of Chernobyl will be passed down to the next generation. The child in the poem is born with the mark of trauma already upon him. He cries out, "Extinguish the sky!" as though he remembers the burning reactor and its smoke that obscured the sky's blue expanse. The fact that he is now silent is quite poignant and prophetic in terms of its resonance to Chernobyl's lasting impact. Zabuzhko's nonchalant appraisal of this otherwise alarming occurrence with "otherwise - he's quite well" ("а так — цілком здоровенький") is almost shocking.

The last lines of the poem once again draw our attention back to the epistolary form and its characteristic, and deeply personal, style: "In tying the after-the-end-of-the-world state to the perspective of a speaker, whether explicitly or implicitly present, post-apocalyptic poetry brings to the fore the personal dimension of the experience and effects of world destruction" (Dietrich 339). The tone shifts as the heroine implores her loved one to visit, and she nonchalantly signs off her letter. This post-apocalyptic landscape has become her everyday reality, not merely the material of fantasy or science fiction. However, the final line is significant:

> That's our news. If you find time
> to get away for the weekend,
> bring me something to read
> in a language I haven't learned yet.
> Those that I know are exhausted.
>
> ...Якщо тобі вдасться
> вирватись і приїхать на ту неділю,
> привези мені щось до читання, найкраще —
> незнайомою мовою. Ті, що знаю, вже геть зужилися.

She asks the letter's addressee to bring her books in a different language, because those that she knows are worn out. There are two interpretations here. On one level, this line could be interpreted as an inability of the languages that she knows to offer a means of escape or any vitality. They have lost meaning. On another level, it could be that language has lost its power to adequately convey the loss, anxiety, and helplessness that the heroine has experienced. Perhaps language has worn out, because there was no one listening. This last line draws attention to language and the more specific language of the poem, ensuring that we do not blindly consume the poetic images without truly trying to understand the insight that poetry offers us. Poetic language has the potential to "speak ahead of knowledge and awareness and break through the limits of its own conscious understanding" (Felman 21-22). The narrator's plea for more

language, and the practice of re-learning the sounds, tones, and rhythms of experience and the body anew, for what might be an infinite amount of time, to a moment beyond all language, is evocative of the thickening of time that defines the Anthropocene. That is the aim underpinning this poem, to harness the power of language and its ability to conjure images as a means to provoke our sensibilities, and to great effect, because by the poem's end, we are unsettled. Vitaly Chernetsky writes: "The poem renders powerfully the disturbing feeling of the post-Chornobyl' environment that deceives the senses while turning the mind obstinately toward the apocalyptic" (257).

Zabuzhko's poem "Prypiat- Still Life" ("Припять. Натюрморт") similarly deceives the senses and turns toward the apocalyptic. The poem's title is worth noting, since it sets up expectations by making a connection between the poem and a style of painting. "Still life" refers to a painting or drawing of an arrangement of objects - usually fruit, flowers, or artifacts of everyday life. Typically, the form celebrates material culture, which is why the subjects of still-life paintings are inanimate objects and the textures of those objects are the primary focus. The poem "Pripyat - Still Life" is rendered in a painterly manner; reading through the poem resembles the way in which your eyes might scan a painting, or even the way in which an artist might evaluate his future painting. In the first lines, we notice the light: "It could be dawn. / The light, crumpled like sheets" (Це, здається, світанок - / і світло, немов простирадла, прим'яте). This first line might seem like an inconsequential detail, but the lighting of a painting not only sets the painting's tone, but also helps guide the viewer's eye. We can imagine the kind of light breaking over this scene; it is the soft, speckled first light of day that reveals and illuminates. The element of ambiguity introduced by the "it could be" in the English translation, and the "it seems" (здається) in the original Ukrainian, means that we cannot be entirely certain.

The poem leaves us guessing in other ways as well. Where is this place? Who lives here? Where did he or she or they go? Throughout the poem a motif of emptiness repeats: “the room is empty” (і порожня кімната), “no one’s here” (нікого немає!), “How amazing this silence beyond the boundary!” (Як космічно, пронизливо-тихо за цею межею!). And yet there are hints of habitation. Someone lives here: “The ashtray is full” (В попільничці - недокурки), “But someone was here” (Тут хтось був!),”A moment ago twin tears shimmered on polished wood” (Ще хвилину тому/ на рудій поліровці тремтіли/ Два прозорі вогні - від сльози і сльози), “In the armchair a suit, recently filled by a body” (Тільки в кріслі костюм, перед миттю/ заповнений тілом), “A half-finished sweater remembers someone’s fingers” (ще светр недоплетений пальці чиїсь пам"ятає), “A book lies open, marked by a fingernail” (І розгорнута книжка - в позначках од нігтів чиїхось!), “two stains” (дві плями), and “an apple/ Bitten but not brown” (І надкушене яблуко, де надкус ще не взявся іржею,/ Мов упавши з чиєсь руки, біля крісла лежить на підлозі.). It is important to note here, as with all of the poems discussed in this paper, that in the translation from Ukrainian to English, some of the poetic description and sophistication is lost, particularly so in this last phrase in which the image of an apple falling from someone’s hand (упавши з чиєсь руки) is reduced to “bitten but not brown.” The immediacy of the image is, unfortunately, slightly compromised.

The role of time in this poem is unclear. We do not know how long ago this room housed a living person. While many details suggest that whoever is or was living here has merely stepped out for a moment, other details counteract that interpretation: the interplay of past and present tense verb usage, the use of words such as “recently” and “a moment ago”, as well as the curious detail of a still-ripe apple at the very end of the poem. This room is suspended in time, caught between past and present, presence and absence. We become intruders into this space:

"Come in, look around" (Увийдіть! Увийдіть, подивіться). The use of the imperative form, commanding us to enter and look is very telling. It is as though someone is offering us an unauthorized tour of someone's home, an ostensibly private space, and the narrator's entreaty to us to come and explore seems inappropriate. Returning to the poem's title, which leads us to think about this poem in terms of looking, our intrusion into this space constitutes a form of unethical spectatorship in which we are voyeurs gazing at what might otherwise be an intimate tableau. Voyeurism in this sense, refers to "the consumption of revealing images of and information about others' apparently real and unguarded lives, often yet not always for purposes of entertainment but frequently at the expense of privacy and discourse" (Calvert 23). Our voyeurism is further amplified by the intimate familiarity of a recently empty room, and we feel uneasy, knowing that we are treading in someone else's space.

Today, when we think about Chernobyl, we think about the abandoned Pripyat and its surroundings in the Exclusion Zone. The Chernobyl disaster is often equated with images of Pripyat's empty, run-down buildings, the piles of decaying artifacts of Soviet life, and the detritus of former lives. Nearly ten thousand tourists enter the zone each year in order to document the decay; they walk through the private spaces of the city as though in a museum or amusement park, thinking of the city's ghosts, not quite aware that many of the people who lived in these homes are still alive, that what might seem like an exhibit of curiosities to the average tourist is actually representative of a real person's tragedy. The absence reiterated in the poem only emphasizes the reality of the lived experiences of those who witnessed and were acutely affected by Chernobyl. It is not that there is no one in this empty room, but that there was someone here. Zabuzhko's poem reminds us that our practices of looking must be tempered by an ethics and critical perspective - we must interrogate what we are seeing - otherwise, we are

turning this traumatic event into nothing more than a spectacle to be easily consumed and forgotten. The poem also asks us to feel the absence marked in the poem as though it were our own future, one in which we humans have only just left, as though it were imminent. “Prypiat - Still Life” serves as a warning of what is to come.

The apocalyptic is underscored further in Zabuzhko’s poem “Love” (Любов), translated into English by Lisa Sapinkopf. The poem describes the final moment before disaster as two lovers embrace and meet the end. In contrast to “Letter from the Summer House,” this poem is a series of vivid impressions that express an overarching image of nuclear apocalypse, distilled through the image of lovers in what threatens to be their final moment. The beginning of the poem implies that they are already living in a post-apocalyptic world, even as another catastrophe is imminent. The lack of descriptions of nature or other living beings is notable. The poem’s opening links the sexual entanglement of their bodies with “death-bed agonies,” underscoring the embodied experience of catastrophe:

> Embraces flow down like water,
> a night-light parts our shadow...
> Not a sacrifice, not passion, not a gift —
> Only the effort to stay alive.
> Of strontium-plagued cities,
> Burns the evanescent bridge
> Of our intertwined arms.
> And as long as this nocturnal sun lasts,
> And these brief flashes,
> Love, tremble, and scream
> Through this final moment
> On the brink!
>
> А обійми стекли, як вода,
> І нічник нашу тінь роздвоїв...
> Не офіра, не пристрасть, не жар -
> Просто спроба лишитись живою.
> Із зачумлених стронцієм міст,
> Понад їх передсмертні муки
> Палахкоче легкий поміст -

> Переплетені голі руки.
> І допоки це сонце вночі,
> І допоки ці спалахи бистрі -
> Прокохай, продрижи, прокричи
> Цю - останню! - хвилину на вістрі!

The sense of impending apocalypse is not explicitly stated, but rather can be located in the details with phrases such as "Not an offering" (Не офіра), "Only the effort to stay alive" (Проста спроба лишитись живою), "strontium-plagued cities" (Із зачумлених стронцієм міст), "Love, tremble, and scream/ Through this final moment / On the brink!" (Прохокай, продрижи, прокричи / Цю - останню! - хвилину-на-вістрі!). In an interview, recorded in an article "Oksana Zabuzhko: The Twentieth Century Ended with Chernobyl" ("Оксана Забужко: 'XX сторіччя завершилося Чорнобилем") the poet explains that 1986 is a turning point:

> These things are hard to explain, as time goes on and history unfolds. Time - the most mystical, most mysterious of materials, and for me, from this view, the end of the century, the real fin de siècle - might be 1986. The impression was that we continue living after the Apocalypse. The world of post-technological catastrophe inhabits a reality unfit for life. And this is the twenty-first century...The Chornobyl catastrophe caused a tectonic shift in consciousness and the perception of time, which accelerated violently.[21]

In "Love," Zabuzhko is not employing the idea of apocalypse in terms of its more colloquial meaning as a term for the "end of the world." Certainly, there is an element of ending that is relevant to our interpretation, but the ending is rarely the End. Who, or what, is leftover and expected to continue on and work to make sense of what happened?

The term 'apocalypse' also carries an association with revelation, a disclosure of knowledge. Apocalypse reveals, *brings to light*, that which was previously hidden, underscored

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[21] Ці речі важко пояснити, як саме плине час, розвивається історія. Час - це наймістичніша, найтаємничіша з матерій, і для мене, з цього огляду, кінець століття, справжній fin de siecle - це, можливо, 86-й. Враження було, що ми продовжуємо жити після Апокаліпсису. Світ посттехнологічної катастрофи обживає для себе реальність, непридатну до життя. І оце - XXI століття...Чорнобильська катастрофа спричинила тектонічний зсув у свідомості й у сприйнятті часу, який несамовито прискорився.

by the images of light that are woven throughout the poem's text. Light is synonymous with revelation. Michael M Naydan, who has translated several of Zabuzhko's poems, writes in an article "The Metaphysical Poetry of Oksana Zabuzhko," that the motif of illumination is an essential part of her poetry. He explains: "The core of her quest comprises the need for illumination, which presents itself as a constant leitmotif in all her poetry as well as the central metaphor" ("Metaphysical"). As evidence, we might look to the following phrases: "A night-light parts our shadow…" (І нічник нашу тінь роздвоїв…), "Burns the evanescent bridge/ Of our intertwined arms" (палахкоче легкий поміст / переплетені голі руки), and "And as long as this nocturnal sun lasts, / And these brief flashes" (І допоки де сонце вночі, / І допоки ці спалахи вистрі). I would also include the line, "Oh where has it come from, and how, and why, / This pallid light on the ceiling?" (Ах, звідкіль це, і як, і чом / Цей мертвотний відсвіт на стелі?). The flash of light is intrinsically linked to the breaking of the atom, the flash of the atomic bomb, and the energy that powers households. Karen Barad imagining the creation of the atomic bomb and the impact of Hiroshima and Nagasaki, relies on the flash of light as a formative image: "The smallest of smallest bits, the heart of the atom, was broken apart with a violence that made the earth and the heavens quake. In an instant, in a flash of light brighter than a thousand suns, the distance between heaven and earth was obliterated…" (Barad). Similarly, Akira Mizuta Lippit is interested in the visuality of the invisible as seen in Japanese visual culture in the shadow of the atomic bombing of Hiroshima and Nagasaki. In *Atomic Light (Shadow Optics)*, Lippit asserts that "the destruction of visual order by the atomic light and force has haunted Japanese visual culture" (4). He offers this prescient description, which resonates with Zabuzhko's poem:

> At Hiroshima, and then Nagasaki, a blinding flash vaporized entire bodies, leaving behind only *shadow* traces. The initial destruction was followed by waves

> of invisible radiation, which infiltrated the survivors' bodies imperceptibly. What began as a spectacular attack ended as a form of violent invisibility. (86)

Lippit frequently associates this radioactive light with the fragility and porousness of human bodies: "Under the glare of atomic radiation, the human body was exposed: revealed and opened, but also displaced, thrust outward into the distant reaches of the visible world" (4). He describes how x-rays 'other' the body, penetrates it, and, consequently, makes it strange, the resulting photograph is a "deathly image of life" (50). Zabuzhko's poem offers something similar, a deathly image of life in the apocalypse. It does not even matter if we are pre or post apocalypse at this point, because the apocalyptic suffuses everything, and no one is spared; it lays bare the relationships between bodies and frames our experiences of time. The light is connected with illuminating truth. In an interview with Ruth O'Callaghan in *Poetry Review*, Zabuzhko remarks:

> I argue that telling the truth — bringing to the spotlight of people's consciousness what's been previously in shadow, whatever it may be — has been, and will always be, a risky job, for as long as human society exists: if only because, in pronouncing certain truths for the first time, you inevitably attack the whole set of psychological, mental, and verbal stereotypes which were disguising it. ("Democratic")

Her novel *The Museum of Abandoned Secrets* (*Музей покинутих секретів*) is the culmination of this perspective. The novel's main imperative concerns the bringing to light of the dark events of Ukraine's history. She does this not only on the level of narrative, but also with extensive footnotes. What kinds of truth is Zabuzhko attempting to illuminate here?

"Love" looks beyond the specificities of any one place to present a more universal image of the Anthropocene in the embodied relationship between two lovers. At the same time, it is highly intimate, showing how pervasive and unforgiving the spread of radiation itself, and its effects, can be. Chernobyl is one of the artifacts in Ukraine's so-called museum of abandoned secrets that is now also part of a global repository of detrimental impact on the environment we

all share and for which we are responsible. The truth illuminated here is discomposing, for we are all subject to the same threat of the end. The lovers in her poem are at the mercy of a power out of their control, whether atomic or human. Accompanying the images of light is an image in the middle of the poem of breaking: "Shattering the night mirrors/ We step from the frames like portraits" (Розчахнувши нічні дзеркала, / Мов портрети, із рам виходим). After the apocalyptic moment, the shattering of the current reality, the lovers emerge into this new post-apocalyptic world, "breath, coarse as ash" (як зола), "gasping with pierced lungs" (немов відітхнути хотів а легені навиліт пробиті), into the "hot, crumpled air" (У зім'ятім гарячім повітрі). Karen Barad's poetic encapsulation of the immediate post-bomb moment correlates with Zabuzhko's rendering: "When it comes to nuclear landscapes, loss may not be visibly discernible, but it is not intangible. There are losses emblazoned on walls: shadows of what once was become eternal...the flash so bright, the heat so hot, nearly every surface becomes a photographic plate" (Barad). The world that confronts them is incomprehensible, not only literally, because the poem ends ambiguously with a final image of the desert, and an ellipsis where a description of this new world, in whatever form that might take, would be. At the end of the poem, the reader is left to contemplate "what comes after" when, in actuality, the "after" is the life of the reader who continues on their day, putting aside the book or closing out the screen. The continuation of apocalypse in the poem then continues outside of the text and readers are left to reflect on the ending. After the apocalyptic moment of shattering, the lovers look out of the window only to find a desert, a landscape that burns and suffocates. Indeed, the post-technological world does inhabit a reality unfit for life as the Anthropocene finds us all living in crisis and assailed by catastrophe. Zabuzhko's "Love" becomes a poetic interpretation of Benjamin's injunctive to seize hold of an image as it flashes up in a moment of danger. Only, it

is too late for the lovers in the poem. However, it might not be too late for readers, who can still remember, and therefore have more agency in potentially disrupting the cycle. Dale Jamieson and Bonnie Nadzam, in *Love in the Anthropocene*, a collection of stories that "investigate a future bereft of natural environments," claim that "[l]ove is the antidote to an all too familiar narcissism" and a "ravenous ego" (205). Their concern, in these stories, is that because the human-centered epoch we currently live in "threatens to give us a narcissist's playground - a nature that is only the extension of ourselves and our desires" (207), it is possible to envision a future in which "some familiar human experiences of love and the natural world, even modest ones, may become increasingly unthinkable, even lost" (210). "Love" seems an odd title for Zabuzhko's apocalyptic poem, but in light of Jamieson and Nadzam's conception of love, we can discern one possible meaning: the title is a call to rethink what love, either between humans, animals, or nature, might look like in the future. As Jamieson and Nadzam maintain, "The Anthropocene will challenge not just our science and technology, but also the human heart in ways that are difficult to predict but which we're already beginning to experience" (214). While in the poem there is the romantic love between the poetic protagonists, and the search for the ethical love that had been shattered by the breaking of the atom. 0o

An essential part of Zabuzhko's project is what might be called "world-making," a feature of apocalyptic poetry, but also a necessary consequence of living 'after', whether post-Chernobyl or post-Soviet. The three poems examined in this paper all grapple with the process of world-making, which is actually more akin to meaning-making:

> Such poetry approaches the end of the world from a post-apocalyptic perspective, presenting the world as already having come to an end, composed of nothing but fragments, ruins, and remains. This is not to say that there is no world anymore, but that the world is no longer the one as we knew it. Instead it has been transformed by an utterly destructive and possibly unnameable and undateable event into a state after its own end. Consequently, the world seen by the post-

> apocalyptic vision is one unmade and in a creative effort remade (out) of remains. (Dietrich 330)

In "Letter from the Summer House," the poem's heroine describes what she sees, hears, and feels, is engaged in a process of world-making, or making sense of her new surroundings. "Pripyat - Still Life" depicts the contours of a room, which serves to ground the invisible threat of Chernobyl's apocalyptic nature in the contours of a room and its material properties. And "Love" asks the fundamental question of life after the apocalypse: What remains and what do we do with what is left? The poetic form "reflects the speaker's need to struggle with the properties of voice, self, vision, space and time" in order to reformulate a sense of what comes after the end (Dietrich 339). Chernobyl was a revelatory moment, one that contributed to the dissolution of the Soviet Union, an event that caused a crucial shift on a political, economic, and social level, and redefined the relationship between an individual and his or her environment. Writers and artists confronted this new reality creatively in their art by exploring the topography of this new post-apocalyptic space at the intersection of the personal and historical in the Anthropocene. In the background of this poetic world-making is the current world, and Zabuzhko's poetry invites us to think about how to envision the future while actively dwelling in a time of crisis.

Conclusion

In *The Chernobyl Herbarium: Fragments of an Exploded Consciousness*, Michael Marder's collected philosophical musings on the lessons of Chernobyl in combination with Tondeur's photograms comprise an Anthropocenic project. The photograms of plants from the Exclusion Zone speak to an inherent resilience of nature despite contamination by radiation. Each photogram is labelled with a measurement of the radiation levels of each leaf or stalk. Tondeur's practice of capturing these images without a camera "releases the explosions of light

trapped in plants, its lines dispersed, crisscrossing photograms every which way. She liberates luminescent traces without violence, avoiding the repetition of the first, invisible event of Chernobyl and, at the same time, capturing something of it" (Marder 14). For Marder and Tondeur, these plants speak as witnesses to Chernobyl in these photograms that "allow exposure to be translated into expression, and vulnerability - into a way of bearing witness" (24). Chernobyl poetry embodies a similar mission to witness the consequences of the disaster by illuminating the Anthropocenic dimensions of this continually unfolding event. The fallout from Chernobyl was extensive and pervasive, affecting every facet of life, from the political, cultural, and social, to the intimate and private spaces of the body, as Marder elucidates:

> It sparked off external and internal exposure to radiation, which grazed our skin and which penetrated into us with every breath and every bite from a piece of contaminated food. The "outwardness" of fall*out* is never final. Invariably, it leads to incorporation, depositing radioactive elements in the body and its organs, in the earth and its layers, in the plant and its roots and leaves. But there is nothing dialectical in this succession of "safe" nuclear energy production, the release of radioactive waste, and its interiorisation in living organisms and their inorganic substratum. There is neither elevation nor progressive mediation nor domestication nor concrete spiritualization nor enabling negation in such a process that overshadows and destroys you from within. It is senseless, dumb, absurd. Like the very techno-culture that has unleashed it. (Marder 44)

Chernobyl poetry is the inverse of this "senseless, dumb, absurd" exercise of nuclear power, and serves as an antidote to the thoughtlessness and neglect of human life and the environment, and their intrinsic ecological unity by inviting readers to engage with the deep memory invoked in poetry's charting of Chernobyl's Anthropocenic undercurrents.

In *Ecology Without Nature: Rethinking Environmental Aesthetics*, Timothy Morton asserts that the idea of nature, largely conceived of by Romanticism, for example, prevents us from more widespread ecocritical engagement. For Morton, just because a poem describes nature does not mean that it is ecocritical: "Putting something called Nature on a pedestal and admiring

it from afar does for the environment what patriarchy does for the figure of Woman. It is a paradoxical act of sadistic admiration" (5). For a poem to be ecocritical and sensitive to issues of environmental justice, a poem's engagement with nature must take into account the particular contours of the enmeshed, entangled, and often uncomfortable relations that find us in our present moment. As Morton explains, some of the resistance to thinking about environmental justice and a wider adoption of a wider ecocritical mode is that any coming to terms with the human impacts on the environment raises some disquieting truths about the trajectory of history and our own complicity:

> Nobody likes it when you mention the unconscious, not because you are pointing out something obscene that should remain hidden - that is at least partly enjoyable. Nobody likes it because when you mention it, it becomes conscious. In the same way, when you mention the environment, you bring it into the foreground. In other words, it stops being the environment. It stops being That Thing Over There that surrounds and sustains us. When you think about where your waste goes, your world starts to shrink. (1)

In the same way, the poetry of Kostenko, Sirota, and Zabuzhko aims to bring Chernobyl into consciousness, so that it ceases to be 'That Thing Over There', that disaster that happened a long time ago and far away. The Anthropocene ceases to be something so easily ignored, as evidenced by the emergence of environmental activism in the post-Chernobyl period, during which writers played an instrumental role. Unfortunately, the earlier momentum of the initial green movements and anti-nuclear activism in Ukraine and other former Soviet republics was superseded by larger questions of nationalism, economic production, and energy choices, which often contradict the goals of environmental justice, as we can see in the case of Kazakhstan and Belarus. While reading Chernobyl poetry today might seem more prophetic than revolutionary, the circulation of poetry might still prove a vital addition to emerging dialogues about the Anthropocene and our ability to reimagine a more ecocritically-informed future.

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Chapter 4
Virtual Encounters: Prosthetic Memories of Chernobyl in Popular Culture

Undoubtedly, Chernobyl has held a kind of cult status within popular culture. In the decades since the disaster, it has occupied its own multifaceted space, producing its own mythologies and conjectures as to its causes while also attracting a particular brand of thrill seekers and disaster enthusiasts to its dark history. While Chernobyl has long since been an event that people are aware of and might know something about, it is hard to say that it has ever permeated a shared global popular culture in any widespread manner. Chernobyl has always had a cultural presence, but over time, it has become relegated to the margins, disconnected from mainstream culture, as a disaster that happened so long ago in a place (the USSR) that does not even exist anymore. The reality of its consequences and lingering environmental damage have largely faded, the danger seemingly over as aspects of the disaster have been forgotten or occluded. Over the past thirty years, its status has constantly shifted, at first a marker of cultural change in the Soviet Union and increased anti-nuclear activism around the world and up until recently, a kind of fantastical technological catastrophe that provides a provocative background for horror and science fiction narratives but that is, for the most part, emptied of its factual existence. That is, until HBO's five-part miniseries *Chernobyl* debuted in 2019 and re-introduced the world to the disaster, initiating a renewed interest in all things "Chernobyl". This renewed interest has implications for the disaster's memory, not only in terms of how Chernobyl's memory is shaped by popular culture, but also in how Chernobyl shapes popular culture.

This chapter will examine how the Chernobyl narrative circulates within popular culture: the kinds of stories told about it, the various changes in the disaster's representation, the larger impact of those stories and representations, and how Chernobyl's memory is transmitted. Part of this examination will also touch on what is forgotten in the telling, as well as some more detrimental effects of Chernobyl's cultural resurgence in what may only be a temporary "popularity." To accomplish this task, this chapter will employ a variety of diverse media, including television, film, literature, our contemporary news media, and even social media. Elements of popular culture have been organized into other chapters, primarily because their purview necessitated more oriented examination, whereas the media and cultural artifacts that constitute this chapter, encompass the leftovers, the eclectic, and the uncategorizable that are often are easily disseminated and manipulated through diverse and multi-modal channels. Locating Chernobyl within popular culture is not always about the media itself, but the consumption of it and the discussion around it. This chapter is by no means intended to be a comprehensive study of popular culture - such a task might prove impossible - but rather a means of exploring the potential in some overlooked objects of study and recover their potential for deepening the understanding of not only Chernobyl's memory, but also disaster in general.

Before continuing on, the task remains to outline what is meant by "popular culture" or if that term can even accurately encompass the scope of this chapter. Popular culture, the "culture of the people" is traditionally defined in opposition to elite or high culture, and while that dichotomy does structure some of the lines of analysis across the chapters in this work, that separation has become all but meaningless in contemporary culture, where cultural objects frequently straddle and complicate that dichotomy. I am defining 'popular culture' in its broadest sense in order to embrace, rather than fight against, its often vast and unwieldy dimensions.

"Popular culture" as a term has come to define a broad range of activities, conventions, beliefs, products, and communities. Clearly, this is not a stable or uniform category, and all of the entities that I include in this chapter are up for debate. However, as hinted at earlier, I am using this definition as a way of organizing materials and research interests that do not readily fit into the previous chapters. For example, many of the documentary films discussed in the first chapter are widely accessible on *YouTube* and on television, but the prevalence of the form and its pretensions to truth and history warrant a different approach to how they construct Chernobyl's memory. Additionally, part of what defines popular culture is its association with the commodified culture of capitalism, because often what allows for something to become 'popular' is the methods of production and technologies of distribution of a global capitalist economy. Capitalism and commodification are not meant to be celebrated, in this sense, but acknowledged as a reality that frames our experience of culture, which has ramifications for memory.

Some of the objects discussed in this chapter include *Wolves Eat Dogs*, a detective novel, the S.T.A.L.K.E.R. video game trilogy, the horror film *Chernobyl Diaries* (2012), and HBO's miniseries *Chernobyl* (2019). While these objects might seem disconnected, what unites the artifacts in this chapter is how they all offer access to a space that is otherwise relatively inaccessible. They also underscore the mediated nature of our encounters with Chernobyl and nuclear disaster: for most of us, Chernobyl is not part of our lived experience, and we rely on images, narratives, and other structured encounters with the disaster to inform us and incite us to 'remember' it. On another level, they also are linked through their facilitation and shaping of memory, as well as in their potential impacts. In particular, these cultural products constitute a kind of prosthetic memory, as defined by Alison Landsberg in her book *Prosthetic Memory: The*

Transformation of American Remembrance in the Age of Mass Culture. She defines prosthetic memories as memories that "are adopted as the result of a person's experience with a mass cultural technology of memory that dramatizes or recreates a history he or she did not live" (28). They are memories particular to the contemporary moment in which the mass cultural technologies of film, television, and the Internet have become "sophisticated enough to become sites of experience" and therefore, "have the capacity to alter radically a culture's way of seeing, its modes of perception, and its structures of feeling" (Landsberg 33-4). Within these new culturally relevant technological sites, there is untapped potential for empathy and political engagement.

This untapped potential is often misinterpreted as being inauthentic and detached from the "real," a sentiment propagated by theorists such as Jean Baudrillard and Frederic Jameson, who blame our hyper-mediated postmodern world for the loss. Rather than lamenting this state of affairs, Landsberg pushes back against the notion that this kind of mediation is detrimental to "real" or "authentic" experience. She asserts that "the 'real' and 'authentic' are and have always been a limit case, an ideal state" because images, narratives, and other representational forms have always organized how we relate to each other, the world, and the past. Landsberg continues:

> Even in the historical moment that these theorists label "the postmodern," one *experiences* one's life as real. Perhaps there is an important difference between "experiencing the real" and "having a real experience." In other words, Baudrillard and Jameson may be conflating "the authentic" and "the experiential," erroneously rendering them both obsolete in what they call postmodernity. (33)

Additionally, according to Landsberg, the radical break that characterizes the postmodern and its prevalence of mediation and "simulations" ignore the continuities that carried over from the modern, placing an unnecessary pessimism on the state of culture and society. By embracing the

proliferation of media characteristic of the current moment, Landsberg undercuts the pessimism and uncovers the potential for prosthetic memory to "make particular histories or pasts available for consumption across existing stratifications of race, class, and gender" and therefore harness their capacity for breaking boundaries and challenging hegemonies (33). For Landsberg, these mass cultural technologies are also memory-making technologies in which the body becomes the locus of experience.

The primacy of the body in this sense is not new. From cinema's beginnings, thinkers such as Hugo Munsterberg, Walter Benjamin, and Siegfried Kracauer have all theorized the sensorial experience of cinema and the power of the film, from its psychological and emotional effects to the bodily sensations and the materiality of the image. This phenomenological perspective informs the concept of prosthetic memories, which, despite not being part of our lived experience, still have the capacity to make us feel, think, and identify with the images we are exposed to and the experiences they portray. Landsberg explains:

> Prosthetic memories thus become part of one's personal archive of experience, informing one's subjectivity as well as one's relationship to the present and future tenses. Made possible by advanced capitalism and an emergent commodified mass culture capable of widely disseminating images and narratives about the past, these memories are not "natural" or "authentic" and yet they organize and energize the bodies and subjectivities that take them on. (25-6)

Landsberg's insistence on the power of mediated memories offers an alternative approach to looking at the impact of mass (popular) technologies on the memory of traumatic events. Hers is a different approach to knowledge production, one that acknowledges the realities of the world in which we live. The impetus behind prosthetic memory informs this chapter on Chernobyl's memory in popular culture. Given the traumatic nature of a nuclear disaster, or any disaster for that matter, it might not seem appropriate to examine video games and detective novels, especially next to the poetry of Lina Kostenko or documentary film, both of which retain a level

of seriousness characteristic of the genre and form, and arguably, more befitting the subject matter. However, mass culture presents new possibilities to trace how memories are shaped and deployed among wider and more diverse audiences and populations: "Those scholars involved in knowledge projects who disparage mass culture for its tendency to "dumb down" history should instead direct their energies toward finding ways to use the power of these new media to raise the level of public and popular discourse about history, memory, politics, and identity" (Landsberg 21). Chernobyl's impact and consequences belong to everyone and it would be disadvantageous to ignore its presence in popular culture, even if Chernobyl's popular culture life is often for entertainment and is easily consumed.

The body as a locus of memory recalls analogously how radiation works on the body. Chernobyl inscribes its presence on the body in ways that are not always immediately detectable; but radiation inevitably leaves a trace - on the skin, in the bones, along the tissues that support the body. It also inscribes its presence in the minds of those who feel and remember its impact most acutely. Unfortunately, Chernobyl's bodily encounters extend well beyond the residents of Pripyat or the surrounding villages near the epicenter: winds carried radiation toward Belarus, of which nearly a third of its land remains contaminated, and further on to parts of northern Europe. At this point, the number of people affected ranges wildly from forty-one to hundreds of thousands, even millions, depending on the source. Honestly, it might be impossible to ever trace exactly how many people died or have experienced a diminished quality of life due to radiation from Chernobyl, not only because extensive health studies have not been conducted on the most immediate victims, but also because some of the genetic damage caused by radiation could potentially be passed down to future generations. The fact remains that we just do not adequately know precisely how the body responds to continuous exposure to low levels of radiation or

which illnesses and cancers can be attributed to the disaster. The public and private intersect in a bodily way when the radiation from a nuclear disaster penetrates the skin, whether that body directly lived the experience of the disaster or not. And while the radiation itself is neutral, its existence in places it is not meant to be, in our bodies and spaces, is a matter of power. The radiation exists as traces of power marking the body, so indiscriminately as to affect us all. In similar fashion, images and other representations of Chernobyl in popular culture help transmit its memory to a wider audience, across boundaries, where it, too, inhabits the body. These kinds of prosthetic memories emerge as "privately felt public memories that develop after an encounter with a mass cultural representation of the past, when new images and ideas come into contact with a person's own archive of experience" (Landsberg 19). As mass cultural products, memories become untethered from lived experience. No longer bound by questions of authenticity, they offer the possibility for building some kind of shared connection between people of different backgrounds, which can, in turn, provide the foundation for a radical political shift based on empathy.

The notion that memories can be transportable across ethnic, social, and geographic divides is at odds with how we typically think of memories, particularly in this memory-obsessed moment. Memories often retain an aura of exclusivity to which questions of ownership are given primacy; indeed, they are deeply connected to identity, even strengthened and protected by that connection. Thinking about memory, particularly traumatic memory, as something available and perhaps consumable to others is a bit unsettling. One can recall Benjamin's pointed criticism in "The Work of Art in the Age of Mechanical Reproduction" when he explains that the advent of film and photography in the modern age diminished the aura of a work of art - its authenticity and its uniqueness:

> The authenticity of a thing is the essence of all that is transmissible from its beginning, ranging from its substantive duration to its testimony to the history which it has experienced. Since the historical testimony rests on the authenticity, the former, too, is jeopardized by reproduction when substantive duration ceases to matter. And what is really jeopardized when the historical testimony is affected is the authority of the object. (215)

While Benjamin is not explicitly referencing memory in this quotation, his assessment of a work of art's aura and its primacy resonates with the ways that we think about traumatic memory. There is something profound about the traumatic memory attached to lived experience, with its personal affective dimensions, the lingering psychological impact, the damage to a sense of self and community, and painful somatic manifestations. The fact that lived trauma can have real devastating effects for someone who experiences it automatically confers upon memory a special status, one imbued with authenticity and hints of a particular kind of truth and evidence to history. Cathy Caruth explains, "The traumatized, we might say, carry an impossible history within them, or they become themselves the symptom of a history that they cannot entirely possess" (5). Understandably, there are concerns that continued transmission of these traumatic memories across populations might put their special status at risk. Yet, narrativizing trauma and the act of bearing witness to another's trauma in a therapeutic relationship is highly valued as a form of treatment and a process for chronicling an event. The act of transmission, encouraged in certain settings, becomes suspect when the sharing of traumatic experience is too closely connected with commodification.

In a controlled therapeutic setting or in an academic or museal practice of oral history bolstered by ethical standards, there is often a mutual respect and underlying consent that the person or group listening to trauma, takes a certain amount of responsibility for those memories. Therefore, the idea that memories of trauma might be commodified, circulated, and reproduced for consumption by a mass audience can be alarming, precisely because of the perceived loss of

potency and authenticity. As much as there are possible risks and drawbacks to the promulgation of traumatic memories as a commodified product of popular culture - potential flattening, exploitation, or manipulation - there are also possible benefits. Prosthetic memory acknowledges "that the capitalist world we inhabit brings with it new modalities of subjectivity, new structures of feeling" without any celebration but with attention to the new modes of perception that it inaugurated (Landsberg 18). The commodification of mass culture is the reality and rather than dismiss it, we should recognize what is to be gained from "the unprecedented availability of images of and narratives about the past" which are "disseminated across divisions of region, class, race, and ethnicity" (Landsberg 18). Prosthetic memories, "a portable, fluid, and nonessentialist form of memory," in large part, owe their status to the possibilities offered by commodified culture of a capitalist economy and the greater means of communication through mass technologies.

Prosthetic memories might not be the acute ones of lived experience, but they attest to the need for humans empathize and form meaningful connections with one another through some kind of shared understanding. Returning to Benjamin and his seminal essay, "The Work of Art in the Age of Mechanical Reproduction," we can once again detect how Benjamin's charting of the deterioration of an artwork's aura resonates with the dissemination of traumatic memory, particularly in the idea that an art object's aura is predicated on distance. Because aura extends from an artwork's unique position in time and space along with its particular history, it has an authoritative presence. That presence bestows upon the work of art an authenticity that was then cultivated by a premodern politics of ritual and tradition, one that is replicated in how we showcase certain works of art in a museum or as part of a private collection: they are protected, in a way, from the masses. However, new photographic technologies at the turn of the twentieth

century allowed for the mass reproduction of art, which, in turn, made those works of art available to the masses satisfying the "the desire of contemporary masses to bring things 'closer' spatially and humanly," spoiling the especial status of the original and thereby dismantling its aura (217). While the aura's destruction is to be lamented in some respects, its loss allows for a democratization of art, since it enabled greater access to art that otherwise would have been sequestered from a large swath of the population through geographic, financial, social, or cultural barriers. Prosthetic memory operates with the same purpose. While the memory of trauma risks being dislodged from its original context, from the voices of Chernobyl's victims, for example, the transmission of those memories "might not be negative or damaging, for the act of publicizing a group's memory increases its chances of attaining social and political recognition" (Landsberg 11). Even if there are times when those kinds of memories might be exploited for profit - perhaps a given considering the link between popular culture and commodification - the kinds of memories produced in someone through an encounter with another person's trauma have the capacity to serve as a foundation for a politics of radical empathy. The fact that we are drawn to prosthetic experiences of pain, grief, fear, and horror also places us in a position to start to understand trauma, even in its fundamental incomprehension. Adopting this perspective then necessitates that we think of ourselves as essentially caring and empathetic individuals, which is a solid starting point to developing some sense of shared experience and understanding that might then lead to political change.

As it relates to Chernobyl, this discussion of prosthetic memory shares some characteristics with radioactive memory. Both are kinds of memory that can circulate through media and can affect change through their transmission; however, radioactive memory is connected with radiation and direct trauma, whereas prosthetic memory encompasses a more

disperse group of memories and their effects. The memories of those who have been affected directly by radiation are radioactive, but the representation of them in less concentrated forms, such as a crime thriller, is prosthetic. My use of the term ‘prosthetic memory’ is intended to encapsulate some of the potential for the creation of empathy and change associated with more indirect encounters with the disaster. The impact of such encounters may not be as strong or felt as intensely, but nonetheless, can emerge in popular culture, in books, films, video games, music, among a multitude of genres and modes of experience. Arguably, a large portion of the world owe their familiarity with Chernobyl to how the disaster appears in popular culture, which is why it is important to examine several cultural products and phenomena to discover what insight they might contribute to a larger discussion of traumatic memory. The objects of study for this chapter are varied, but they are connected to one another through a shared idea of entering a space of experience. What seems to attract people to Chernobyl, either to the zone itself or to its imagined territory, is the possibility of discovering something beyond the facts of the disaster: we become tourists, in a sense, motivated by a desire for closeness, in search of bodily experiences. This chapter is about the knowledge we can obtain and the understanding that we can develop when thinking about how Chernobyl is portrayed and how its memory is transmitted in popular culture. While a crime thriller, a video game, a horror film, and a television series might seem inadequate to the task of meaningfully commenting on the seriousness of Chernobyl, we must recognize the power of mass cultural technologies to provoke emotion, incite reaction, and inspire thoughtful reflection about nuclear power and its wider impact.

Martin Cruz Smith’s *Wolves Eat Dogs*

Wolves Eat Dogs is the fifth crime novel by Martin Cruz Smith featuring Senior Investigator Arkady Renko of the Moscow Police. Renko is a homicide detective, somewhat of a

loner who works for himself following his own moral code, along the lines of a hard-boiled Private Investigator. In this installment of the series, Renko is called to the scene of the death of billionaire Pavel “Pasha" Ivanov, one of New Russia’s wealthy elite. Renko’s superiors are quick to dismiss Ivanov’s death as suicide and the facts seem to confirm that conclusion: “Ivanov had arrived at 9:28 P.M., gone directly up to the safest apartment in Moscow and at 9:48 P.M. plunged to the sidewalk” (1). There are no signs of forced entry or violence, and the apartment was under constant surveillance and the protection of his own NoviRus Security team. However, Renko is compelled to investigate further considering the financial corruption and political intrigue surrounding Russia’s post-Soviet Noveau Riche class, the insistence of Ivanov’s American assistant Bobby Hoffman, and the curious discovery of at least fifty kilos of salt found in Ivanov’s closet. Returning to the deceased’s apartment one night, Renko revisits the pile of salt only to find a dosimeter hidden in one of the closet’s drawers. When turned on, it reaches 50,000 counts per minute:

> Arkady backed out of the closet. His skin was prickly, his mouth was dry. He remembered Ivanov hugging the attaché case in the elevator, and his backward glance to the elevator camera. Arkady understood the hesitation now. Pasha was bracing himself at the threshold. Arkady turned the meter off and on, off and on, until it reset. He made a circuit of Pasha’s beautiful white apartment. The numbers dramatically shuffled and reshuffled with every step as he picked his way like a blind man with a cane around flames he sensed only through the meter. The bedroom burned, the office burned, the living room burned, and at the open window, curtains dragged by the night wind desperately whipped and snapped to point the fastest way out of an invisible fire. (89)

Pasha Ivanov had thrown himself ten stories out of his apartment window to escape the radiation that had been slowly poisoning him. One week later, Renko finds himself in the Chernobyl Exclusion Zone where at the cemetery in one of the Zone’s abandoned villages, Lev Timofeyev, the senior vice-president turned president of NoviRus, is found dead.

Renko's foray into the Zone to investigate these two connected deaths is met with many obstacles and he meets quite the cast of characters. Hundreds of miles from Moscow, he is on his own as the sole investigator on the case, and it quickly becomes clear that any potential witnesses either refuse to cooperate or cannot be bothered to care about the fate of a rich Russian. The daily hardships of living in the Zone give them enough to worry about. As an insular setting, the Zone only adds to the unsettling nature of the murders, and Renko is distinctly aware of it: "He wasn't in Moscow, he wasn't even in Russia. He was in a land where Russians were not missed. Where a dead Russian was kept for weeks on ice. Where a black village was a perfect place for dinner" (161). 'Black village' is the term used to describe the villages that were abandoned, and subsequently declared dead, in the wake of Chernobyl. But many of the villages were never quite 'dead,' because their inhabitants refused to be exiled from their homes and so returned to live there illegally. Arkady Renko, at first met with hostility and apathy, comes to know these people and their eccentric way of life. Everyone has their own way of coping with the often depressing conditions met with life in the Zone: there are frequent bouts of excessive drinking, jokingly acknowledged as the cure for radiation, mixed with jokes about the safety of eating anything, and anger at the lack of support for the workers and residents. The murder investigation itself, full of dead-ends and complicated by an outright disdain for Russian authority, recedes into the background as we become far more interested in the setting, in line with the rules of the detective story outlined by John Cawelti: "The crime must be a major one with the potential for complex ramifications, but the victim cannot really be mourned or the possible complexities of the situation allowed to draw our attention away from the detective and his investigation" (Cawelti 81). Arguably, what is most compelling about the novel is not the crime investigation itself, but the investigation of Chernobyl's Exclusion Zone, and in the end,

the murder victims are not to be mourned as much as the victims of the disaster and those still living with its consequences, as Renko's encounters with them illuminate.

We explore the Zone through Inspector Renko, who has only a passing familiarity with Chernobyl and its history, much like a mass audience might have. Because he is an outsider, perhaps like the reader, he, as the character with whom we identify, is our own introduction to the Zone and Chernobyl's traumatic history. Renko's role as the main character, the ostensible hero, invites our identification with his perspective, even though not written with the signature first-person narration that characterizes hard-boiled crime fiction. His unflinching determination to solve this case anchors us within an otherwise uncertain and liminal space. We rely on him as a guide, following him as he traipses through radiation contaminated forests and through an abandoned urban maze. We get a sense of the seriousness of the contamination when the radiation is described:

> Although it was wrong to think "nothing" when the place was so alive with cesium, strontium, plutonium or pixies of a hundred different isotopes no larger than a microdot hiding here and there. A hot spot was just that: a spot. Very close, very dangerous. One step back made a great difference. The problem with, say, cesium was that it was microscopic - a flyspeck - and it was water-soluble and adhered to anything, especially the soles of shoes. Grass that grew chest-high from seams in the road earned another tick from the dosimeter. At the opposite end of the plaza from the school was a small amusement park, with crazy chairs, a rink of bumper cars and a Ferris wheel that stood against the night like a rotting decoration. The reading at the rink shot the needle off the dial and made the dosimeter ring. (93).

The ubiquitous dosimeter beep is not the only signal of danger in the novel. Smith, who visited the Zone himself, attempts to offer a sense of what it is like to enter into that space with vivid descriptions that capture the difficulties in detecting a danger that is invisible. The radiation almost becomes a character in itself, hinting at the mythological dimensions the disaster has assumed:

> By this point the eye was always pulled to the reactors. Chain link and razor wire surrounded what had been a massive enterprise of cooling towers, water tanks, fuel storage, cooling ponds, the messenger ranks of transmission towers. Here four reactors had produced half the power of the Ukraine, and now sipped power to stay lit. Three reactors looked like windowless factories. Reactor Four, however, was buttressed and encased by ten stories of lead-and-steel shielding called a sarcophagus, a tomb, but it always struck Arkady, especially at night, as the steel mask of a steel giant buried to the neck. St. Petersburg had its statue of the Bronze Horseman. Chernobyl had Reactor Four. If its eyes had lit and its shoulders begun shifting free of the earth, Arkady would not have been totally surprised. (95)

And of course, the reactor is revealed at the end of the novel to be the murderer, albeit indirectly: without the disaster, we come to understand, there would have been no murders. The reactor adopts a role in the investigation as the primary impetus for the crime, and in much the same way as Falconet's monument has come to loom over St. Petersburg's landscape, the sarcophagus entombing the reactor imparts a similar eeriness to the Zone.

In contrast to this more fantastical image of the reactor and its dominant presence is the real afterlife of the disaster, which has more subtle, but more insidious consequences. In his novel, Cruz offers a brief glimpse into some of these consequences through his portrayal of a variety of characters with whom Renko encounters during his investigation. In doing so, he is able to outline some of the more complicated dimensions of trauma experienced on the individual level, inviting our own identification with and empathy for these characters, and one in particular, Dr. Eva Kazka, the only doctor looking after the welfare of the Zone's residents. Generically, she serves as a kind of femme fatale, with whom Renko becomes involved, and who happens to be the ex-partner of Alex Gerasimov, the researcher and the murderer. Eva is not a conventional female character and plays only a minor role in Renko's investigation, but she is the voice of the victims of this disaster. We come to find out that she is from a village now decimated in the Zone and was exposed to radiation as a young girl in Kiev, where residents

continued their May Day celebrations despite the increased risk of radiation wafting in from the winds of the disaster just sixty miles away. She describes bitterly how Chernobyl drastically rewrote her future. Before the disaster, she was on track to become a dancer, but that future was taken from her on May 1, a few days after the disaster, when she marched in the annual May Day parade, ironically, carrying a banner reading 'Marching into the Radiant Future!': "She is so pleased the day is warm enough not to wear a coat. The young body is a wonder of growth, the division of cells produces virtually a new person. And on this day she *will* be a new person, because a haze comes over the sun, a breeze from Chornobyl. And so ends her days of dancing and begins her acquaintanceship with Soviet surgery" (237). Eva recalls this moment using the third person to refer to her past self, as though that young girl is a different person, maybe someone she does not fully recognize. She tells Renko as much:

> First the thyroid and then the tumors. That's how you know a true citizen of the Zone. We fuck without worries. I am a hollow woman; you can beat me like a drum. Still, once in a while, I remember this fatuous girl and am so ashamed of her stupidity that if I could go back in time with a gun, I would shoot her myself. When this feeling overcomes me, I go to the nearest hold or black house and hide. (237-8)

For Eva, the event constituted a rupture between her former and current lives, a break that many survivors and witnesses of Chernobyl confirm experiencing. Irina Kisleva, a journalist whose testimony features in *Voices from Chernobyl*, describes feeling as though she is two different people: "It's difficult, from here - as a writer, I've thought about his, how it's as if there are two people inside me, the pre-Chernobyl one and the post-Chernobyl one. And it's very hard now to recall with any certainty what that "pre-" me was like. My vision has changed since then" (Alexievich 203). Still, Eva displays a less than accommodating attitude toward this rupture than Kisleva; her reaction is a hedonistic drive toward nothing, for she has lost too much. The history of the disaster is literally carried in her body, inscribed onto the skin with surgery scars, but also

with wounds that extend deeper, to her missing thyroid and her altered future. Valentina Panasevich, the wife of a liquidator, echoes this sentiment when in an interview with Alexievich, she recalls watching her son succumb to the effects of radiation and the grief of living with the reality of death: "That's what we lived with - with that thought. It's impossible to live with, too, because you don't know what it is. They say, "Chernobyl," and they write, "Chernobyl." But no one knows what it is. Something frightening opened up before us. Everything is different. We aren't born the same, we don't die the same" (Alexievich 225). The feelings and reactions expressed and illustrated through Eva Kazak are not far removed from what real survivors and witnesses report as part of their experience. A character such as Eva helps to bring the reality of post-disaster experience into stark relief, illustrating the far-reaching effects of disaster for those who might not have been prompted to consider that the impossible duration of its consequences.

Another way that fictional narratives such as *Wolves Eat Dogs* contribute to a shared understanding of disasters and the trauma they entail is by illustrating the power dynamics at work in containing and constructing which elements of a disaster are remembered and which are forgotten. In Smith's novel, the isolation rendered by the Zone, the lack of concern by the police for these murders, and the secretive nature of its residents signal just how marginalized all of the novel's characters are, and how they are all victims of Chernobyl. Their silence and reservation about assisting Renko with his investigation is not only due to a distrust of the Russian state, of which the police is representative, but also due to the kind of insularity they have had to develop as a means of survival when there was no other alternative: they are far removed from the typical infrastructures that support a community. For Renko, this crime investigation brings him into uncharted territory: he's away from Moscow, from Russia, even, and finds himself not only in a contaminated abandoned city, but in a place where the law has only the semblance of a grip.

After the most cursory preliminary investigation, the police team from Moscow retreats, leaving Investigator Renko as a singular link and the only sign of cooperation between Russia and Ukraine on this murder case. He is essentially on his own and must navigate not only the unfamiliar terrain and its radioactive dangers, but also a different kind of justice and rule of law. Crime fiction, and the police procedural more specifically, outlines a distinct relationship with power because of the police's association with the state and as an apparatus of social control. While some elements of Renko's detective work recall those of a hard-boiled detective, *Wolves Eat Dogs* is a police procedural. The two sub-genres are closely related, but this relation to power that underlies the police procedural is notable, as highlighted by John Scaggs in his writing on crime fiction:

> In the procedural, it is the police detective as part of the state apparatus of the police force who safeguards society through vigilant and unceasing surveillance, in this way replacing the often questionable vigilante justice of the PI. The transition from hard-boiled fiction to the police procedural is, therefore, a transition from the *private* eye, in the sense of personal, small-scale, and often self-serving investigation, to the *public* eye, in the sense of civic, large-scale policing that serves society as a whole. (89)

This dynamic is a bit more complicated in *Wolves Eat Dogs*. At this point in 2004, when the events of the story take place, the police start to take on a larger role as an extension of the state, but more in line with the paternalistic character of police in the Soviet period (Semukhina 223). The idea that they were in the service of society, while promoted and encouraged to some extent, had yet (and still has yet) to define the role of the police. Not only did the Russian public hold a healthy distrust of the police, but the institution was plagued with corruption and performance issues. Renko's personal views on morality and duty and his commitment to solving this case contrast to his colleagues and superiors, who are quick to ignore the strange circumstances of Ivanov's death, and then unwilling to commit much in the way of resources to Timofeyev's

murder investigation. Whereas others might dismiss these deaths, Renko cannot. Even after Renko contemplates these two deaths in relation to an event like Chernobyl, he will persist in spite of the investigative difficulties:

> Russians, Byelorussians, Ukrainians, Danes, Eskimos, Italians, Mexicans and Africans touched by the poison as it spread around the world had no connection to Chernobyl, and they would die, too. The first ones, Pripyat's firemen, irradiated inside and out, died in a day. The rest would die obliquely over generations. On that scale, what did Timofeyev or Ivanov matter? Yet Arkady couldn't stop himself. In fact, riding a motorcycle through the abandoned streets of Pripyat, he found himself more and more at home. (121)

Renko holds a different view of morality, one that is universal and does not discriminate; for him, every victim matters. His speech underscores the difference in attitude towards the value of human life from the Soviet Russian state toward those affected by Chernobyl. And in this way, the lack of a state presence or true representative is notable, drawing our attention to power's insidious impact on everyday lives. If Timofeyev and Ivanov matter, so does everyone affected by a nuclear disaster.

One point that is emphasized repeatedly in Smith's novel is the silence and distrust of the residents of the Zone to any incursion by Moscow. It reads as kind of an odd detail to bring out. We get a sense of this tension when Eva is complaining about how difficult it is to care for the Zone's illegal settlers without proper equipment, medicine, and funding. Renko's only response is to point out that the old settlers are not even supposed to be in the Zone, to which Eva replies: "Only someone from Moscow could say something as stupid as that" (140). She knows that it is not their fault that their homes were contaminated and that it is the state that has abandoned them: "These are the real survivors," she adds. Later, when Renko questions her about Timofeyev's murder, she chastises him for not understanding why no one wants to cooperate with his investigation. Eva lashes out at him: "You act like a real detective, like you're in

Moscow. This is a black village, and the people here are ghosts. Someone from Moscow died here? Good riddance. We owe Moscow nothing, they've done nothing for us" (140). She calls him "just a bureaucrat with a list of questions," a paltry substitute for what was promised: "These women had their whole world taken away. Their children and grandchildren are allowed to visit one day a year. The Russians promised money, medicine, doctors. What do we get?" She is not entirely wrong. Early on during Renko's tenure in the Zone, there is a lot about the disaster that he does not understand, but to his credit, he is willing to learn and listen. The attitude from Moscow, however, is different. When Prosecutor Zurin, Renko's superior, orders him to return to Moscow and leave the investigation to the Ukrainians, because it is not their matter to handle, he offers this scathing assessment: "This matter should have been shouldered by the Ukrainians from the start. They can't always depend on us to wipe up their spilled milk" (271). Of course, the fall of the Soviet Union and subsequent period following left Ukraine unable to adequately handle the economic burden of the disaster; such a reality, combined with the widespread belief that responsibility for the disaster lies with Russia, means that victims are essentially forgotten. The characters, with their experiences and reactions to dealing with Chernobyl's consequences, illustrate the social and structural aspects framing the trauma that accompanies nuclear disasters, giving the appropriate context to the power dynamics that these traumas reveal. Trauma is politically, culturally, socially, and economically determined, and those dimensions are brought out in the narrative for readers.

Smith is able to highlight this failing on the part of state institutions and welfare networks to account for the needs of the most vulnerable, who were made vulnerable because of a nuclear disaster caused by the Soviet state and its hubristic nuclear energy project. In narrating the

experiences of survivors and details of their lives, even if it is through their silence, the reader is able to develop a greater understanding of trauma, as Laurie Vickroy explains:

> Although silence may accompany descriptions of the survivor's experience, fiction provides multiple perspectives that allow readers to meditate on the variety of human responses to shock. The various traumatic responses beyond the notion of the unspeakable cultivate the subtleties of experience, which are expressed through behaviors, bodies, provisional identities, and survival strategies. (130)

Smith depicts a variety of reactions that allude to the complexity of experience, including social withdrawal, heavy drinking, depression, anger, and anxiety; this does not include the myriad of physical diseases and ailments that many of them endure. What is clear, at least in the book, is that the community that Renko encounters is full of traumatized people who are surviving the best way they know how, given the trying, even desperate, circumstances. At one point, Smith offers this description of the abandoned city of Pripyat, distilled through Renko's consciousness:

> So any stir of the trees or tall grass created a false sense of resurrection, until Arkady noticed the stillness at doors and windows and recognized that the sound traveling from block to block was the moving echo of this motorcycle. Sometimes he imagined Pripyat not so much as a city under siege but as a no-man's land between two armies, an arena for snipers and patrols. (120)

The above passage highlights two interesting aspects of Chernobyl's Exclusion Zone. It is a place where past and present collide, where the future has already touched. The uncanny dichotomy of presence and absence signals loss and grief that is experienced, which is all the more acutely felt because we know that people should be there. When Renko imagines Pripyat as a kind of war zone, he is not that far from the truth, considering how politicized and contentious Chernobyl has become; the image is of a conflict at a standstill, one that not will not and cannot progress until one side takes responsibility, but no one will, out of fear and uncertainty. People are simply collateral damage. These complexities of the disaster are what the reader absorbs through the narrative, and what they come to realize alongside Renko, because he is our guide.

As he develops a greater understanding of Chernobyl's aftermath and a greater empathy for what the Zone's residents experience, so do we. The narrative is able to transport those who might never have access to this space, both the psychological space of trauma and the physical space of the Zone.

The complexities of working a murder case in the Zone reflect the complexities of navigating the disaster's memory. After all, the work of a detective is memory. In order to solve the case, Renko must probe the memories of witnesses who are wary of sharing their knowledge, so used to being out of official scrutiny as they are. Renko's task is to dissect the text of the crime, because crime fiction is an exercise in contested narratives, due to the conflicted nature of competing perspectives and memories that both the detective and the reader must negotiate. Renko's might be the only first-hand perspective we get, but there are other embedded perspectives contained within the story. In *Wolves Eat Dogs*, a procession of possible perpetrators and leads complicate the case and distract both Renko and the reader from the actual murderer, who hides in plain sight. As each of these lines of inquiry lead to dead ends, the motivation for the murders becomes less clear, until Renko turns his attention to the past, to Chernobyl. Pasha Ivanov committed suicide under extremely nefarious circumstances, not because he was a morally suspect billionaire but because he played a role in how the Chernobyl nuclear power plant disaster became such a catastrophe.

In the book, Alex Gerasimov, the son of noted academician Felix Gerasimov, is an ecological researcher posted in the Exclusion Zone as head of a study on radiation levels in the region's flora and fauna. When we first meet Alex, he warmly welcomes Renko to the Zone with brandy and many questions hinting at the scope of the investigation; however, his open demeanor and overall good nature quickly dispel any momentary suspicions. Alex proves quite

helpful to Renko: he guides Renko through the reclaimed forests of the Zone, offers tips on talking with the Zone settlers, and how to keep safe from the radiation. He is an expert at life in this insular space, and therefore, protective of the Zone and its fragility. We come to discover that he is also unusually preoccupied with Chernobyl and its memory. In a drunken performance one evening, Alex recreates the scene of the control room of reactor number four on the night of the disaster. He begins his play with an admonishment: "Facts are important. Facts should not be swept aside" (179). The scene is quite macab, with him dramatizing the disaster as though it were a comedic skit. At one point he pauses: "Let's pause and consider what is at stake. There is a monthly bonus. There is a May Day bonus. If they run the test successfully, they will likely win promotions and awards. On the other hand, if they shut down the reactor, there would certainly be embarrassing questions asked and consequences felt" (180). Everyone in the room knows how it ends, but Alex reminds them of the punchline, delivered to the leaders of the Party: "Don't worry" (200). No one in the room is amused; everyone hangs their head in distress, and Eva punches him. This scene is only the first of many of Alex's increasingly unstable actions leading up to the realization that Alex is the murderer.

For their role in Chernobyl, Alex poisons Ivanov and Timofeyev with radioactive caesium, driving Ivanov to jump to his death and Timofeyev to meet his end in a graveyard in the Zone. During the first hours of the disaster, the technicians reporting an issue with one of the reactors to a group of bureaucrats were instructed to contact Felix Gerasimov, the leading nuclear physics expert. However, at that moment, Felix is indisposed, and his underlings, Pasha and Lev (Ivanov and Timofeyev), make the decision to conceal the seriousness of the accident from the public, as Alex explains: "'Be merciless for the common good.' Pasha and Lev were ambitious guys. They just told the Committee and my father what they wanted to believe. That

was how Soviet science worked, remember" (318). He sees them as responsible for the mishandling of the disaster. The fact that they never took credit for this decision is what concerns Alex, which is why, rather than kill them outright, he psychologically tortures both Ivanov and Timofeyev with a few grains of cesium chloride and cryptic invitations to return to Chernobyl to atone. While it is difficult to condone Alex's actions, the narrative does allow space for contemplating the moral ambiguities of his act compared to the wider impact of a nuclear disaster. What we understand is that Alex is traumatized himself, from carrying the guilt of his father's nuclear legacy, from knowing Chernobyl's consequences both firsthand and as a researcher, and his growing anger that Eva had to suffer because of it; he is certainly under a great deal of psychological stress. It might not be his place to administer punishment, but he also knows that there is no higher authority with the power to do so. As the inheritor of his father's legacy, he feels the need to atone for his father's negligence and to deliver some kind of perverted justice. As crime fiction, Smith's novel asks us to contemplate what constitutes the greater crime in this situation. At the end of the narrative, Alex, who tries to kill Renko in order to conceal his crimes, is, in turn, fatally shot by Oksana Katamay, the sister of the man commissioned to deliver the grains of cesium chloride and who then succumbed to radiation sickness after handling them too sloppily. Alex does not take into account the collateral damage of his own actions, and he, too, becomes subject to a different kind of justice. The narrative invites us into this space where both the moral and ethical center has been destabilized, but that is the purview of crime fiction, where authors "explore humanity's painful encounters with a disordered world" (Cothran and Cannon 2). Yet that space is a protected space where the political stakes are low, but productive, where one can undertake a kind of historiography,

examining temporal recesses in “the human struggle to make sense of the fragmentary past, the uncertain present, and the unknowable future” (Cothran and Cannon 1).

In reading crime fiction, just as Renko is collecting pieces of memory from witnesses and suspects, piecing together the past, comparing it to the present, and divining the future, so are readers. They are able to confront difficult truths, histories, experiences within the safety of a relatively recognizable format; the genre details and formulaic nature of crime fiction are familiar and inoffensive. While the familiar format might seem comforting, those characteristics are only reminders of the limits and the need for containment. The boundaries that denote the crime fiction genre are much more porous than they at first appear. There is no “ideal ratiocinative detective story” (Plain 5), at least not one in which the rules are strictly adhered to and wholly satisfying, as Gill Plain explains: once the detective arrives, “he or she brings with them the traces of the social world they inhabit. The room gets messy. Bodies, living or dead, clutter things up: they contaminate the scene” (Plain 5). With such an untidy structure, “one which first obscures and then clarifies, the detective genre demands and cultivates a special sort of cognition, pushing readers to consider both that which is unknown and that which is unknowable” (Cothran and Cannon 1). On multiple levels, the novel challenges boundaries, whether generic - the combination of police procedural and hard-boiled detective novel, through character development - a detective (Renko) who frequently finds himself at odds with figures of authority, or narratively - the literal crossing of the boundary delineating the Zone by both Renko and readers. Gill Plain elaborates further in his article “From ‘The Purest Literature We Have’ to ‘A Spirit Grown Corrupt’: Embracing Contamination in Twentieth-Century Crime Fiction”, where he references Julia Kristeva’s idea of abjection in proposing that we think about the role of contamination in crime fiction”:

> Borders both defend and confine. They are the necessary limits that protect the subject from psychosis, and they are that which deny us our desired return to a lost imaginary plenitude. Kristeva's abject evokes seepage, it speaks to the instability of borders, and the impossibility of the pristine, the firm, the uncontaminated. And it is just this sense of unavoidable defilement, this tension between the maintenance and collapse of cultural and social boundaries, that underpins both the crime genre and our fascination with the form. (Plain 3)

We already fear that searching in the abyss for some lost paradisiacal ideal entails the equivocal loss of what we know and are building; it seemingly alters the trajectory of history, to something far more unknowable. We will have to cross that boundary in order to adequately comprehend the scale of the damage done by Chernobyl or any nuclear disaster. Quoting Dorothy Sayers, who brands crime literature as 'the purest literature', Plain paraphrases her with the term "literature of containment" (Plain 6). *Wolves Eat Dogs*, as a work of fiction straddling that world between what we might call a recognizable familiarity and the liminal space of Chernobyl, dramatizes the idea of containment by making radiation "visible," by describing the effects of radiation contamination, and developing it as an essential part of the narrative.

Renko's murder investigation is messy: the facts and evidence are intertwined with intense emotion and irrational human passions. Logic and rational thinking are inadequate to explain the entangled motivations and lapses of judgment that complicate the circumstances depicted in Smith's novel. Yet, the ability to sit with that complexity and develop a more nuanced, critical perspective on nuclear power, its potential, even unavoidable, abuses, and its role in our future, is crucial. Gill Plain, in making their case for new production of knowledge about contamination, envisions it as 'constructive': "To contaminate is also to communicate, and crime fiction communicates the deepest fears and anxieties that underpin our society. In articulating these fears, the genre goes at least some way towards confronting them: which perhaps accounts for the increasing social and literary significance of the form" (Plain 14).

Perhaps, in engaging in the kind of “constructive exchange” we can expand how we categorize radiation as ‘dangerous.’ Of course, radiation is inherently harmful, but that harm promises to be even more alarming if misused or improperly managed. It is not so much that radiation is something evil, but that the structures and institutions that keep nuclear power as a viable option for our energy future despite fatal flaws are the ones imbued with problematic, even hostile intent. Renko comes to understand this as he spends more time in the Zone, growing more contaminated himself; he knows that Chernobyl’s victims have been victimized on multiple levels. And just as the barbed wire circumventing the Zone from the outside world is arbitrary and offers only the illusion of safety, so is the idea that we can harness something so destructive in the hopes that it might one day be productively viable and safe, that the collateral damage does not outweigh the benefits. Plain echoes this sentiment when he asks, “Is it possible to revalorize the concept and consider a mode of infection that does not act as a threat to the outsider, but to the corrupted body politic?” He continues, writing “Perhaps contamination can be seen as a strategic weapon deployed by the other to challenge the hegemony of established power” (Plain 8).

In Smith’s novel, this scenario plays out when the residents of the Zone build their own imperfect, but supportive, community. At the end of the novel, Renko and Eva return to the Zone to visit Roman and Maria, an old couple whose children have died and so live in their home village alone. Roman slaughters a pig in an almost surgical, mechanical way that oddly suggests Roman was the one who slit Timofeyev’s throat. Any preemptive answers we might have charted are now called into question. The lack of narrative closure further contributes to the eschewal of the dominant hierarchy and a shift in the sites of knowledge production: no longer is nuclear power so esoteric and inaccessible, but real. The ending leaves us with more questions

than answers, but that is the aim of crime fiction, to assist us in inhabiting foreign spaces and imagine experiences beyond ourselves, ones that might contribute to not only a deeper understanding of the world and our interconnectedness, but also to be in a comfortable yet empowered position of knowing that there is no real protection from the dangers of nuclear power and to challenge assumptions of what role nuclear energy plays in our lives. The Chernobyl metanarrative of heroism, duty, and victory is turned over, called into question by the unease and anxiety lurking there, prompted by the invasion of the present by the past and future. Renko, and by extension, we, are not simply entering the Zone, where Chernobyl's memory clings most aggressively, in its present moment, the narrative prompts us to realize, but during a moment during which the past and future intrude incessantly as a reminder not to forget. Entering this otherwise inaccessible space has the potential to be exploitative but reading about Chernobyl through the lens of a popular detective novel can also be valuable, eliciting emotion and precipitating the emergence of critical perspective. In doing the work of the historian or archivist and combing through remnants of memory, the larger structural disparities in power that are responsible for nuclear disasters become evident; the mechanisms of silence that are both imposed on and encouraged by the exercise of that power to protect the interests of state become more familiar and identifiable. Bringing out some of the alternative narratives of Chernobyl can emerge and we gain a greater understanding of the political threads undergirding the nuclear power industry.

S.T.A.L.K.E.R. Shadow of Chernobyl

Nuclear apocalypse has long been a particularly generative source material for video game storylines and imaginative gameplay. In the early days of video gaming, games dealing

with nuclear war generally focused on preventing war, while later games began dealing with the aftermath. Many video game developers have tackled the subject of Chernobyl, and some of the biggest first-person shooting games are set in the Zone or in a version of a nuclear apocalypse in some ambiguous Eastern European setting. From the time of the announcement of HBO's co-production of the Chernobyl miniseries, the number of Chernobyl video games has only increased. The years 2018 and 2019 saw the release of *Fear the Wolves* and *Escape from Chernobyl* in 2018, and *Chernobylite*, *Chernobyl: Road of Death*, and *Chernobyl: The Untold Story* in 2019, with two other games, *Chernobyl Liquidators Simulator* and *Chernobyl: History of a Nuclear Disaster* announced for upcoming release. These last two titles promise to be of particular interest because they are not first-person or multi-player shooter games, but games in which the goal is to contain and clean-up the radiation. Yet, most games about Chernobyl follow a similar premise and aim: you, as some kind of scavenger soldier must somehow fight your way through the Zone, often encountering anomalies and mutants. In these games, reasons for being in the Zone vary: you might be tasked with uncovering a government conspiracy, searching for a powerful artifact, or merely trying to stave off mutants in a game of survival. An example of what one might expect from one of these games comes from the description for the game *Chernobylite*, produced by Farm 51: "*Chernobylite* is a science-fiction survival horror experience, mixing the free exploration of its disturbing world with challenging combat, unique crafting, and non-linear storytelling. Try to survive and reveal the twisted secrets of Chernobyl in the 3D-scanned recreation of the real Exclusion Zone" ("Chernobylite"). While all of these new games promise to yield interesting insight into one facet of Chernobyl's popular culture life, the game responsible for initiating the trend of Chernobyl video games is *S.T.A.L.K.E.R. Shadow of Chernobyl*, released in 2007.

S.T.A.L.K.E.R. Shadow of Chernobyl is a first-person shooter game that takes place in the Chernobyl Exclusion Zone. The game was developed by GSC Game World, a Ukrainian video game developer based in Kiev and eventually spawned a full S.T.A.L.K.E.R. trilogy, along with *Clear Sky* (2008) and *Call of Pripyat* (2009). The game imagines a different reality, one in which there is a second nuclear disaster at the Chernobyl Nuclear Power Plant that leads to mysterious changes in the environment. The fictional second disaster changes the plants and animals surrounding the power plant, and even affects the laws of physics within the area. According to the game's background story, between the first and second disasters many scientists and soldiers repopulated the Zone, but the amount of radiation released from the second disaster kills everyone or turns them into mutants. The gameplay starts a few years later, as more and more scavengers come to the Zone in search of valuable artifacts, money, and mysterious secrets. They are called stalkers, after Boris and Arkady Strugatsky's short novel *Roadside Picnic* and Andrei Tarkovsky's film *Stalker*. Players of this game move through the Zone as the Marked One, a stalker who has lost his memory in a car accident: the only clues to his identity and mission is the 'S.T.A.L.K.E.R.' tattooed on his arm and a message on his PDA that reads "Kill Strelok." As he explores the Zone, he completes side tasks in exchange for information, and discovers more about himself - mainly that *he* is Strelok. Eventually, he learns of a giant artifact called the Wish Granter that is worshipped by a group of extremist stalkers and protected by various Brain Scorchers, force fields that turn any intruders into violent zombies. Eventually, after dismantling the Brain Scorcher, Strelok is able to find the Wish Granter monolith, which only conceals the real danger, a secret laboratory housing a psychic weapon developed by scientists called the C-Consciousness. The weapon is a hivemind of seven scientists who essentially weaponized the Zone to hide the existence of this secret lab and weapons development. He learns that this self-

aware C-Consciousness wiped his memory, reprogrammed him to serve it, and inadvertently assigned Strelok the mission to kill himself. Strelok then faces a choice: merge with the C-Consciousness or destroy it, and possibly himself. He chooses not to merge but is exiled from the Zone's center and must then fight his way back into the power plant to destroy this deadly weapon.

There are several details worth unpacking here. *S.T.A.L.K.E.R. Shadow of Chernoby*l is widely praised by gamers on video game review sites, with many commenting on the "singularly bleak vision" of the game and praising the environment, the storyline, characters, and especially the atmosphere. One Eurogamer critic cites the atmosphere created in the game as the most important element:

> Each of these areas is littered with the wreckage of life before the disaster - buildings decomposing and collapsing, trees withering and disintegrating, the clouds rushing wildly overhead. You [sic] Geiger counter crackles ominously, and occasionally even your vision begins to suffer. So yes, this is what is most crucial: *atmosphere*. No other game broods and rumbles like Stalker. The buildings, which do exist out there in the real world, are brutalist monuments to Soviet failure. Rotting train-yards, shattered factories, burned hospitals - bleak visions of the accidental ruin that decomposes in the heart of the Ukraine. (Rossignol, "S.T.A.L.K.E.R.")

He can be forgiven for using 'the Ukraine' rather than the more politically correct 'Ukraine,' but his excitement for the game and its innovative design and storytelling is obvious. He also describes the fun anomalies one encounters in the game, such as energy fissures and reverse gravity wells, which appear unexpectedly; he also comments on how all-encompassing and threatening the sound design is, noting that they often belong to "the snarl of a mutated abhorrence that has been lying in wait for you" (Rossignol "S.T.A.L.K.E.R."). Many other users and critics cite similar impressions, with the only negatives having to do with technical glitches and a clunky user interface.

Video games have become somewhat of a popular culture phenomenon with widespread appeal: billions of dollars are spent each year on video games in the United States, game-playing elements are being incorporated in other media forms, and video games have spawned huge transmedia franchises. Considering their popularity, the study of video games is still somewhat on the margins of scholarly pursuits. Additionally, the assimilation of new technologies and ways of interacting with video games means that meanings within the purview of games studies are constantly shifting and being negotiated. Concepts from trauma studies, cultural theory, and memory studies are increasingly being applied to video games to study their effects. There is a growing amount of research into, for instance, how trauma is represented and navigated in video games, or how the interactivity of video games can speak to various political, ethical, and cultural debates. With the uptick in Chernobyl video games, we have to wonder how players are consuming this imagined space of disaster, and if the interactive nature of the video game allows for any broader reflections about Chernobyl's memory. The S.T.A.L.K.E.R. trilogy is a game with an open world that permits the player to explore the world freely without restrictions as to which objectives to complete or where to move. The story undertaken by Strelok in the previous paragraph is the complete progression of events, if the game were played out in its entirety, after exhausting every feature and task of the game, but it is not necessarily the only way to play and explore this virtual space. What does open world gameplay add to the experience, and what kind of implications does it have for how Chernobyl and its memory are employed? Additionally, it is important to acknowledge why players might be attracted to a game like *S.T.A.L.K.E.R.: Shadow of Chernobyl*. While playing, is the player more involved with the game mechanics or more engrossed in the narrative, and does that determine player engagement with the issues undergirding Chernobyl as a disaster? Also, while the topic of nuclear disaster is a sensitive one

with a real-life referent, the spatio-temporal landscape of the Chernobyl disaster, as depicted in the game, is imagined. Does the layering of the imaginary over reality detract from, or expand upon, the very real consequences of Chernobyl? And finally, if, in any way, the game successfully presents such an immersive experience, is that problematic in the traumatic sense? Can a video game provide a sense of catharsis for our fears and anxieties about nuclear disaster? These are the questions framing my discussion of the *S.T.A.L.K.E.R. Shadow of Chernobyl* video game and its impact on Chernobyl's memory.

My own foray into playing *Shadow of Chernobyl* was laughably short. Inexperience with playing first-person shooting games led me into trouble straightaway. However, what most stood out to me about the game was how immediately I was thrown gameplay, loaded only with an inaccurate pistol that is effective from a few feet away. To be honest, the sense of disorientation and uncertainty about what was about to happen was quite overwhelming for someone so unused to this kind of action. While I might not have made it as far as discovering the existence of a powerful psychic weapon, I played enough to be struck by the same features that many other players have mentioned: the ways that ambient noises echo across the soundscape, the claustrophobic interiors, the jerky, realistic gun mechanics, and the alarm provoked by open, unfettered spaces, and the anxiety provoked by the lack of structure - essentially, everything that made the game quite innovative for its time. Having visited the Exclusion Zone before, the virtual experience was both familiar and alien. The experience also provoked a bit of excitement in being able to actively explore the Zone in a mode other than as a tourist following a guide, so it is not difficult to see why the game has generated such a loyal cult following. What is difficult to parcel out is if it is the elements of the narrative or the elements of gameplay that attract and engage players, or if it is even meaningful to frame any analysis of the game in this way. The

debate between narratology and ludology is long-established, born out of a need to categorize and outline disciplinary conventions for this increasingly popular medium. There are scholars who insist on the specificity of the video game medium and have coalesced around the concept of 'play,' who are often pitted in opposition to those who would approach the study of video games in a similar way to literature and film, with a focus on the story. My purpose in bringing up this formative debate in the current discussion is to establish the context for the study of video games, particularly the scholarly context during which S.T.A.L.K.E.R. emerged, but also to qualify how I will approach the video game in the subsequent analysis. At stake here is the importance of video games as sites of knowledge production and memory making. In the context of *Shadow of Chernobyl*, if players are more enmeshed in the rules, mechanics, and objectives of the game, then the Chernobyl backdrop ceases to be important; and if the narrative is the primary analytical crux, then it does not matter that *Shadow of Chernobyl* is even a video game. But it seems to me that both are important, and both share responsibility in creating a potentially meaningful experience through which to engage with Chernobyl's memory. Their complementary roles also lend the memory its radioactive potential.

My aim here is not to rehash old debates, especially since many video games scholars are starting to reconcile these differences while also forming new interdisciplinary frameworks for evaluating video games. What is important is to provide context for the current discussion, because any approach used will assist in defining what is even possible to gain or learn from playing a video game, and it seems that it is the weaving of both the story and gameplay that creates an interactive experience, rather than any one component. Both the gameplay and the narrative background work simultaneously to create a unique experience for every player. They build off each other, intervening at crucial points to remotivate and challenge the player.

Considering the complexity of storytelling and the sophistication of game mechanics today, it is reductive to minimize the intricacy that constitutes most role-playing, open world video games, with their advanced graphic effects, utilization of perspective, craft of storyworld, believable non-player characters, and curated audio soundscapes. Video games also entail problem solving and challenges, spatial navigation and design, and various coding languages and internal instructions. These interactive components are mapped onto the player's experience, which coalesces in the body and the mind; it is a bodily experience, since the continuation of the game requires both psychological and physical engagement. Although, 'interactive' might not be an adequate description of the processes that undergird the video game communication between player and game. As Tamer Thabet reflects on in his book *Video Game Narrative and Criticism: Playing the Story*: "When it comes to game fiction, the term "interactivity" is a terribly dull one and does not say anything about how to play a story and how a story affects us. "Interactive" conceals how gameplay reshapes the way we produce, perceive, and respond to fiction" (3). The term is inadequate for encapsulating the variety of emotions we must navigate and perform, the time we must invest in exploring the gameworld, and the choices and agency we must exercise in prolongin the experience. Taking on a narratological perspective, while also acknowledging the importance of actual playing, Thabet explains that narrative and gameplay are not mutually exclusive, but that the game invites the player in as a co-narrator of the storyworld, making the player the central part of the game narrative.

Thabet relies on his own personal experience and the experiences of his students as well as other players who chart their impressions online and participate in online gaming culture as evidence of the player as a nexus between narrative and gameplay. He is a proponent of a player-

response paradigm in game criticism, which, he asserts, is a pivotal meaning-making process in which players actively participate:

> Unlike traditional fictional forms, in which we read about or watch the conflict of a protagonist and an antagonist and in which our response occurs only inside our more or less empathizing minds, in game fiction the conflict is more palpably our own as we find ourselves inside the protagonist's body. Thus, the story becomes a personal experience that tells us about ourselves much more than about the protagonist. (43)

Gameplay enters the process at the level of nonverbal actions, strategies, and responses to the game mechanics, which are part of the game's authorial, yet flexible, narrative structure. Any authority assumed by the game's internal programming is immediately open to interpretation once the player assumes control of the gaming system. Any character arc that was "written" for Strelok, in *Shadow of Chernobyl*, for example, loses its hold, because the player gets to write their own version of the character's journey that is then communicated through the game's physical controls and also the random choices that emerge from the player's mind in response to game stimuli. Once the player chooses not to engage with the game, the story stops. In that way, Thabet concludes, "the player's actions and responses indicate his or her personality and project a form of subjective expression that substitutes for the concept of voice in printed narratives" (42). Of course, the player is also challenged by the limits of the game world and the limits of technological innovation, but that also exerts significant influence on the story's development.

Some of these dynamics are cited in comments made by the game's creators, who originally wanted to center the game around innovative gameplay elements, without any story. The original plans, loosely organized under the working title "Oblivion Lost," would operate under "A-Life," an AI system that controls all of the game's environmental life - its flora, fauna, mutants and nuclear anomalies - exclusive of the player's physical movements or decisions. The A-Life would control NPCs (Non-Playable Characters), alter the environment, and even present

new challenges, interactions, and possibilities; supposedly, any non-player stalker in the game could "complete" it. The game world would come alive, grow, and change, without any input of the player. However, the idea of such an extensive simulation of life was deemed too unwieldy as creators "realized that such a concept would barely be understandable to the players" (Rossignol "I.N.T.E.R.V.I.E.W."). In an interview conducted shortly after the game came out, one of the game's creators, Anton Bolshakov, explains, "It was either too much or too little of gameplay content, while everything was under the control of A-Life. It was frequent that the players didn't understand what to do next. Such a concept required considerable improvement and a search for a form both understandable and involving to the players" (Rossignol "I.N.T.E.R.V.I.E.W."). What emerged from these early decision-making stages is the incorporation of the story into the A-Life, producing a dynamic and multi-faceted experience that allows for greater player engagement with the themes and events presented through innovative gameplay.

Dutch historian Johan Huizinga was the first scholar to bring the term 'play' under serious consideration as a formative element of culture. His assertion that "All play means something," in his seminal work *Homo Ludens*, would lay the foundation for games studies (Huizinga 1). The concept of play has an important role here, not merely as a mode of interaction within and outside of the game, but also as a motif that provides the narrative with an additional layer of meaning. On a more superficial level, video games are about playing; after all, the term 'ludology' comes from the Latin word "game," *ludus*. And of course, *play*-ers *play* video games, in both the descriptive sense and the physical manipulation of hardware. The concept of play describes both a player's interactions with the narrative and how the narrative interacts with the player. 'Play' structures the gameworld and describes the actions undertaken by a player. It is

fundamental to the definition of “game.” Additionally, the whole conception of the narrative invokes a kind of play. The ability to explore what is, in reality, a dangerous place, and, in having no pressing objectives, waste time doing so without the risk of hazardous effects, is about play, as are the creative visual effects that are brought to life digitally. Still, the notion of play also encompasses thematic underpinnings contained within metanarrative concerns, because the S.T.A.L.K.E.R. video game “plays” with the Chernobyl narrative in a variety of ways. The game plays with reality, in claiming an authenticity and verisimilitude to the real Exclusion Zone. It plays with space by rendering the physical topography into a virtual representation. By placing the disaster’s context within an alternative timeline, the game plays with time, and, therefore, history. All of these layers of play produce a multifaceted definition of play, one that absorbs powerful connotations, such as the upsetting of hierarchies, testing limitations, confronting boundaries, and overturning conventions. This impulse lays bare the site of cultural memory as a “discursive struggle,” in the words of Steve Anderson, who writes about technologies of memory. He writes that memories obtain their meaning through a variety of intersections of “historical constructs” such as beliefs, images, narratives, and politics, so understanding how we remember the past is “best described as an archaeology in which the goal is not simply to uncover something that has been buried but also to discover how and why its meanings have changed and additional layers have been built up on top of it” (Anderson 51). This transformative function of play serves as a particularly generative interpretive model for analyzing the meaning making mechanisms embedded in the narrative.

Considering the psychological and bodily investment necessitated by engagement with both narrative and gameplay, the player could potentially develop a prosthetic memory of Chernobyl. In the larger context of the *S.T.A.L.K.E.R. Shadow of Chernobyl* video game, the

narrative and gameplay are both necessary for creating the game world and the player's experience of that world. It is not just the open game world, the realistic shooting feel, or the visual technics, nor is it just the apocalyptic setting, the radioactive dangers, or the mystery of the disaster, but all of these components working together that make meaning and create sites of knowledge production, that all, in turn, influence how cultural memories of Chernobyl form. In much the same way as Martin Cruz Smith's novel *Wolves Eat Dogs* allows for a kind of exploration of the Chernobyl Zone and the space of disaster, so does *Shadow of Chernobyl*, with the added feature of seeing a virtualized Zone landscape and the freedom to wander the Zone without a guide. The virtual rendering of the Zone is one of the crucial elements of this video game, and creators were methodical in capturing much of the detail of the Exclusion Zone. The game's creators. including head of GSC Gameworld, Sergiy Grigorovich, visited Chernobyl's Exclusion Zone and collected photographs and video of the Zone in order to reproduce the space as fully as possible. Recreating a real place has some weighty implications, however, especially when that place is marked by real tragedy.

In deciding on a setting for the game, the creators were naturally drawn to what was familiar to them, their home country of Ukraine, a place where "[s]plinters of Soviet Empire are plentiful" (Rossignol "I.N.T.E.R.V.I.E.W."). They were drawn to the idea of a post-apocalyptic world, because Ukraine has experienced many versions of the apocalypse over its history, and none more iconic than the disaster at the Chernobyl Nuclear Power Plant. This is not neutral territory, as discussed previously, but a politically contested site fraught with loss, ethical tensions, and blame, but it is safe to say that the creative team behind the game were extremely conscious of the implications of setting their game in Chernobyl. Describing it as "one of the

black pages in the history of Ukraine," Bolshakov explains that memory informed the decision to make a video game about Chernobyl:

> As time passes, people start forgetting about the accident and the related problems which Ukraine has to cope with, now virtually independently. So, for several reasons Chernobyl has been a very unique and an amazing game concept: global public awareness of the setting, mysteriousness of the place, radioactivity dangers, talks about mutations – all combine into a solid concept of a horror-filled atmospheric shooter. The motif behind S.T.A.L.K.E.R. was to create a game which would remind people of the Chernobyl accident and at the same time warn mankind against any possible fatal mistakes in the future. (Rossignol "I.N.T.E.R.V.I.E.W.")

S.T.A.L.K.E.R. Shadow of Chernobyl presents a kind of dual history, because the game is about Chernobyl as we know it, but it also imagines a world in which a second disaster has occurred. In this sense, the fact that this landscape consists of ruins is significant, because ruins also signify a kind of simultaneous double history - that of the past and the future, echoing the philosophical arguments made by Benjamin and refashioned by Svetlana Boym in her seminal work *The Future of Nostalgia*: "As for the modern ruins, they are reminders of the war and the cities' recent violent past, pointing at a coexistence of different dimensions and historical times in the city. The ruin is not merely something that reminds us of the past; it is also a reminder of the future, when our present becomes history" (79).

What we see in *S.T.A.L.K.E.R. Shadow of Chernobyl* is a virtual history of the future, played out among the ruins of nuclear disaster. The significance of ruins for memorialization and commemoration of Chernobyl is discussed in a previous chapter, in the context of Gaston R. Gordillo's concept of rubble, which "deglamorizes ruins by revealing the material sedimentation of destruction" (10). For Gordillo, the term 'rubble' includes the immanent rubble of ruins, and they all provoke us to "rethink what space is, how it is produced, how it is destroyed, and what is created by this destruction" (2). Additionally, the affective intensity and temporal disparity

embodied in ruins draw attention to the destruction wrought by the history of progress. Ruins in video games serve a similar function, one whose effects are more diffuse, but, nonetheless, valuable. Ian Bogost, a scholar of video game studies and award-winning game designer, asserts that video games often comment upon the material world: “Video games represent processes in the material world - war, urban planning, sports and so forth - and create new possibility spaces for exploring those topics” (121). If we can glimpse what was and what could be, and all that was lost in between past and future, we might be able to see how much destruction has been wrought in the name of progress. Emma Fraser, in an article entitled “Awakening in ruins: The virtual spectacle of the end of the city in video games,” sees ruins as fulfilling a critical role in awakening a more nuanced vision of an alternative future:

> Ruins appear in games that imagine such a fulfilled future as one of catastrophic collapse, haunting the player by stripping away the illusions of security and progress, simultaneously reifying and resisting a vision of history as perpetual novelty or beginnings and endings - it is the image of the ruin, deployed for play beyond the moment of catastrophe, that enables such resistance, and potentially reveals the phantasmagoric illusions of modernity as such. (184)

While Benjamin’s notion of phantasmagoria as a critical lens through which to reveal “a kind of illusory capitalist dreamworld,” is a critique of capitalism in favor of a historical materialism influenced by Marxist theory, it is worth noting that his assessment of history as inherently destructive still applies to the Soviet context of Chernobyl’s ruins. The Soviet Union is not the only world power to elide the destructive potential of nuclear power for the sake of scientific progress, but it is the world power that created Chernobyl. Even though the Soviet Union adopted a particularly Soviet brand of Marxism in opposition to capitalism, the critique still stands: the phantasmagoria of capitalism were just exchanged for the phantasmagoria of socialist realism, which imagined history as progress toward a bright Communist future.

The play with time and history within the game world is not merely a moment of escapism, but a way of interrogating the past and our relationship to it while also contemplating the future. Of course, games such as *Shadow of Chernobyl* almost instinctively employ ruin-tropes to present their gameworld, particularly the idea of "the imagined world in which catastrophic events reduce the long march of history to one great pile of rubble, naturalizing inevitable destruction and romanticizing ruination as the symbol of heroic (rather than banal or brutal) loss," as Fraser notes (188). There is the risk of fetishization, of glorifying the destruction, but any engagement with ruins confronts this tension, and sometimes that tension is necessary. What Fraser reminds us, is that these games also contain multiple histories "built on counterfactuals, hypotheticals, imagined or fantastical scenarios, and fractured or indistinct timelines, made possible - playable and pausible - through ruins" (188). This play with temporal indeterminacy, and the ability to stop, start over, and create a story, or many stories, underscores the agency a player has in the gameworld, an agency that is not always apparent or allowed in real life. Tamar Thabet, again, confirms the importance of the player's experience to the narrative and gameplay: "The various acts of reading, seeing, watching, listening, navigating, controlling, and effectuating are afforded in a fictional world programmed to make its visitor live and tell a personal story through gameplay" (5). The player "plays" the narrative as a character without memory, opening a space, as Wolfgang Iser maintains, in which the player can insert themself. Within the gameworld, the player can work through fears and desires without real consequence, and to embody the kind of multiplicity of narrative and history is liberating and compels the player to see and think about the world differently. The game plays with us and re-imagines the Chernobyl Exclusion Zone as a place where the past and future coexist, where the layering of the real and non-real animates our fears. The game environment responds to us and

attacks us, but it is a world in which we can respond to, mitigate, and even destroy those fears, while also imagining alternatives. Caleb Andrew Milligan examines several video games through the lens of virtual dark tourism, which combines travel to sites of tragedy and loss, but in the imagination. To qualify as virtual dark tourism, though, it must involve a journey undertaken through the mediation of "literature, film, Internet site or game" that simulates "the feeling of being in a place without actually being in a place" (McDaniel 3). Milligan describes them as "virtually historical," which show us "almost-histories," worlds that allow us an encounter with the possible dark paths we could have (and still could) experience (266). As we play through the ruins of future-turned-past in *Shadow of Chernobyl*, exploring a "historical memory no one remembers" as a player without a memory, we are able to recreate a timeline of the divergent moments that led to that alternate future (Milligan 268). By "remembering" what could be possible in the future, we realize the possibilities about our past and could exercise some agency in changing its course (288).

Shadow of Chernobyl is prophetic in its imagining of the alternative history of Chernobyl, because the game is not only about the disaster but realization of our fears of nuclear apocalypse. We are reminded that the nuclear apocalypse we have been envisioning all along is not entirely imaginary anymore, which is a difficult reality to accept. In recreating the actual modern ruins of Chernobyl for the game, the creators invite players to engage with the complex terrain of the disaster's history safely. The themes, graphics, and gameplay confirm that the real context of Chernobyl consists of trauma for many people. In invoking Chernobyl's traumatic context, the game manifests a mode of processing trauma that is intentional on the part of the creators, who turned to their own recent past to tell a history of the disaster that in its prophetic imagination becomes a history of the future. Jim Rossignol, who has a long career playing the

S.T.A.L.K.E.R. game series, comments on how the game is “an example of a culture tapping into its own history,” which is also what pushes against the charge of exploitation that any video game of this nature invites:

> The consequences of man-made disaster in the Soviet Union need to be illustrated and discussed, and we can do that via fiction as well as through more serious media. The Zone looms large and real for Ukrainians, and the best way to deal with such psychological monoliths is by describing them - perhaps in documentary fashion, perhaps in literature, perhaps in film, and perhaps, eventually, in videogaming. (Rossignol “Worlds”)

The game’s creators are telling a painful cultural narrative without the constraints of propriety and cultural taboo, breaking the silence inevitably imposed by this kind of widespread trauma. In *Technologies of History: Visual Media and the Eccentricity of the Past*, Steve F. Anderson acknowledges the possibility of a “redemptive” function of fashioning alternative histories: “In a reimagined or reremembered past, wrongs may be righted; tragedies that still resonate and haunt us in the present may be pacified” (19). This capacity serves to “recover the power of history for the future” (19). In working with their own cultural trauma, and potentially even some personal traumas, the game allows the creators to tell their own history of their experience of the disaster, further emphasizing the complexity and depth of Chernobyl’s memory. This assessment is not asserting any kind of therapeutic value to the video game, but rather a cathartic one in the sense of offering emotional release as a way of coping, if not for the players, then for the game’s creators.

The game is a call to remember, to learn more about the disaster’s historical context, and to be aware of the consequences of nuclear power. Marina Hassapopoulou, in her article “Playing with History: Collective Memory, National Trauma, and Dark Tourism in Virtual Reality Docugames,” discusses a different kind of game, the virtual reality docugame called *Chernobyl VR Project* (Farm 51, 2016). *Chernobyl VR Project* more explicitly attempts to

educate users about the disaster using archival material, interviews with witnesses, and advanced photorealistic technology to situate the disaster within its historical context. In this game, the user is not shooting mutants and uncovering a governmental conspiracy but learning the disaster's history. Hassapopoulou is interested in how the interactivity of docugames creates "malleable histories" that challenge dominant narratives and memorial practices. In describing *Chernobyl VR Project*, she asserts that the "convergence of docugames with the immersive properties of VR provides us with experimental, visceral, and multimodal approaches to the historical, while simultaneously raising questions regarding second-hand memory and the transferability of trauma" (366). *Shadow of Chernobyl* is not a virtual reality game and does not have the overtly educational impulse of *Chernobyl VR Project*, but, nonetheless, the game shares similar concerns as to how video games generate a prosthetic historical encounter for players/users through a shared perspective involving the free exploration of a space that is not readily accessible. As Hassapopoulou argues, the game is not about verisimilitude, but about how playing with history in a video game "creates an intricate network of actual, reimagined, and performative encounters that all have the potential of stimulating affective responses that surpass questions of authenticity" (375). That video games can provoke affective response and critical thought to any degree collapses the artificial distinctions separating video games from other media and elevates gaming as a site worthy of further scholarly consideration.

S.T.A.L.K.E.R. Shadow of Chernobyl might not be the most serious and didactic cultural product about the nuclear disaster, and it has no pretensions to be so. Shooting radioactive mutants does not equate to political change. However, the game does contain the "latent capacity" to 'awaken' the possibility of critical reflection and the imagining an "alternative to the current state of things," as Emma Fraser contends (191). Much of the game's generative potential

lies in the instances in which the game contributes to the multiplicity of not only the media landscape in which it is a part, but also the mechanisms of gameplay and narrative within the game. In dealing with an event like a nuclear disaster, the possibility of a multiplicity in history deconstructs the idea of one definitive grand narrative of history, making it fallible, while also challenging the linear progression of history as monolithic and inevitable. The dominant Chernobyl narrative of freak accident and heroic containment neatly glosses over the context that precipitated the disaster and the consequences that linger after. *Shadow of Chernobyl*'s narrative play through gameplay allows players to play with history and therefore tell multiple stories within the gameworld, thereby developing multiple counter-histories and responses to that history. Not all of those responses may be particularly affective or critical either, but that too, is valuable, because players are nuanced and multi-faceted people with different perspectives and experiences. The game also contains a multiplicity of history in its temporal indeterminacy and layering of real and non-real, history and fantasy. Concerning the video game's status within popular culture, a culture that is distinctly Western, more specifically American, *Shadow of Chernobyl*, in tapping into its own local myths and fictions, challenges the monolith of American culture. The language audio of the game is largely in Russian, and any English is spoken with the heavy accents of the Ukrainian actors. The Chernobyl Exclusion Zone is Ukrainian; and even the mythology of the Zone is inspired by Russian science fiction and literature (Rossignol "World"). Further, the production of the game - in Kiev by a Ukrainian game company - and its innovative gameplay concept and technology come together to alter our expectations of what a first-person shooter, as a genre, can accomplish as cultural commodities (Rossignol "World"). In embodying this kind of subversive impulse, the video game contains multiple channels through which a player can engage with Chernobyl. So while *Shadow of Chernobyl* might not directly elicit

widespread political change or global activism against nuclear power, for some players, the game might be their first encounter with the disaster, and it might inspire others to learn more about what happened there; it might also create more opportunities for a shared knowledge of nuclear disaster and its consequences, and of course, it allows for the transmission of a prosthetic memory, which might "serve as the grounds for unexpected alliances across chasms of difference" (Landsberg 3), and assuming the responsibility for prosthetic memories of traumatic events "can have a profound effect on our politics" (3).

Chernobyl Diaries

So far in this chapter I have been focusing on virtual experiences of Chernobyl, those that allow for an experience of Chernobyl without physically being there, one that generates a prosthetic memory of the disaster. The virtual experience is mediated through a mass cultural technology and allows for a kind of virtual tourism of Chernobyl's Exclusion Zone. With its explicit depiction of tourism, the horror film *Chernobyl Diaries* provides a starting point from which to think about how film transports viewers into the space of Chernobyl, which filmic mechanisms create meaning within the film, and how film is able to communicate those meanings to the viewer. Instrumental to this discussion are the ways that horror acts on the body, the possibilities for provoking empathetic responses in viewers, and the visual representation of historical horrors. Additionally, this discussion must also take into account the commercial side of horror films and their production, as well as confront the charges, made by several Chernobyl charity groups and reviewers alike, that the film's portrayal of Chernobyl is insensitive and distasteful. This section will also grapple with the limits of Landsberg's application of prosthetic memory, because in examining a film like *Chernobyl Diaries*, we are reminded that cultural

objects do not exist in a vacuum and are subject to unintended outcomes and readings. *Chernobyl Diaries* is a fairly standard horror film with a compelling premise, but audiences found it boring and formulaic, which begs the question of whether our deeper critical engagement is predicated on how engaging the material is and what kind of prosthetic memory is possible when viewers are not interested in what they are watching. To that end, I will draw on reviews made by viewers to illustrate how they responded to some of the film's main elements.

The plot of the horror film *Chernobyl Diaries* (2012) follows four American tourists travelling across Europe. On their way to Moscow, they decide to make a detour to the abandoned city of Pripyat to explore Chernobyl's Exclusion Zone. They meet up with two additions to the group before joining their tour guide, Yuri, on a bus ride from Kiev toward the Zone. At the Zone's checkpoint, they are turned away by the military, but Yuri knows another way in. The group spends several hours exploring the Zone, seeing a few strange sights and even encountering a bear in one of the apartment buildings. At the car ready to leave the Zone, Yuri discovers the wires have been damaged and there is no radio contact to the outside world. With no other option, they are forced to spend the night in the Zone. *Chernobyl Diaries* is a horror film, so of course, once night falls, the tourists are assailed by wild dogs, and even more terrifying, humanoid creatures, who terrorize them. The only one who survives, Amanda, awakes in a hospital, where it is revealed that all of the mutants roaming the Zone were escaped patients from some experimental hospital. The film, written by Oren Peli and directed by Brad Parker, attempts to draw on the success of Peli's successful supernatural horror film *Paranormal Activity* (2007), which makes use of found-footage aesthetic to produce a film that "feels" real. Made with a $15,000 budget, the film eventually grossed over $193 million dollars at the box office. Yet, *Chernobyl Diaries* is largely disappointing, with many calls for boycotts due to the

insensitive handling of Chernobyl's memory. There were even calls to boycott the film. Dana Stevens, writing for *Slate*, acknowledges a few "legitimately scary moments" but sums up the film with a scathing confession about the one-dimensional characters' fate: "You might actively root for their collective demise, if you could rouse yourself to care one way or the other. Go gallivanting in Chernobyl and you get what you pay for, nimrods." She concludes that while the film is "without question, in atrociously poor taste," the film will be forgotten before it even matters (Stevens).

The similarities between *Chernobyl Diaries* and *Shadow of Chernobyl* center largely on their narratives, both of which are about surviving dangers in the Zone that extend beyond the radiation, to mutant humanoid creatures and a secret government conspiracy. In Chernobyl Diaries, the humanoid creatures are escaped patients involved in radiation experiments, while in Shadow of Chernobyl, the mutants are a result of a second reactor explosion. Both *Chernobyl Diaries* and *Shadow of Chernobyl* involve a narrative trajectory that compels the main character/player toward the power plant itself, where the secrets of the Zone are revealed to be wider government conspiracies. The level of narrative is one plane through which the viewer/player is engaged. As discussed in the previous section, the player engages with the narrative through play as an active agent in the narrative trajectory. The film viewer responds to the film narrative through various formal strategies and aesthetic choices. The volume of critical consideration dedicated to theorizing the spectator's relationship to film is wide and varied, so I will bypass some of the superfluous context and focus on what Landsberg references several times as a means of engagement capable of producing prosthetic memory. She describes cinema's "ability to represent the past visually and to suture characters in the present to lives previously led," which "becomes a metaphor for a kind of prosthetic imagining, a way of

remembering or forgetting the past" (56). She also expands the term to include the experience of television and some museums to "provide the occasion for individual spectators to suture themselves into history, to develop prosthetic memories" (Landsberg 14). The import of *Chernobyl Diaries*, then, lies partially in the capacity of the film to engage the viewer and bring them into the space of disaster.

Landsberg's use of 'suture' comes from Kaja Silverman, but the term originally comes from Jacques-Alain Miller's 1966 article "La suture (elements de la logique du significant)." Jean-Pierre Oudart first applied the term to film narrative, and Stephen Heath popularized the idea in 1978. In *The Subject of Semiotics*, Silverman writes:

> Suture can be understood as the process whereby the inadequacy of the subject's position is exposed in order to facilitate (i.e. create the desire for) new insertions into a cultural discourse which promises to make good that lack. Since the promised compensation involves an ever greater subordination to already existing scenarios, the viewing subject's position is a supremely passive one, a fact which is carefully concealed through cinematic sleight-of-hand" (232).

Earlier theorizations of the concept focused on the shot/reverse shot formation as a central device, but the term has come to encompass many other techniques and modes of becoming sutured into the story. Suture can include identification with a character in the film, or a worldview developed by the film; viewers can also be sutured into the film through creative camerawork and editing, and of course, through identification with the camera apparatus. For Landsberg, the act of suture is connected to the seamlessness of contemporary cinema: "The improvement of cinematic technology has made identification with filmic images increasingly possible, thereby facilitating the acquisition of prosthetic memories" (32). This seamlessness is problematic considering the passivity implied by Silverman's definition, with many critics noting the ideological imprinting implicit in watching certain images and becoming absorbed by a narrative. In her chapter on immigration narratives, she acknowledges that certain modes of

identification can have the negative effect of erasing difference in the promotion of a homogenous American identity. Prosthetic memory, then, can also contribute to a kind of forgetting of the past.

Despite the implications, Landsberg does insist on the potential of suture for drawing the viewer into the narrative, "thus enabling identification between viewer and character, or self and other, as a prosthetic means for the self to share in (or empathize with) the experience of the other, even though the empathizing self actually never "authentically" lived or "owned" (based on geographical, ethnic, or familial claims) this experience" (Abel 379). Suture typically occurs on the level of consciousness because of its consequences for the creation of subjectivities and selfhood. Landsberg's use of suture is not a rigorous application: she is not delving into the complicated psychoanalytic foundations of the term, instead, her use of the concept draws on many of those assumptions. Within the context of the films she discusses, the argument is effective. For example, when Landsberg writes about John Singleton's 1996 film *Rosewood* about the Rosewood massacre, the viewer's cinematic identification with a young white boy Emmett marks a process in which "white viewers can recognize and reject racism" (107). Landsberg explains:

> The point is not that white moviegoers forget their whiteness but that they are forced to look at the world from a perspective that is not naturally their own and that such an experience enables them to acquire prosthetic memories. Emmett's ability to leave his home, to turn away from his father, and to reject his father's white supremacist beliefs is enabled by his memories: his memory of his father calling his friend Arnett a nigger, his memory of being forced to make a noose, and his memory of seeing the mass grave filled with black bodies - and babies. In identifying with Emmett, we too acquire those memories. They are not memories of events we lived through, as they are for Emmett, yet through an act of prosthesis enabled by cinematic identification, they become part of our archive of memory (108).

Undoubtedly, viewers are affected by such powerful images, and so Landsberg's assessment is pertinent and natural. However, we must wonder if the same kind of engagement is possible in a film like *Chernobyl Diaries*. *Rosewood* is a historical drama about a violent event set within the traumatic context of racism in the United States. *Rosewood*'s engagement with history is foregrounded, and the film's subject matter invites this kind of interpretation and the hope that "learning to see the world through black eyes might have a radical effect on both their worldview and their politics" (Landsberg 83). It is safe to say that *Chernobyl Diaries* is a very different kind of film.

For the most part, Dana Stevens has been proven right in her unfavorable review of the film, because, now, nearly a decade later, *Chernobyl Diaries* is remembered as just another bad horror film. Upon a recent rewatch, my fellow viewer had only the following summary: "It's just not good." Of course, the current discussion is not one of quality, it is about how viewers might be affected by film images and what kind of prosthetic memories are possible; however, some of the reasons viewers did not like the film play into larger issues of viewer engagement. A frequent comment of film viewers is the unlikability of the characters. Critic Tim Grierson, writing for *Screen Daily* writes that even though horror films are not known for their great performances, "a mediocre offering like *Chernobyl Diaries* suggests how much more difficult it is to be invested when the characters aren't involving" and tend "toward a bland attractiveness that lacks the necessary depth or pathos when matters start to get far direr in the second half" (Grierson). Another reviewer on IMDb agrees: "You stop caring about the characters after a while because they're making stupid decisions so there's no one to root for," just "six unlikable people struggling to find their way out of the city while getting picked off one by one. It simply isn't interesting" (Invicta). Other reviewers referred to them as "shallow" and "stupid" and one admits

that “I could never get invested in any of the characters” (Chris O.). On the film ratings site *Rotten Tomatoes*, the film has a 28% rating from 141,905 users. The film fared better on IMDb, with 62,741 viewers giving the film 5/10 stars. On the level of character development, the film relies heavily on stereotypes: from Yuri, the tough-talking Ukrainian former special forces operative who keeps a gun in his car to the loud, at times obnoxious, American tourists who display the kind of bravado that only young, white, privileged travelers seem to exude. We never learn much about them, which contributes to their one-dimensionality. Additionally, terrible decision-making prevents viewers from aligning with the characters, even though bad decisions are a hallmark of the horror genre. Some of those decisions are necessary to the story, but others are frustrating. For instance, they ignore blatant radiation warning signs and, at one point, wander directly into the reactor, not realizing they were in danger until their skin starts burning from the high levels of radiation. This scene becomes ridiculous since the radiation, which could have been featured as another danger, is an afterthought for most of the film, so it reads as “a pitiful attempt to bring the nuclearness of things in on the action” (Morris). However, it can be argued that character identification is not a significant element of horror films, as Noel Carroll does in *The Philosophy of Horror*. He contends that character-identification could have a variety of meanings too ephemeral, involving people too complex, to explain reliably, which is why it is not part of the horror encounter and any feelings of full identification are an illusion (89). Caroll asserts that, of course, the viewer does not identify with a character in a horror film because “the audience gives every indication that it knows that it is not the protagonist” (90). The viewer is given cues and knows more information than the characters, so any identification is only partial, at best, and that is not strong confirmation of its impact.

In rejecting the importance of character-identification, Carroll rejects the passivity implied by the processes by which viewers are sutured into the film narrative. His insistence that the viewer is aware that she is not the protagonist asserts the more active role implied by the idea of a viewer's engagement with a film. In the context of horror films, Carroll rejects the possibility of total identification with characters on screen because the audience is aware of dangers, circumstances, and has access to information that characters do not, such as the fact that a place is haunted or that a character is heading into a dangerous situation. The disparity in knowledge equates to a difference in emotions (91). If we do not identify with the characters in a horror film, the other alternative is identification with the camera. Film theory is heavily invested in the role of the camera in structuring vision. Most notably, classical film theory is particularly invested in the point of view established by the camera and the ideological implications of that positioning for subjectivity. The role of the camera in *Chernobyl Diaries* is an interesting one. The film opens with several minutes of footage of the characters at all of the places they have visited before arriving in Kiev. The footage has that slightly grainy picture quality we have come to expect from amateur home videos; while not as poor quality as old VHS tapes, even the digital image is not quite as clean and crisp as those captured by cameras used for Hollywood cinematography. The hand behind the camera is not as practiced either: the camera movements are shaky, there is no editing, and the footage usually reveals what has been captured unintentionally. A horror film that makes use of discovered film and video recordings is part of the found footage subgenre, an increasingly popular style of horror filmmaking. The 1999 film *The Blair Witch Project* initiated the current interest in found footage horror films. The film was a huge box-office success, earning over 248 million dollars at the box office after being made on a budget of $60,000 (Turner 1). As one of the first widely released found footage films, *The*

Blair Witch Project became so popular in part because of the "threat that a found footage horror film may present actual events that occured in the real world" (Heller-Nicholas 4). Even as viewers have become aware of the conventions marking the subgenre, viewers continue to enjoy found footage films, because they offer the "possibility of knowingly indulging in the horror fantasies on offer" (4).

According to Peter Turner in *Found Footage Horror Films: A Cognitive Approach*, "The diegetic camera is different to the subject camera due to the supposed origin of the footage. With the subjective camera, the origin is supposedly the eye of the character, whereas with the diegetic camera, the origin is the lens of a camera that is present within the diegesis" (7). The importance of the diegetic camera is foregrounded in Turner's use of the term 'diegetic camera film' to refer to found footage films. Because the camera is part of the fictional world, the viewer is "immersed in the diegetic events" (7). In this way, the viewer identifies with the camera, but not in the same way that a classical Hollywood film sutures a spectator into the narrative, because Turner, too, rejects the psychoanalytic framework that theorizes a passive spectator motivated by pleasure and desire. The tension between passive and active is important here, because when discussing engagement as a basis for development of empathy, the active participation of the viewer is key: "Empathy suggests something beyond feeling the same emotions as someone else; it also implies a distinct cognitive process that allows someone to actively engage with how another person is feeling" (Turner 22). The viewer is aligned with the diegetic camera, and therefore the point of view of the character(s) wielding the camera, but because the character operating the camera cannot be seen, the viewer has to imagine the mental state and emotions of that character, amplifying identification. Because the viewer brings their own experiences, emotions, histories, and fears to the viewing experience, that identification can change and

deepen, which again underscores the viewer's active cognitive participation. I point to Turner's cognitive approach as a means through which the viewer engages with the film and as a mode of developing empathy; it would also explain how a film like *Chernobyl Diaries* provides a means through which prosthetic memories can emerge, if, however, *Chernobyl Diaries* were a found footage film.

It might seem unfair to introduce the idea of engagement through a diegetic camera that does not actually explain *Chernobyl Diaries*, but it is necessary to chart how this film frustrates the viewer's attempts to engage with the narrative and experiences of the characters. The opening found footage montage of *Chernobyl Diaries* quickly gives way to a style of filmmaking that does affect a more mobile camera, as though it were filmed with a personal handheld camera by one of the characters, but the effect is not fully realized. At times, the camerawork makes the viewer feel as though they are some amorphous second person, both there and not there, inserted in random scenes as though a silent character, but in others, distanced by traditional static establishing shots. Oren Peli, who wrote and produced *Chernobyl Diaries*, directed the extremely popular found footage horror film *Paranormal Activity* (2007). In an interview with *Vulture* magazine, he acknowledges that while the original idea for *Chernobyl Diaries* included this element, it was decided that making a found-footage film "wouldn't make sense" and that "it would feel forced and inorganic" (Peli). Instead, his team decided not to shoot the film "not like a horror movie, but a documentary where horrific things happen to people" (Peli). Except that this supposed documentary style is also ineffective because viewers are not prompted to approach the film as a documentary. The result is disorienting for the viewer, especially since the film promises the kind of immediacy and authenticity embodied by the found-footage style

promised in the opening. Many reviewers express a similar consternation upon realizing that their expectations were thwarted.

Yet, there is one scene in particular that effectively makes use of found footage. At one point, the group splits up. Chris and Natalie remain in the broken-down van, while the other four members go off in search of the car part required to restart the van. When Paul, Amanda, Zoe and Michael return to the van with the necessary car part, Chris and Natalie are gone. The only clue as to what happened to them comes from some video footage on the camera left behind. In this footage, we see Chris propose to Natalie earlier than he had planned because of the wound on his leg and the real possibility that he might not get the chance later. He is obviously struggling against the shock and stress of his open leg wound. We also hear Natalie reassure him that everything will be okay and that he should wait to propose like he planned, because they will make it out of this situation alive. We know that this is wishful thinking, and we are proven right because in the footage, a struggle takes place and Chris and Natalie are dragged out of the van and carried away. It is an oddly effective scene, offering insight into the characters and their complex emotions. We understand that Chris and Natalie are trying to reassure and offer each other hope, even as they both know that their situation is hopeless. One cannot help but wonder what the application of a found footage style of filmmaking might have offered viewers, because unfortunately, any engagement offered by that scene is undercut elsewhere.

Considering the inadequacy of both character and camera identification in explaining how viewers might engage with Chernobyl, we must wonder at how *Chernobyl Diaries* allows for the creation of prosthetic memory. Another possible mode of engagement concerns the body and how the film acts and engages the body in a way that immerses the viewer. Film theory also has a long relationship with the body as a locus of experience, particularly in horror film as a

genre that works through extreme emotions such as fear, dread, and anxiety, which are felt acutely in the body. Early film theory focused on the body, but that focus was all but erased with the advent of classical film theory and psychoanalysis. Later phenomenological approaches attempted to reassert the primacy of the body and redress the dichotomy between subject and object that predominates psychoanalysis. The phenomenological turn also signalled the recognition of the importance of lived experience and its historicization, which imbues the study of film with an expanded capacity to describe the experiences of real, rather than idealized, viewers. This turn represents an attempt by Landsberg to reconcile the passivity of the term 'suture' with an actively engaged politics of empathy. The political potential of Landsberg's project is predicated on the idea of individual bodies collectively watching the same images: "The cinematic experience has an individual bodily component even while its mode of reception is collective. For Benjamin, it is precisely the interplay of individual bodily experience with the publicity of the cinema that makes possible new forms of collectivity, political and otherwise" (31).

In *Prosthetic Memory*, Landsberg cites Vivian Sobchack's work on the communication between the body and cinematic images in order to justify the reach of prosthetic memory beyond ideas of suture. In particular, she cites Sobchack, in *The Address of the Eye: A Phenomenology of Film Experience*, who writes: "More than any other medium of human communication, the moving picture makes itself sensuously and sensibly manifest as the expression of experience by experience" (3). Sobchack uses Merleau-Ponty's phenomenology as the basis for her reading of the intersubjective exchange taking place between the viewer's body and film's body. Jennifer Barker, who relies on Sobchack for her study of filmic tactility, confirms that the division between subject and object collapses as "both film and viewer are

simultaneously and mutually engaged in the intentional acts of perception and expression" (8). Sobchack explains, "Watching a film, we can see the seeing as well as the seen, hear the hearing as well as the heard, and feel the movement as well as see the moved" (10). Out of this phenomenological context has come many phenomenologies foregrounding the bodily relationship between film and viewer and the emotive, affective and somatic potentialities for engagement. In *Horror Film and Affect: Towards a Corporeal Model of Viewership*, Xavier Aldana Reyes draws on phenomenology, cognitivism, and Affect Studies to argue that Horror elicits affect through somatic pathways between the viewers' body and the bodies on the screen. Affect is activated on the cognitive, emotional, and somatic levels, three affective articulations through which Horror "uses bodies in order to affect ours" (3). His corporeal model seeks to reorient the term 'affect' away from the unrecognizable abstraction imposed by Affect Theory and return it to its empiricist, bodily dimensions. For Aldana Reyes, affect refers to the "physical process whereby the body is affected by external prompting." When a viewer watches a film, the cinematic techniques, aesthetic choices, and even genre conventions utilize the allegiance between the viewer's body and the bodies on screen to affect the viewer somatically, emotionally, and cognitively (8). Because of the "corporeal allegiance," when the body on screen is under threat, the viewer's body feels that threat, too. Can this kind of bodily filmic experience create a prosthetic memory of Chernobyl?

As a horror film, *Chernobyl Diaries* makes use of familiar cinematic techniques to heighten emotions, create suspense, and scare the audience. Aldana Reyes identifies the abject as one way that horror films establish corporeal threat on a representational level through images of the wounded body. However, he argues for a "more visceral understanding" of abjection that "shifts away from psychoanalytic modes of understanding," removing the psychosexual and

symbolic framing of the abject and replacing it with an emphasis on our "capacity to apprehend danger and pain" (61-62). Several scenes exploit the capacity for images to remind us of our bodily vulnerability. After realizing that they will have to spend the night in the Zone, the group crams into the broken-down van. Strange noises that sound like a crying baby outside the van draw the tour guide Yuri, with his gun, out of the van to investigate, and Chris follows. Shots ring out and, fearing for his brother's safety, Paul leaves. When he returns with Chris, we get a brief glimpse of Chris's mauled leg, covered in blood, tendons exposed. The sight of blood and torn skin is amplified by the fact that we do not know what caused the wound, but also the frantic screaming of his friends. A later image of the wound shows part of his leg bone sticking out. The brief, shocking mark of violence on the body signals a "transgression of its neatly separated inner and outer dimensions," reminding us of the "ease with which [the body] can be broken, torn open and placed under threat" (62-63). Chris's cries of pain and his friends' visible shock generates fear and discomfort in the viewer. The next day, while searching for Yuri, three members of the group follow a trail of blood to Yuri's torn and gutted body; it is barely recognizable as a body. The body has suffered extreme damage; it is covered in blood and the intestines are visible. These images serve as the first visible evidence confirming that there are dangers lurking in the Zone, so that later in the film, when the group encounters humanoid mutants in the shadows of the abandoned buildings, viewers are reminded of the bodily threat they pose.

The blood and bodily tissues are essential, as well as the understanding of pain communicated by the characters experiencing it. This is particularly necessary for the scene when Paul and Amanda reach the reactor's core, because the radiation is invisible. It is one of the few scenes that "handles" radiation with any duration. Amanda and Paul are trying to escape the Zone, and the mood is heavy, because they have seen everyone else die. They wander aimlessly

through what we soon realize is the nuclear power plant, only it is clear that they do not realize where they are, despite the dosimeter beeping faster. Suddenly, Paul's vision gets blurry and Amanda's skin starts burning, and large blisters appear on their skin. They have gone too far. Of course, in reality, there are two confinement structures covering reactor 4 of the Chernobyl Nuclear Power Plant, and there are still workers there responsible for maintaining the building and monitoring the site, so no one would ever be able to just wander into the core unknowingly. The scene is able to show viewers the dangers of radiation, so the viewer knows that it constitutes a corporeal threat; however, these scenes do not exist in isolation from one another, and because the film does not build a sense of dread around radiation, some of the affective impact is lost. By dread, Aldana Reyes means "the anticipatory emotion that leads to the realisation that one is in danger, is both necessary and defining for an affective theory of Horror" (111). The lingering radiation is not a prominent part of the story until this point. There are moments when the dosimeter is checked, but even when the dosimeter indicates increasing levels of radiation, the characters do not respond in a way that prompts acute fear and so, we as viewers do not experience it as a threat. So even though this particular scene registers on a bodily level with characters on screen, it does not translate into outright fear. One cannot help but imagine if the constant beeping of a dosimeter alerting them to any radioactive hot spots would have heightened the fear of it in this moment, because we would have been anticipating the culmination of all of those warnings. The excessive alarm would remind us that not only are they under attack from mutant creatures but they are also under attack, so to speak, from radiation. Even if the actual Exclusion Zone is not nearly as dangerous as to induce acute radiation poisoning, the inclusion of this detail, however exaggerated, would have added another element of threat.

Aldana Reyes examines dread as a cognitive and emotional articulation of bodily engagement with film, referring to the cinematic techniques that build suspense, alert us to the possibility of threat, and prompt us to question what we are seeing. In analzying the film *[REC]*, a found footage horror film in which it is never made clear where the monsters come from or what is causing them to attack the characters, Aldana Reyes notes that the "lack of context for these monsters, in fact, adds to their creepiness," making their attacks more unpredictable and more threatening (111). A similar effect is produced in *Chernobyl Diaries* regarding the humanoid mutants. Because we know so little about their origins or what they even look like, viewers have to use their imagination to imagine, activating cognitive processes as we try to anticipate when they will attack next:

> The quality of those experiences might well have a distinct level of intensity, mainly because, in the cases where little is known about the threat, individual imagination is activated and this can be very powerful. Ultimately, I would contend that the emotional state being encouraged in these situations is one and the same: the anticipation of an encounter with a form of threat that will be harmful, quite possibly on a physical level, regardless of how much we know about its origin or explanations. (114)

Cognitive processes are activated through point of view shots, ambient noises, camera angles, suggestive conversations, music, editing - essentially, anything that creates dread and causes viewers to "feel fear for the integrity and future of the character(s)" (117). In *Chernobyl Diaries*, when Chris leaves the relative safety of the van to follow Yuri, dread is created through a number of elements. Before this scene, Yuri had already displayed some apprehension about being in the Zone at nightfall, so when nightfall arrives, we are on alert. The opaque darkness means that we cannot see what lies outside the van. When gunshots are heard, we do not know who is shooting nor who or what is being shot at (for a moment we wonder if Yuri shot Chris). When Paul also leaves the van out of worry for his brother, we must also wonder if he, or any of

them, will return. Meanwhile, the camera maintains a first-person POV, so we watch the group as though we were in the van, too, but as soon as Chris, and then Paul, leave, the camera moves outside the van, looking in as the characters press their faces up against the window in a desperate attempt to see anything in the dark. Our emotional and cognitive faculties are activated as the dread of the unknown builds and we postulate and imagine what could have happened.

Similarly, when Paul, Amanda, Michael and Zoe return to the van only to find it destroyed and Chris and Natalie gone, the found footage left behind on the camera does not offer too much detail as to their fate. The found footage framing means that we have a limited perspective on what is happening as some unknown monsters are attacking the van. Even before the attack occurs, we know that something terrible is about to happen, just not when it will happen. Their attempts to reassure each other about their dire situation alerts us to that possibility, because we know the genre's tricks. Their screaming along with the erratic camera movements give us a fragmented idea that they were taken, but we must imagine the details and speculate about their fate. In this instance, the found footage framing allows for a kind of immediacy and authenticity that contributes to the heightened dread. Later in the film, as our tourists are being chased through the abandoned buildings, we rarely see what is chasing them. It is dark, and we can only see what the flashlight illuminates. The camera is mobile, running behind them, making us feel as though we are being chased in some moments, while in others, the camera is moving in front of them to illuminate figures in the background. Everyone screams when a figure appears from around a corner, and we jump, too, thinking that one of the mutants has caught them, but it is Natalie. For a moment, there is relief, because five members of the group are reunited, but that relief does not last long. The on-screen bodies are still under threat, and so, too are we.

In the midst of all this action, there are moments when the filmic and viewing bodies are in direct correlation, more so than with representation or the cognitive articulations of affect. Aldana Reyes refers to these moments in which the "pain of others might be seen as transferable" as somatics. The most basic technique utilized in horror films to provoke a somatic response in viewers is the startle. The startle is an instant "normally preceded by a period of anticipation and heightening of emotions that increases and chances of a strong physiological reaction" (151). There is an emotional component to somatic responses like the startle, but an effective startle moment will make the body react almost involuntarily. Reactions might include screaming, jumping out of your seat, a gasp, or a sudden clenching of the body. Somatic responses are not confined to just the startle but can also include the strong visceral sensation provoked in the viewer's body upon seeing the direct infliction of pain or torture on an onscreen body. Aldana Reyes views these somatic responses between bodies as 'somatic empathy,' which, at its heart, involves the "recognition of the body as an alive, sentient and vulnerable thing" (169). Somatic empathy connects bodies irrespective of personality or psychological considerations. There are quite a few startles, called jump scares, in *Chernobyl Diaries* and very little scenes of direct pain. Most of the pain is inflicted off-screen or in the dark. The only scene that might elicit somatic empathy through direct pain is the scene in which Chris returns to the van with his leg wounded and we see a bone sticking out. Most of the somatics in *Chernobyl Diaries* are startles, such as when the dead body of a guard suddenly drops into the doorway right in front of the characters. In another scene a character's flashlight searches a dark room, and we anticipate that it will locate something scary, but we do not know when, so we brace for it and try to calm ourselves. Some startles are the culmination of dread or the appearance of the abject body. The startle can also happen through sound, such as when a prolonged silence is

interrupted by a loud noise. While somatics might not be the most complex iteration of affect, it is the most accessible and universal, which means that empathy is not predicated on sympathy, so that we do not have to understand a character and their situation to feel their same emotions (169). Recognizing and feeling the bodily vulnerability of another at its most basic level is fundamental to the creation of radical empathy: "In many respects, an engagement with the nature of affect, introduced here by the very specific example of Horror and its effects on the bodies of viewers, opens a door to new possibilities for thinking about upsetting fictional experiences as necessary for human beings" (197).

Bodies on screen affect the bodies of viewers on multiple levels. According to Aldana Reyes, the horror genre elicits affective responses from the viewer on the representational, cognitive-emotional, and somatic levels. Horror films utilize various cinematic techniques to align the viewers' bodies with the bodies on screen, so that the abjection, dread, and somatics that characters feel within the film are felt by the viewer, too. An effective horror film will interweave elements together from all three planes of affective articulation to communicate a bodily experience to viewers. *Chernobyl Diaries* does make use of several techniques to affect the viewer, such as images of blood and the wounded body, the anticipatory fear, and jump scares, but the film is not considered a successful horror film. Viewers of horror films want to be scared and feel their body under threat within the safety of a fictional experience, and, at least according to viewer ratings, the film did not deliver this kind of experience. *Chernobyl Diaries* shares much in common with the video game *S.T.A.L.K.E.R. Shadow of Chernobyl*, the game is well-reviewed and has earned praise by both players and critics, while the film has been largely described as boring. On the social media platform *reddit*, one user, posted their assessment of the video game, emphasizing what they refer to as the "brutality" of the game: "Through out [sic]

the entire game, the feeling that surrounds you, penetrates you, makes you uneasy and lulls you into a sort of somber trance, is the simple fear that *everything outside can and will kill you*." The user goes on to explain that the 'terrifying' atmosphere of the gameworld contributes to the fear felt while navigating this virtual Zone: "The Zone is at once, a somber, kind of meditative place and a wild, untamed, terrifying wilderness. Gunshots are common and omnipresent [sic]. Helicopters often fly over, breaking the silence, but worst of all are the faint and distant roars of….*who knows what they are*" (u/Enleat). Considering the types of techniques and conventions that define the horror genre, it is safe to say that, to some extent, that horror film viewers want an immersive experience like that of the video game. At the same time, there are viewers who criticized the film as insensitive to the memory of Chernobyl's victims and the impact the disaster had on real bodies. We have to wonder, then, if there is a correlation between these two critical viewpoints.

Chernobyl Diaries does not situate its bodily engagement with horror in the historical, real context of Chernobyl and ignores its larger effects on bodies and spaces. The film's vision of Chernobyl erases some of the Zone's present-day and historical context. When Yuri proclaims that it is impossible for anyone else to be in the Zone, he is confirming some of the most widespread tropes of the Zone as an abandoned space. His account of the disaster' history is communicated in a few lines, erasing any nuance. The film also, in a sense, contains the radiation in the Zone. If the reactor is so exposed that anyone could potentially wander into it, then the amount of radiation spewing out of the core would be detectable at abnormally high levels even at far distances from the source. Little details like these have larger consequences for how Chernobyl is presented to viewers and what they remember about the disaster. This lack of engagement reduces the disaster to a gimmick, because the real horror of Chernobyl was that it

really happened. Without the historical context, the affective bodily response prompted by the horror film does not prompt any critical perspective beyond what is shown in the film, nor does it invite viewers to engage with the space of disaster. A corporeal connection between bodies is established with several effective scenes, but to what end? The affect produced in the film is untethered, and any memories made possible through Horror's bodily engagement with the bodies on screen cannot translate to empathy with the disaster's victims. If anything, the film works on the metanarrative level as a critique of extreme tourism, where the incessant warnings of the dosimeter are replaced by the sounds of the camera consuming the Zone's ruinscape. We are left to wonder if a horror film made with the awareness of Chernobyl's history might not be judged as insensitive. Instead, *Chernobyl Diaries* critiques itself.

Despite the potential of mass technologies to commodify memory and, to a certain extent trauma, for entertainment and profit, I have largely viewed them in positive terms, partly because the idea behind 'prosthetic memory' is expansive and, at its core, seeks to elevate the various media of popular culture as objects of study. Landsberg's project joins a growing number of scholars pushing back against the criticism of mass culture as a cultural opiate promoted most notably by Theodor Adorno and Max Horkheimer of the Frankfurt School in "The Culture Industry: Enlightenment as Mass Deception." One of Landsberg's main arguments for prosthetic memory is its capacity to mobilize an affective and cognitive identification in the receiver of this ostensibly public memory. Landsberg, maybe too conveniently, selects works that foreground their historical engagement more overtly. She discusses the TV series *Roots* (1977), Toni Morrison's *Song of Solomon*, Steven Spielberg's *Schindler's List* (1993), the United States Holocaust Memorial Museum in Washington, D.C., all of which lend themselves readily to her argument. Landsberg acknowledges that her vision of memory is "utopian" because it extends

from the possibilities embedded in mass representations (113). However, when drawing on such sensitive, difficult material, the propensity for exploitation exists: complexity might be elided, context could be altered, nuance may be sacrificed for clarity, and spectacle becomes a selling point. The exploitation of traumatic memory for entertainment and profit is problematic, because it commodifies another person's loss and packages it for easy consumption without provoking any critical engagement with the source material. The reality is that some cultural products do not lend themselves to ethical engagement, and it is important to acknowledge the limits of prosthetic memory as a program for political change.

HBO's *Chernobyl* Miniseries

In many ways, HBO's *Chernobyl* (2019) miniseries is the horror film that viewers wanted *Chernobyl Diaries* to be. The official trailer for the series is certainly terrifying. The five-part series effectively creates an atmosphere of anxiety and dread, features several shocking scenes of abject bodies dying from radiation poisoning, and successfully makes us feel the pain of the disaster's first victims. The historical drama, created by Craig Mazin, drew in nearly 8 million viewers over its initial release on HBO. The critically acclaimed series also earned nineteen Emmy nominations, eventually winning ten of them. *Chernobyl* is praised for its meticulous attention to period detail, powerful performances, and compelling presentation of the worst nuclear disaster in history. The series became something of a cultural phenomenon, and, for a time, everyone was talking about the disaster: this was Chernobyl's big moment in popular culture. In comparison to the other works discussed in this chapter, this is the only mass cultural text to engage with the event itself rather than its future or alternative history, so it more closely resembles the kind of text Landsberg refers to in *Prosthetic Memory* as a more direct

representation of a historical event. *Chernobyl* also demonstrates how, within the contemporary media landscape, history experiences something of a traumatic return as an event from the past suddenly becomes a media event.

As a work of docudrama or historical drama, a combination of fact and fiction, *Chernobyl* has a curious relationship with truth and reality. While not a documentary, the series draws much of its material from documentary sources and the historical record. Series creator Craig Mazin spent two and a half years researching the disaster, poring over primary source documents, archival footage, and scientific journals. He and his team talked with liquidators who participated in the clean-up, and witnesses who lived in the Soviet Union during the disaster (Mazin "Obsession"). Mazin also drew from the testimony recorded in Svetlana Alexievich's pivotal work *Voices from Chernobyl*. Most of the characters have real-life counterparts, and parts of their dialogue were replicated word for word from the historical record. Additionally, the period detail of the series recreates the material culture of the Soviet Union with meticulous precision, as Masha Gessen notes in her op-ed for *The New Yorker*. Gessen marvels at the verisimilitude, writing that "the material culture of the Soviet Union is reproduced with an accuracy that has never before been seen in Western television or film - or, for that matter, in Russian television or film. Clothes, objects, and light itself seem to come straight out of nineteen-eighties Ukraine, Belarus, and Moscow" (Gessen). The series was filmed in Visaginas, Lithuania, where Chernobyl's sister power plant Ignalina is located, which means that the interiors of the power plant are eerily exact. Considering the obsession with accuracy framing elements of the series and the efforts to include real voices, *Chernobyl* is evidence of the tenuous relationship between reality and fiction that structures our relationship to history. As a fictional television drama, the use of characters, scenes, editing, POV shots, and other filmic conventions situate this work in

the realm of fiction, but the historical motivations and attention to accuracy in its portrayal of real events and conversations also locates it within the realm of the non-fictional and even documentary, with its pretension to truth. Indeed, independent filmmaker Jill Godmilow, in an interview with Ann-Louise Shapiro, complicates the dichotomy between documentary and fiction, underscoring the inherent variability in any documentary that purports to represent the truth: "Is telling the truth to tell everything? Or simply not to lie? Or not to get something wrong? Or to find a form that illuminates the material, making possible a clearer or entirely new understanding, by use of analysis, or paradigmatic shape, or through self-reflexive presentation?" (Godmilow and Shapiro 80). Given the shifting and porous nature of the divide between fiction and documentary, it is safe to say that *Chernobyl* is a hybrid of both, and its narrative modes actually help to bring history into stark relief.

On April 26, 1986, when the explosion that exposed the core of reactor 4 and initiated the nuclear disaster and its aftermath that would become known as Chernobyl, there were no cameras around to document the event. In fact, such a gross miscalculation of the reactor's volatility was considered impossible, and the disbelief in the fallibility of the Soviet nuclear industry led many first-hand witnesses to discount the seriousness of the accident and later, contributed to the massive campaign of containment and secrecy that would define the Soviet Union's mismanagement of the disaster. Part of that campaign included a moratorium on documenting the event through film and on-site reportage. Of course, the lacks in the documentary record are due in large part to the dangerous levels of radiation spewing out of the reactor, but the scant amount of live footage is notable, particularly because we have become used to the constant visual access to catastrophe afforded by the 24/7 news media cycle. A few impetuous or dutiful cameramen made it into the Zone and were able to film aspects of the clean-

up, but a lot of footage was either destroyed, heavily choreographed or censored. The Soviet state was also able to control who had access to the disaster. Globally, commentary and analysis occurred on screens and in print, but the referent was missing; experts, journalists, and news anchors were reporting on a disaster that they could not see. The immediacy of the on-site camera, prosthetically witnessing the disaster as it unfolded did not exist. In a sense then, Chernobyl did not happen on television and does not have the televisual record that one might expect from a global catastrophe. The iconicity of the event in the moment does not exist. In this way, too, Chernobyl's media life was displaced, as a trauma that could not be assimilated into the narrative of history that mass media communicates to us. Chernobyl returns to us as a recovered memory of trauma in HBO's miniseries, and its status as a media event replicates some of the immediacy and realness usually associated with the mediation of disaster on television.

In "Information, Crisis, Catastrophe," published in a collection of essays on television, Mary Anne Doane argues that time structures the television experience, and consequently our relationship with time. Television's primary temporal dimension is an insistent "present-ness" conceptualized in three categories, that of information, crisis, and catastrophe. Information is the steady stream of daily news and is often predictable in content; crisis is the "condensation of temporality" most often associated with a political event that "demands resolution with a limited period of time" such as an assassination or hijacking; and catastrophe is the "most critical of crises for its timing is that of the instantaneous, the moment, the punctual" (Doane 251-2). However, these seemingly distinct temporal organizations are blurred, and the differences "between the flow and continuity of information and actual discontinuity of catastrophe" collapse, leading to a kind of "urgency, enslavement to the instant and hence forgettability"

(252). Because of the wide distribution of information across genres, their concomitant formal conventions, and the propensity for disinformation to be communicated under the guise of truth, televisual information is difficult to analyze. The seemingly relentless flow of information and its ubiquity would render it almost meaningless if not for compensatory strategies that visibly privilege the most urgent events and topics, those that are most often linked to "the crisis of temporality" (253). Doane states, "Information becomes most visibly information, becomes a televisual commodity, on the brink of its extinction or loss" (253). She cites the example of a geographic special about a plant or animal, which only becomes televisual when that plant or animal is facing extinction, or if environmental tragedy looms, but for that information to matter, it must be on the brink of loss, so the moment it becomes a featured broadcast, it is already lost. For Doane, "Television thrives on its own forgettability" (253-4).

Doane also comments upon the spectacular nature of television's mode of presentation, which strives to make the invisible *visible*. With graphics, special effects, camera techniques, and music, television dramatizes information in a way that turns it into something of a spectacle. Doane refers to the ways that a *National Geographic* special on the mind might visually reproduce the inner workings of the brain with computer animation, illustrating the connections between synapses with flickering lights and a voice-over narrating the inner workings of the brain. Often to fill gaps in knowledge or compensate for the lack of a referent, television must make information visible, as Doane explains:

> While it acknowledges the limits of empiricism, the limitations of the eye in relation to knowledge, information is nevertheless conveyable only in terms of a *simulated visibility* - "If it could be seen, this is what it might look like." Television deals in potentially visible entities. The epistemological endeavor is to bring to the surface, to expose, but only at a second remove - depicting what is not available to sight. Televisibility is a construct, even when it makes use of credibility attached to location shooting - embedding that image within a larger, overriding discourse. (254)

This need to make visible what cannot be seen resonates with the current discussion of Chernobyl. As an event that is largely invisible, due to the practical and political restrictions imposed on the event during its original unfolding, the visibility of Chernobyl as disaster necessitates artificial means of representation via computer graphics to "imagine" the explosion, re-enactment to help visualize human involvement, the contextualization of archival footage within expert analysis, or the narrativization of events. Doane maintains that this lack of indexical reality associated with the visualization of information on television marks it as transitory and disposable. Citing Benjamin, she explains: "Benjamin might say that the loss of aura associated with electronic reproduction is a function of the inability to *endure*. In other words, there are things which last and things which don't. Information does not. It is expended, exhausted, in the moment of its utterance. It if were of a material order, it would be necessary to throw it away. As it is, one can simply forget it" (255). However, such an assessment is a bit outdated. Written over thirty years ago, the ideas surrounding information in its most essential form as bits of data, which informs the basis for Doane's extrapolation of the concept, is not quite applicable today. When she writes that the "concept of information itself implies the possibilities of storage and retrieval (as in computer technology), the notion of such storage is, for television, largely an alien idea," she is acknowledging the limitations of information as data at the time (254). Today, there are no limits to storage and retrieval, and a case in point is *Chernobyl*, which, as a series premiered simultaneously on cable on HBO (US) and Sky Atlantic (UK), but also through HBO's own online streaming service and several other partner streaming sites. These changes are part of the changing media landscape, which, because of its digitization has altered not only the way content is distributed but also the ways in which we consume television. Digital technologies have ensured that digital content, of which *Chernobyl* is a part,

will be preserved in HBO's archives as well as distributed through digital platforms well beyond its original run time.

In other ways, though, other aspects of Doane's argument remain pertinent and and offer insight into Chernobyl as a media event and (un)televised catastrophe. Her definition of 'catastrophe' highlights its temporal nature:

> Catastrophe is on the cusp of the dramatic and the referential and this is, indeed, part of its fascination. The etymological specification of catastrophe as the overturning of a given situation anticipates its more formal delineation by catastrophe theory. Here, catastrophe is defined as unexpected discontinuity in an otherwise continuous system. The theory is most appropriate, then, for the study of sudden and unexpected effects in a gradually changing situation (255).

Television thrives on catastrophe. Catastrophes are events, they occur when something happens, embodying the "This-is-going-on" presentness that provides television's basis (251). For Doane, catastrophe is television's primary mode, because of its "structural emphasis upon discontinuity and rupture" (256). Using the example of the Detroit Northwest Airlines crash of August 1987 as an example of how technology and catastrophe intersect. Debates about the cause of the accident implicated the plane's technology as the accident's cause. Graphic images of the crash wreckage circulated across the media, but of course, no footage of the moment of disaster was possible because such an event could not have been anticipated. Doane explains: "The inability of television to capture the precise moment of the crash activates a compensatory discourse of eyewitness accounts and animated re-enactments of the disaster - a simulated vision" (256). She also cites the *Challenger* explosion, Bhopal, and Chernobyl as further evidence of technology's association with catastrophe as an ever-present potential future, a moment when technology fails to conquer nature. Technological progress is often figured in opposition to nature, and the dichotomy describes Chernobyl, a disaster caused by man's aspirations to "harness the most basic energy of nature itself - that of the atom." In this context, catastrophe is also "tainted by a

fascination with death - so that catastrophe might finally be defined as the conjuncture of the failure of technology and the resulting confrontation with death" (256). Nuclear power and its apocalyptic dimensions conjure up terrifying futures, and with Chernobyl, we encounter "the potential transformation of that energy into that which is most lethal to human life" (257). When Chernobyl happened, the linear forward marching of time, of progress, was halted, because, as Doane reminds us, "Catastrophic time stands still" (257).

Chernobyl, the miniseries, is part of the real disaster's compensatory discourse. As in the case of the Detroit Northwest Airlines crash, no camera could capture the disaster, but unlike the plane accident, Chernobyl's first hand testimony, re-enactments and other forms of discourse were incomplete at the time, constrained by the limits of safety, the need to conceal, and the lack of Soviet openness toward the West. The premiere of HBO and Sky Atlantic's Chernobyl miniseries was a media event, as high-quality historical dramas tend to be. Their momentous subject matter, large budgets, production scale, and large audiences turn these representations into events, as Robert Edgerton implies: "Popular history is essentially artistic and ceremonial in nature. In the case of "television as historian," the act of producing, telecasting, and viewing historical programming becomes a large-scale cultural ritual in and of itself" (8). Considering the global issues - political tensions, climate change, and continuing global aggressions, that viewers would be so enthralled by a disaster drama was unexpected. Through the miniseries, viewers watched Chernobyl unfold before them, the series acting as virtual simulation, compensating for the original lack of a referent. News media covered its popularity, but also aired segments interviewing series creators, experts, and people who remember the disaster. Viewers were able to experience the series almost instantaneously through multiple screens, adding new poignancy to Doane's judgment that the ubiquity of the television screen "allows for a global experience of

catastrophe which is always reminiscent of the potential of nuclear disaster, of mass rather than individual annihilation" (257). Viewers are able to confront the fear of nuclear power's failure in intimate and mobile ways. Additionally, viewers discussed the series in real life and online, and people started doing their own research and learning more about the disaster. In many ways, this kind of virtual simulation, even as a traumatic return, was only possible given the new possibilities offered by advances in technology and representational methods. *Chernobyl*'s verisimilitude and insistence on historical truth lend it legitimacy as a representation, and the series extended length, drawn out over five weeks, but potentially, given the afterlife of media and its global distribution networks, even longer. In a way, replicating a temporal pattern characteristic news cycle, where the catastrophe is "momentary, punctual" while its coverage in media is "characterized by its very duration, seemingly compensating for the suddenness, the unexpected nature of the event" (Doane 258). The extended duration is necessary to contain some of the representational excess created by the catastrophe.

Chernobyl's representational excess extends from its status as traumatic memory, and much of that trauma centers on loss and death caused by the disaster, a reality foreground at various points within the series. From the beginning of the first episode, we are faced with the personal trauma of Valery Legasov (Jared Harris) who is in his Moscow apartment recounting memories on a tape recorder. He is near the end of his narration: there are several tapes stacked up next to him on the table, and it is clear that he has been recording for awhile. His words are measured, as though he has known what to say for a while but only just had the courage to say it. When Legasov is finished, he sneaks out of his apartment, carefully avoiding the car parked ominously in front of the building, to stash the tapes away in a vent outside. When he returns to his apartment, he commits suicide at exactly 1:23:44 on April 26, 1988, exactly two years to the

second that the explosion at the Chernobyl Nuclear Power Plant occurred. The moment signals a distillation of the historical through the personal; Chernobyl became his own personal catastrophe. He warns "There is nothing sane about Chernobyl. What happened there...what happened after...even the good we did...all of it...Madness" (Mazin "Obsession"). His words provide context for the next scene, where we join Lyudmila Ignatenko in her apartment in Pripyat, two years earlier. She has just realized that she is pregnant, while her husband sleeps soundly in the next room. While preparing tea in the other room, we can see a small explosion in the distance from the window. There is a slight delay before the shockwave hits the apartment building. Lyudmila's husband Vasily jolts from bed and joins her at the window where we can see a horrible glow emanating from the power plant. The juxtaposition of these two scenes to open the film is devastating and depicts the tenuously balanced oppositions between guilt and innocence, truth and lies, death and life, and before and after, reminding us of the precarity contained in each moment. It is significant that our first encounter with Chernobyl comes in the form of personal, bodily experiences of the disaster, calling to mind Foucault, when he writes that genealogy's task is to "to expose a body totally imprinted by history and the process of history's destruction of the body" (Foucault 148). Indeed, the fascination with death lies at the heart of catastrophe, because, for Doane, catastrophe is "about the encounter with death" along with the failure of technology. Following Benjamin, she contends that because we have sanitized and concealed death from our everyday lives, we desire that encounter with bodily vulnerability and confirmation of our own "liveness" (259). Chernobyl delivers that confrontation through other bodies, particularly in bodies that suffer the effects of radiation poisoning, which causes immense damage on the cellular level, disintegrating bodily tissues. As in the horror film, we, too, are affected by the sight of the abject body, but unlike in the horror film, the monster

responsible for these horrors is of our own creation: “The death associated with catastrophe ensures that television is felt as an immediate collision with the real in all its intractability - bodies in crisis, technology gone awry” (263). While television offers viewers an encounter with the real, it also allows viewers the relief that the bodies on screen are not their own.

Chernobyl opens with Legasov asking the question “What is the cost of lies?” thereby introducing the idea of truth that contextualizes the series’ engagement with history. Craig Mazin, in an interview with The Wilson Center, explains that it was very important to get the details right, because that is how you honor a culture. He is referring to the period details of the costumes, setting - the Soviet Union’s material culture, but he is also referring to the need to represent the historical truth of Chernobyl, a need to counteract the debasement of truth in the Soviet Union that led to the disaster. The narrative arc of *Chernobyl* depicts the battle for Chernobyl as a battle between truth and lies. On one side are the intrepid scientific experts, like Legasov and the fictional Ulana Khomyuk (Emily Watson), who fight for the truth, while, incompetent bureaucrats and the state refuse to acknowledge the true causes and consequences of the disaster in favor of containing the truth despite the collateral damage. In light of Mazin’s championing of truth, we must ask if this fictional drama, however based in truth it claims to be, is adequate. At its core it might seem that Chernobyl is a fictional narrative about the dangers of fictional narrative. Mazin acknowledges that while facts were of the utmost importance, fictional elements were necessary to advance the story. Is there a cost to the fictionalization used to tell the story of Chernobyl? Geoffrey Hartman, in “Public Memory and its Discontents” is an advocate for the inclusion of art and imagination in historical representation, because imagination is a “power that restores a kind of presence to absent things” (99). He notes that fictional modes make history accessible:

> When art remains accessible it provides a counterforce to manufactured and monolithic memory. Indeed, despite its license, art is often more effective in embodying historically specific ideas than the history-writing on which it may draw. Scientific historical research, however essential it is for its negative virtues of rectifying error and denouncing falsification, has no positive resource to lessen grief, endow calamity with meaning, foster a vision of the world, or legitimate new groups. (Hartman 104)

However, Russian-American journalist and activist Masha Gessen, writing for *The New Yorker*, offers another perspective. In the op-ed, "What HBO's "Chernobyl" Got Right, and What It Got Terribly Wrong," Gessen praises the historical detail with regards to the material culture and reproduction of certain modes of speech, but her main criticism stems from how the series presents relationships of power. Gessen admits that there are "flashes of brilliance that she light on the bizarre workings of Soviet hierarchies" such as during the scene in which Zharkov (Donald Sumpter) gives a "chillingly accurate" speech imploring his colleagues to remain steadfast in their faith in the system. He says, "We seal off the city. No one leaves. And cut the phone lines. Contain the spread of misinformation. That is how we keep the people from undermining the fruits of their own labor." Gessen explains, "This statement has everything: the bureaucratic indirectness of Soviet speech, the privileging of "fruits of labor" over the people who created them, and of course, the utter disregard for human life" (Gessen). Gessen also takes issue with the image of "heroic scientists confronting intransigent bureaucrats," because a scientist with his own lab would never have questioned the obtuseness of Soviet bureaucracy, as Legasov does in Episode 3, because knowing that is how the system operates is the reason he would have had the lab in the first place. Gessen also counters the portrayal of the fictional Khomyuk, a composite character created to represent the wider scientific community. We see Khomyuk figure out the terrible truth of Chernobyl before the men at the scene; she interviews survivors, digs up censored academic papers; gets herself arrested, but soon after sits in on a

meeting with Gorbachev. Gessen writes: “None of this is possible, and all of it is hackneyed. The problem is not just that Khomyuk is a fiction; it’s that the kind of expert knowledge she represents is a fiction. The Soviet system of propaganda and censorship existed not so much for the purpose of making learning impossible, replacing facts with mush, and handing the faceless state a monopoly on defining an ever-shifting reality” (Gessen).

The essence of Gessen’s criticism lies in the presentation of history. For Gessen, *Chernobyl* is a “great-men version of history” where “only the powerful have speaking parts.” We do not see the disaster through the eyes of those without any power in this catastrophe, those most vulnerable: “We never see these pets through the eyes of their owners. We hardly see any of the evacuees at all, and we are given only one indication that some people resisted and refused to leave: an old woman who, at the beginning of Episode 4, obstinately continues milking her cow after she is repeatedly ordered to move” (Gessen) These are the people who get left out of history. Gessen’s criticism highlights an essential aspect of nuclear disaster: that Chernobyl was not just an accident, and it was not just the debasement of truth, it was the exercise of that debased truth by those who have power over those who do not. That power differential centered around the production of knowledge and the esoteric nature of nuclear power is responsible for the violence toward bodies and spaces that the mishandling of Chernobyl caused. When Legasov says that it is lies that caused this disaster, we must ask if the fictions used to present history are also implicated: “Every lie we tell incurs a debt to the truth. Sooner or later, that debt is paid. That is how an RBMK reactor core explodes. Lies.” Of course, Legasov’s “accessible, brilliant speech,” one that would never have taken place in a Soviet courtroom is primarily for the audience, intended to underscore the message of the entire series, but the fact is, that many representations do not underscore the many the way that power structures our relationship to

nuclear power. By focusing on this idea of truth, Mazin's series inevitably confirms the singular Soviet-ness that seems to suffice as an explanation of this disaster, ignoring the role of power that is inherent to any exercise of nuclear power, regardless of the political and economic system.

Gessen is not unbiased in her reading. She is a Russian-American journalist and activist who is an outspoken critic of Russian president Vladimir Putin and his regime's repressive policies as well as Russia's Soviet totalitarian past. In slight contrast to Gessen's assessment of the series is Svetlana Alexievich, who has expressed great appreciation for the series' nuanced portrayal of the disaster. She explicitly connects the series with a revival in memory of the disaster in Belarus, particularly among young people: "We are now witnessing a new phenomenon that Belarusians, who suffered greatly and thought they knew a lot about the tragedy, have completely changed their perception about Chernobyl and are interpreting this tragedy in a whole new way" (Sous and Wesolowsky). In an interview with *Radio Free Europe*, Alexievich also notes that while the series did receive many positive reviews within Russia, the news that a Russian version depicting the disaster was a worrying signal that nothing has truly changed:

> In the beginning, Russian media was very positive about the series and then probably there was some yelling in the Kremlin and they suddenly became very patriotic. Then there was news they are launching their own series about Chernobyl, about how 'our' agents pursue some American spy at the power plant. My God, when I read all this I thought that 30 years have passed and has really nothing changed in the consciousness? (Sous and Wesolowsky)

Official reactions aside, however, the series is undoubtedly responsible for an increased awareness and interest in Chernobyl. Tourism to the Exclusion Zone spiked exponentially since the series premiered, and there has been an explosion in discussion about the disaster on social media as articles, photographs, and documentaries have fallen into high demand. This resurgence in interest has notably led to concerted attempts to recover accounts of the disaster from those

who experienced it firsthand. The series effectively made the disaster a popular culture phenomenon.

Any kinds of fictional liberties taken in Mazin's series are often necessary, as strategies to advance certain perspectives relevant today. In *Television Histories: Shaping Collective Memory in the Media Age*, Gary R. Edgerton while television often plays historian through docudramas and other historical programming, "'Television as historian' should never be feared as the "last word" on any given subject, but viewed as a means by which unprecedentedly large audiences can become increasingly aware of and captivated by the stories and figures of the past (9)" This kind of encounter can lead viewers to "pursue their newfound historical interests beyond the screen and into other forms of popular and professional history" (9). Indeed, judging by the discussions taking place on social media and in real life around the disaster, the series did spark growing interest in its history: *Chernobyl* featured in podcasts, on Twitter conversations, and in think-pieces in journalism. Tourism to Chernobyl's Exclusion Zone increased, and images and archival footage circulated through generative discussions involving large communities of people. Marita Sturken recognizes the potential of docudramas to memorialize traumatic events in her book *Tangled Memories: The Vietnam War, the AIDS Epidemic, and the Politics of Remembering*. She charts the ways that history and cultural memory combine within the docudrama as a "mimetic interpretation of the past." But through this "cultural reenactment of the original drama," meaning arises and "fragments of memory are made whole" (85). Whereas the original drama of Chernobyl was elided and left incomplete, broadcasted in fragments across the global media landscape, *Chernobyl* seeks to unite those fragments, offering a "means through which uncomfortable histories of traumatic events can be smoothed over, retold, and ascribed new meanings" (85). Although Sturken cites the capacity to offer closure as a feature of the

docudrama, closure is not what is needed for Chernobyl, an event that is still occurring, psychologically as trauma and physically as illness for thousands of people. *Chernobyl*, the series, at least counters that longing for closure envisioned in fictional narratives by undercutting Legasov's "brilliant" speech. As compelling and critical as it was narratively, as a dramatic pronouncement against the lies put forth by the system, ultimately Legasov's suicide reminds us that such a stand was futile, and the cost of those lies is still accumulating. The tragic dimensions of the series push back against the narrative of victory and heroism that is often used to describe the eventual containment of Chernobyl's nuclear threat, and the challenge issued by the series as a "site of discursive struggle" in which "the power and significance of televisual historiography lies in its flexibility and intangibility in comparison with "official" histories" (Edgerton 23).

For Edgerton, the accuracy and 'truth' of a docudrama is less important than how that historical representation inevitably engages with the present moment in which it was created: "Viewed as a component of cultural memory, the past is less a sequence of events than a discursive surface, readable only through layers of subsequent meanings and contexts. The formation and function of popular memory is thus historically and contextually linked to the exigencies of a given community at a given time" (Edgerton 23). To return back to the question of why the series resonated with so many viewers and enjoyed such wide popularity, *Chernobyl's* promotion of the importance of truth at a time when truth has been disparaged, spoke to viewers and their needs, as Sophie Gilbert, writing for *The Atlantic* noted in her review:

> But it's also a warning - one that straddles the line between prescience and portentousness. Whether you apply its message to climate change, the "alternative facts" administration of the current moment, or anti-vaccine screeds on Facebook, Mazin's moral stands: The truth will eventually come out. The question he poses, however self-consciously, is whether hundreds of thousands of lives must always be sacrificed to misinformation along the way. (Gilbert)

So while Gessen's criticism is warranted and provides valuable insight into the contingencies of historical representation and the work still needed to recover the silences and recuperate the multitude of histories and experiences on the margins of the disaster, the work of popular culture and memory is often oriented toward different, but no less vital, concerns. Chernobyl was able to introduce millions of viewers to the disaster's history, serving as a means for the creation of prosthetic memory. The compelling narrative engaged with the horrors of the disaster, not only in a bodily way through the gruesome images of radioactive bodies and the empathy felt for the characters and their struggles, but also intellectually through the ethical arguments and the presentation of science. The filming of the series, too, with its intimate interior spaces and personal stories of individuals such as Lyudmila and Vasily Ignatenko, dramatize some of the individual struggles involved in the intersection of the personal with the historical. Additionally, the detail and accuracy that the series strives for helps to recover a sense of the past moment and the historical context of the disaster, offering viewers a closeness to the disaster that was not possible before. And while Doane characterizes television as instrumental in the annihilation of memory, the media landscape into which Chernobyl was introduced allows for the mass mediation of that history on a scale never before imagined when Doan first wrote her article "Information, Crisis, Catastrophe." Her conceptualization remains relevant in many ways, but the vast network of screens and the digital archive offered by digital streaming platforms and the ubiquity of screens, rather than desensitizing the prosthetic experience of the disaster, has ensured that Chernobyl and its impact will be available to millions of people worldwide long after its initial run on television, because Chernobyl's nuclear legacy belongs to everyone.

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Conclusion
Chernobyl's Radioactive Legacy: Nuclear Waste and Anti-Nuclear Activism

Chernobyl's memory, like radiation, reaches far beyond the limited temporal and spatial boundaries often assigned to it. Some thirty years later, the disaster is remembered by people around the world, and that memory is formed and shaped by a number of different factors and practices. As mentioned in the Introduction, Chernobyl's memory is transnational, spanning geographic borders and severing the seemingly ineluctable relationship between memory and nation. As Pierre Nora demonstrated in his influential work, memory and nation-building have been intricately linked as a means of cultivating national identity and history. Shared memory can be a powerful unifying force; it can also be a fraught with dissonance and violence as certain memories are preserved to the destruction and neglect of others. Over the past chapters, I have attempted to elucidate Chernobyl's transnational dimensions through an analysis of the varied and multimodal means through which people not only encounter that memory but help to construct it. Conceptualizing Chernobyl in terms of transnational memory allows for a more dynamic engagement with its shifting contours and complex depths. The specific historical context of Chernobyl's genesis is paramount but thinking about Chernobyl as an example of transnational memory expands the possibilities of memory, "not to discount the national or other levels of analysis but to stress the tensions and potentials for productivity between them" (7). Despite efforts to 'contain' the disaster, Chernobyl, like all nuclear disasters, over spills any boundaries we attempt to impose upon it. Tracing these tensions and potentials reveals not only what has been forgotten or neglected, but also the role of power in the fashioning and

dissemination of that memory, which has ramifications for not only how we respond to the continuing role of nuclear power in our lives today, but also how we envision the role of nuclear power in our future.

Disqualified Knowledges

Memory is a particularly generative site for the production of knowledge and meaning around Chernobyl, as a lens through which to uncover what Foucault refers to as "subjugated knowledges." As defined by Foucault, subjugated knowledges are those "that have been disqualified as inadequate to their task or in sufficiently elaborated: naive knowledges located low down on the hierarchy, beneath the required level of cognition or scientificity" (82a). These kinds of disqualified knowledges are local and personal and often stand in opposition to any dominant counterparts; the emergence of these knowledges constitutes a site of struggle, where "criticism performs its work" (82). An example of one kind of subjugated knowledge can be seen in the disparity between localized public health reporting and the systematized, scientific knowledge about radiation's effects on the body. For example, consider the number of deaths from Chernobyl. Officially, only fifty-four deaths have been attributed directly to Chernobyl, most of those occurring because of the initial reactor explosion and exposure during clean-up efforts; in some places that number is only thirty-one. Massive amounts of radiation spewed from the reactor: how is there only fifty-four deaths? It is a question Kate Brown asks in her most recent book *Manual for Survival: An Environmental History of the Chernobyl Disaster*:

> Only fifty-four deaths? Is that all? I checked websites of UN agencies and found a range of thirty-one to fifty-four fatalities. In 2005, the UN Chernobyl Forum predicted from 2,000 to 9,000 future cancer deaths from Chernobyl radiation. Responding to the forum, Greenpeace gave much higher numbers: 200,000 people had already died and there would be 93,000 fatal cancers in the future. A decade later, the controversy surrounding Chernobyl consequences has not been

> resolved...The mainstream media tend to report the most conservative numbers—thirty-one to fifty-four people dead. (2)

Such a wide variance in not only the official death toll, but also the estimated cancer deaths signals a puzzling rupture. The lack of alarm displayed by the global scientific and medical community about this radical variance in the death toll, as well as the gaps in epidemiological data that such a discrepancy signifies, is disquieting.

Brown chronicles Chernobyl's epidemiological breakdown through an expansive examination of archival records and firsthand accounts from doctors and scientists who participated in some of the health monitoring that took place after the disaster. What she uncovers is a disturbing discrepancy between the official narrative of the disaster's health consequences and the reality evidenced by people's experiences with illness. The discrepancy is attributed to how little we know about the impact of low-level doses of radiation on the human body, at least that is the excuse offered by scientists today (309). Brown concludes otherwise, discovering in central archives evidence of a pervasive crisis that were then confirmed by provincial archives: "Everywhere I went I found evidence that Chernobyl radiation caused a public health disaster in the contaminated lands" (4). What her research reveals is a concerted effort on the part of the Soviet state to conceal the extent of the crisis and control the dissemination of evidence affirming it through the classification of records and a media blackout. The most damning element is how easily that narrative was bolstered by those outside the Soviet Union, even as rumors of serious health problems reached wider audiences:

> Learning of their exposures, angry protesters demanded aid to relocate from contaminated territory. Panicking over the rising costs, leaders in Moscow called United Nations agencies for help. Two UN agencies provided assessments that backed up Soviet leaders' assertions that doses were too low to cause health problems. (4)

Brown soberingly acknowledges that the reason for the wide disparity in the statistics listed above is because the Soviet state's efforts of suppression were largely successful, either through overt acts or outright neglect. Nuclear physicists stressed the quality and safety of the Soviet nuclear industry, and so local officials who would be responsible for coordinating a response were unprepared: "Having fooled themselves, public health officials were left with little training or skills to handle the nuclear disaster. (Brown 6). Consequently, Soviet authorities did not always keep adequate track of people exposed to radiation once they were displaced from their homes; often, areas previously declared "clean" were designated as contaminated years later, meaning that those communities were not monitored initially. The dominant narrative reflects this, as "international experts continue to proclaim, amounted to only 54 deaths and 6,000 cases of "easily treatable" thyroid cancer. That was a risk, they insisted, the world could live with" (309).

Other evidence in question encompasses both reports made by local doctors and scientists about the illnesses and ailments of their communities as well as the unrecorded bodily experiences of those most acutely affected by lingering radiation. Although, as Brown unearths in the archives, Soviet scientists knew of the risks posed by prolonged exposure to low doses of radiation, because they conducted decades-long research into the health effects caused by the contamination of the Techa River by the Mayak plutonium plant: "By 1986, Soviet researchers had found that people living on the Techa River exposed to chronic low doses of radioactivity had significantly increased death rates and cancers that occurred two to three times more frequently than among Japanese bomb survivors" (34). This information remained the purview of experts and was never communicated to the public. In contrast, stand the experiences of illness and disease of an unknowing public. In Ukraine, thousands of children were placed under

observation and many were sent to summer camps in Crimea to recover from illnesses linked to radiation exposure, even as Moscow insisted that such a response was unnecessary and reactive (Brown 62). Local doctors reported increasing numbers of baffling illnesses including respiratory illnesses, severe infections, anemia, cataracts, blood disorders, unexplained diarrhea and intestinal damage, ulcers, and other chronic conditions. A higher than normal number of women experienced miscarriages and premature labor; many women voluntarily terminated their pregnancies. All of these reports seem understandable considering how different radioactive isotopes affect the body differently. Ingesting radioactive particles in food affects the digestive system, while inhaling radioactive dust causes damage to the lungs. Radioactive iodine is absorbed by the thyroid, ruthenium-106 targets bone and cesium-137 works on muscle tissues. Additionally, there are differences between gamma rays and alpha and beta particles in terms of how they inflict damage on the body and their potency. Many cancers will only appear decades after exposure, when the distance between initial exposure and emergence conveniently obscures any connection.

In Belarus, the disaster was initially thought to be a Ukrainian problem (Brown 185), and so any public health response was rudimentary and delayed. Whereas officials in Ukraine were forced to act with a sense of urgency, that same urgency did not carry over: "In Belarus, the Ministry of Health stalled for three years to create an Institute of Radiation Medicine, which was then swamped with funding problems and rivalries so intense that the institute failed to carry out much work on Chernobyl" (Brown 184). Brown describes the large gaps in medical information found in Belarusian archives, often accompanied by confounding conclusions downplaying the severity of health problems. A doctor, Valentina Drozd, explains how the records were unquestioningly concocted by sleepy bureaucrats, using the word Sovok to describe them.

‘Sovok’ refers to an “unreflectively loyal Soviet citizen, bound by ideology and lacking independent thought and action”; they did what they were told, “going through the motions” (185). Brown continues:

> Told to tabulate health statistics in regions of fallout, they did. Told there were no problems in Chernobyl territories, they found no problems. And, to give them some credit, the sanitation doctors did not know anything officially about the extent of radioactivity in the villages in southern Belarus. Most did not, like Natalia Lozytska in Ukraine, get a hold of a radiation counter and take measurements themselves. They worked blindly. When public health officials met with villagers to pacify them, they could not give numbers or explain much in the way of any possible connection between health and radiation because they were denied much of the same information villagers were restricted from knowing. When villagers pressed them on the growth of endocrine and circulation system disorders in their communities, the officials stammered and spoke in “vague abstractions.” When mothers asked them to clarify their answers, they were defensive and insulted them. (185)

Given the density of this bureaucratic system and the network of complicity demonstrated by these sycophants, it was difficult to prove anything to the contrary. Yet survivors speak of their own psychological and bodily trauma, calling into question the validity of medical studies with a “disqualified” knowledge that is so localized within individual experience that it resists formal systemization and scientific objectification.

Meanwhile in Moscow, any data that was collected became classified and numbers were stretched and molded to fit the overarching narrative that radiation exposure in low doses is “not that bad”. Statistics were absorbed into larger aggregate numbers which deflated the rate of disease, and doctors were told that their findings were impossible within the current scope of knowledge outlined by radiation medicine (168). This narrative becomes problematic as soon as soon as one begins to remove the layers of official speech and discourse that obscure the essential realities of people dealing with the consequences of a nuclear disaster. Furthermore, while there were observant and concerned medical personnel aware of a growing crisis, it does

not change the fact that they were not heard. Whether because they did not speak up or felt they could not speak up is beside the point, because ultimately, they would not have had any power to do so anyways. The heroic Hollywood film narrative trope of one man changing history is rarely the case. An individual does not have that much power; even larger communities do not often have that kind of power. Looking at the compiled data on Chernobyl related to the incidence of cancer among survivors, it might be easy to conclude that while people did develop cancer in the aftermath of the disaster, there are no significant links between radiation exposure and increased rates of cancer in affected populations. There are correlations, but no causation has yet been established, nor are the chronic non-cancer related illnesses experienced by many accurately represented. Many health studies look at thyroid cancer, an "easily treatable" cancer, but not at the bone, respiratory, and immune-deficiency complications of radiation. Thyroid cancer is the glaring exception, because radioactive iodine from Chernobyl's fires is easily mistaken by the body for the iodine it needs and so is easily absorbed by the thyroid gland. Iodine tablets can help prevent the dangerous absorption of radioactive iodine, but they were often distributed too late. Unfortunately, children are particularly susceptible, giving rise to a strikingly high incidence of thyroid issues and cancer, which could not be ignored. Images of children with bandaged necks have become emblematic of Chernobyl's health crisis, so much so that it essentially eclipses any reports of other diseases and health impacts today. In areas where health monitoring was conducted, any worrying increases in the incidence of illness were either explained away as the natural result of concerted diagnostic efforts and better recordkeeping or buried under other documents.

Kate Brown's book outlines how power creates a hierarchy of knowledge, where some kinds of knowledge are privileged to the disavowal of others. In relation to Chernobyl, the

elision of these disqualified knowledges - the evidence of a widespread epidemiological disaster - had far-reaching effects. Even though the Soviet Union's mishandling of Chernobyl played into the Cold War narrative created by the West, the disaster called into question the safety of civilian nuclear power, which worried pro-nuclear advocates at the U.N. International Atomic Energy Agency (IAEA) and the United States Department of Energy (DOE) (Brown 22). They had a vested interest in keeping deaths to a minimum, especially as low numbers "provided cover for nuclear powers to dodge lawsuits and uncomfortable investigations in the 1990s when, with the end of the Cold War, the record of four decades of reckless bomb production emerged from top-secret classification (310). Brown's research makes the case for a more expansive view of nuclear power, one that takes into account the risks, of both nuclear power itself and the mobilization of knowledge about it. The buried memories that Brown unearths, either in documents or from personal interviews reiterate the importance of disqualified knowledges such as memories. These memories, particularly attuned to the exercise of power, are memories of the slow violence of nuclear power and of the official efforts to conceal them. Our acknowledgement of this kind of localized knowledge in the bodies of those with intimate experience of the impacts of radiation becomes an act of witnessing. In witnessing, we must also take responsibility for the role of nuclear power in our lives and the continued support of it as a viable alternative energy for the future. As Brown suggests, "The Soviet medical records suggest it is time to ask a new set of questions that is, finally, useful to people exposed over their lifetimes to chronic doses of man-made radiation from medical procedures, nuclear power reactors and their accidents, and atomic bombs and their fallout. Few people on earth have escaped those exposures" (312). Why, then, do we, as a society, continue to persist in developing nuclear power in light of the significant health impacts chronicled in Kate Brown's work or in Svetlana Alexievich's *Voices*

from Chernobyl? Of course, the simple answer is because we never truly knew the mechanisms of nuclear power, much less the dangers it poses, as Peter van Wyck explains:

> Another way to look at this would be to say that even without the Cold War prejudice that constitutes the phantasm of the Soviets as an ultimately backward culture of corruption, we really have no idea what happened because we really don't have the understanding of what such processes as nuclear power generation or fuel production or weapons production involve - or for that matter, what an "accident" is all about. We know it is a risky business. We know that accidents can be disastrous. And we know that it is controversial on at least a couple of levels. But beyond this, I think it tends to be a bit of a fog. And rightly so (8.9)

Still, our capacity to listen and engage with Chernobyl's memory might hold the potential for imagining an alternative relationship to nuclear power and even a future without it. We cannot challenge nuclear power without an awareness of its dangers.

Nuclear Waste

If we are to take collective responsibility for the health impacts of the Chernobyl and nuclear power, then we must also take responsibility for the radioactive waste left behind. Perhaps the most pressing issue facing the exercise of nuclear power is nuclear waste management. It is a subject that has been in the background of this project, only hinted at, but not yet fully elaborated. Myroslav Slaboshpitskyi's short film *Nuclear Waste* (2012), discussed briefly in Chapter 1, reminds us of the lasting implications of the Soviet nuclear legacy of which workers are still protectors. Similarly, the documentary film *The Russian Woodpecker* invokes the precarious relationship between Ukraine and Russia that structures Ukraine's nuclear future. The construction of the New Safe Confinement structure around the reactor remains the most prescient reminder of the lingering risks associated with our use of nuclear power. An estimated 200 tons of radioactive fuel is currently confined there. Part of the Chernobyl Shelter Implementation Plan includes a strategy for removing the spent fuel rods buried in the debris of

the destroyed reactor as well as continuing efforts to treat the radioactive water that has also accumulated there. Chernobyl's radioactive waste also includes the contaminated debris from the reactor, which also must be removed and safely stored. Nuclear waste, according to Peter C. Van Wyck, is a different kind of waste, a novel kind: "Novel, because it represents a *new form* of waste. It really is matter *without* a place. A kind of waste that resists its own containment. A kind of waste that operates in a radically different temporality; it is material whose toxicity requires a different conception of history and time" (4.5). In *Signs of Danger: Waster, Trauma, and Nuclear Threat*, Van Wyck delineates the issues facing long term storage of nuclear waste through an examination of the Waste Isolation Pilot Plant (WIPP), the permanent underground storage site for nuclear waste in the desert of New Mexico. He finds that the bureaucratic treatment of nuclear waste ignores some of the philosophical concerns related to history, language, and culture that influence how we think about ecological threat. One defining characteristic of ecological thought today is the interconnectedness of everything, which unites seemingly unrelated practices and "facilitates a kind of discourse that allows one to say that what happens *over there* makes a difference *over here*" (viii.ix). It is a worthwhile way of thinking as it expands our definition of threat and holds a radical potential; however, as van Wyck points out, such an expansive conception of threat "can come to make ecological thought itself look like a particularly advanced form of cultural paranoia" (viii.ix). Indeed, thinking about looming ecological threats can feel like paranoia, but that is simply because the effects of those threats are so unequally distributed.

The contemporary ecological threats of the past century, which have been particularly prolific, can also frustrate the notion of interconnectedness, making it difficult to discern the links between disaster and its aftermath. It is not necessarily that everything is unconnected so

much that our epistemic models are inadequate and cannot predict every eventuality, which is why it is difficult to see how Chernobyl (*over there*) can affect us (*over here*). Van Wyck explains: “To make everything connected is to see the fissures and cracks rendered by ecological threats - whether the threats posed by wastes or the threats retroactively discovered through accidents - as a kind of recompense for a failure to have properly understood the connections” (viii.ix). We do not see the linkages between our cultivation of nuclear power and the problem of nuclear waste, because who could have fully anticipated the need to account for the long-term storage of radioactive materials, or the massive impacts of nuclear disaster. Nuclear power’s overly technical and political framing ignores some of the philosophical and cultural concerns underlying its development. In retrospect, this is not surprising because, in many ways, nuclear accidents are never planned for, as I showed in Chapter 3 with the failure of the Soviet nuclear imaginary to conceive of the impossible. The hubristic foundation of scientific and technological advancement is neglectful and shortsighted. Van Wyck remarks on how Three Mile Island was also an impossible event, a “series of events that *could not* happen, and, therefore *were not* happening. This is more than saying that the events were unexpected and incomprehensible. The system performed in a way that was outside of the universe of belief of the operators” (10.1). While the worst was avoided, the extent of the accident was not even known “until ten years later when it became possible to inspect the reactor that it was discovered that some 20 tons of uranium had melted on to the bottom of the reactor vessel” (10.1).

For Van Wyck, the WIPP represents an opportunity to rethink the threat posed by nuclear waste, because radioactive waste is a threat, and “threat makes things happen”; it cannot be ignored because “nuclear materials stand in relation to their containment only very imperfectly - there is always leakage” (18.9). The threat is not just a matter of technological or political

import, either, but one requiring a nuanced attention to the deep time and linear conception of history implicated by the creation of nuclear waste. In looking at the government's approach to the WIPP as it is elaborated in official documents, Van Wyck also reveals the multilayered and complex entanglement of considerations about national security, future safety and justice, responsibility, durability, and the language of threat. The WIPP becomes a monument, oriented toward the future, but a monument that also embodies the "anxiety of the present - an ontological anxiety": "The very idea of a monument to something that we wish would never have come to presence to being with - and something that persists (literally) in the present, and actively performs its danger on the safety of the future, even as it impinges on our own - is a very unsettling thing" (80.1). Additionally, our acknowledgement of the threat of this waste must consider, too, "how materials continually escape from any expectations people have formed about their behavior in the past, in part because of an anthropocentric tendency to underestimate the activity that materials can manifest on their own" (Joyce 4). If we do not adequately take on this task, van Wyck warns that nuclear material "tends to drift", meaning that it becomes more difficult to contain, temporally and spatially (27). Taking responsibility for nuclear waste in the present means communicating its threat in a way that is intelligible in the future. Van Wyck draws on the inverted image of Benjamin's angel of history, now oriented toward a future filled with many unknowns.

The insights offered by Peter Van Wyck, summarized above, resonate with the ideas presented throughout my own project about memory, even though the Waste Isolation Pilot Plant project he analyzes is decidedly not about memory. The WIPP will stand as a monument marking the danger contained there, but as a "monument to waste" it actually constitutes "an inversion of the work of a monument" (80.1). This monument does not attest to any specific past,

because it is not designed to communicate a sense of the past, nor can it imagine any particular future. Van Wyck explains:

> Its task is not to perpetuate memory, nor is it a device for recollection. It exalts nothing. It must make an assertion - that of its danger - but it must do so in an idiom, if not entirely foreign to such messages, then at least one to which it is very ambiguously related. It's concern is the perpetual present, a now that is indifferent to history, yet one in which the witness must not fail to understand. (80.1)

I would argue that while Van Wyck's assessment is accurate, memory does play an important role in this type of monument making, which will become increasingly imperative as the amount of nuclear waste expands further. In order to get to the point where we as a global community can collectively recognize the risks to bodies and spaces and work to prevent those impacts, we need to remember not only that we share a sense of responsibility for the consequences of human activity for the environment, even though the capacity to forget is quite pronounced, and the strategies employed by pro-nuclear advocates are powerful and wield that power strategically.

Furthermore, like the memory of nuclear disaster, the wider costs of nuclear waste containment are similarly forgotten, neglected, or obscured, largely out of political expediency. The disqualified knowledges unearthed through an examination of the memory of nuclear waste are just as potent; they are also implicated in the slow violence of nuclear power, perhaps more insidiously so. The accumulation of nuclear waste began with the birth of the nuclear industry and has acquired vast dimensions, and the burden of waste often falls on what Andrew Blowers calls "peripheral communities," which are "places of environmental risk in areas that are relatively isolated geographically and which tend to be characterised by economic dependence, political powerlessness and a culture of acceptance" (11). In *The Legacy of Nuclear Power*, Blowers prompts us to consider the impacts of nuclear waste in the present, because "radioactive waste management require[s] a continuing commitment and place a burden of cost, energy and

risk on the communities that must bear responsibility for looking after the legacy" (21). Here we can recall Slaboshpitskyi's film *Nuclear Waste* and the joyless monotony experienced by the protagonists who suffer "a disproportionate share of the risk to environment, health and well-being that is associated with proximity to large volumes of radioactive materials" (238). While this filmic representation is purposefully exaggerated, the tedious duration exemplified by this short film's portrayal of life in a peripheral community asks us to think about the enduring legacy of waste. Blowers explains that the "real problem is here and now", because a safe and permanent repository for waste storage still eludes us; meanwhile, nuclear waste is "stored in varying conditions of safety and security and are unlikely to be moved elsewhere or put into a repository for decades to come" (232). Communities bearing this burden are often subject to predatory legislation that is created without local input as "decisions of fundamental importance to the local nuclear industry and communities are taken at the level of state corporations or government departments or even international organisations" (236). Consequently, the legacy of nuclear waste is an ethical issue.

In the United States, the Yucca Mountain Waste Repository exemplifies many of the struggles involved in managing nuclear waste. The site, which was supposed to store high-level waste deep underground, has stalled indefinitely, as local communities in Nevada have objected to being kept out of negotiations. This means that temporary storage sites must now commit to long-term storage in steel and concrete casks, a commitment that many sites might not be equipped to handle. The decision to discontinue the development of the Yucca Mountain site is largely a political one, which, echoing the arguments made by van Wyck, ignores some of the threat and risk inherent to such decisions. Decisions about nuclear waste management are both local and global. Blowers explains:

> The nuclear legacy is, at one level, unevenly distributed, impacting most on those places where it is managed and contained. But, once released into the environment whether routinely, accidentally or deliberately, radioactivity is unbounded both in time and space. It is the diffuse and everlasting quality of radioactive risk that makes policy making for management so tantalising and contentious. The pathways that radioactivity can take are subject to uncertainties and, ultimately, to indeterminate or unknowable risks and consequences. In the end the choices cannot be arbitrated by scientific understanding and reasoning alone, they must be understood and, perhaps, validated by recourse to principles and values. (243)

Like Van Wyck, Blowers argues for the need to evaluate these decisions outside of the technological and political realms typically relied upon. Considering the inability of nuclear science and technology, which operates at the edge of the limits of knowledge, to confidently imagine all possibilities, and the disproportionate amount of power allotted to this incomplete knowledge, it is risky to invest in solutions that do not account for the potential ecological threats and ethical considerations warranted by the scope of nuclear waste: “The timescale and complexity of interactions involved place radioactive waste management to a large extent outside the realm of scientific control, prediction and risk assessment. In contexts of uncertainty, indeterminacy and non-knowledge we are outside the world of verifiable expertise and are instead in the realm of morals and values” (Adam 15).

Chernobyl’s most enduring form of memory, reminding us that as much as we try to contain it, bury it, place it out of sight, it will remain and will require our concerted attention and constant maintenance. In many ways, it is the most material embodiment of radioactive memory, bringing its Anthropocenic dimensions into stark relief. Radioactive memory sees radiation as a hyperobject, an example of the slow violence of the exercise of nuclear power, and as fundamentally transnational in character. Thinking about nuclear waste through the lens of memory might also challenge us to claim ownership over and responsibility for our nuclear heritage. Anders Högberg and Cornelius Holtorf identify several similarities in heritage practices

and nuclear waste management, in their goals of preservation, storage, memory keeping, and knowledge transfer. The authors state that "considering nuclear waste as cultural heritage of the future can be instructive in relation to records, knowledge and memory concerning geological repositories of nuclear waste" (2). The foundation for a heritage of nuclear waste has already been laid; however, Holtorf and Högberg are limited in their thinking. Going further are the ideas put forth by Rodney Harrison in "Beyond "Natural" and "Cultural" Heritage: Toward an Ontological Politics of Heritage in the Age of Anthropocene." Drawing upon Harrison's conception of an alternative conception of heritage, I see the opportunity for radioactive memory to expand the notions and potential of heritage to engage with the present and future concerns of nuclear power and the waste it generates. Harrison conceives of heritage in 'connectivity ontologies' which are "modalities of becoming in which life and place combine to bind time and living beings into generations of continuities that work collaboratively to keep the past alive in the present and for the future" (27). Imagining an alternative heritage allows for us to see heritage as more than a mode of claiming of some universal past, but as "collaborative, dialogical and interactive, a material-discursive process in which past and future arise out of dialogue and encounter between multiple embodied subjects in (and with) the present" (27). The connectivity of Harrison's notion of heritage is not about reviving any "cosmopolitan universalism" that erases the differences manifested in localized versions of heritage, but about refashioning heritage to be "more productively connected with other pressing social, economic, political, and ecological issues of our time" (28).

Part of Harrison's project argues for the collapsing the conventional separation between the natural and cultural necessitated by the Anthropocene era wherein we must learn to recognize "our own implication within and vulnerability to changes that affect other parts of the collective"

(32). Traditionally, according to Harrison, heritage encompasses a set of practices and modes of thinking oriented toward the conservation of the past for the future, but if we dispense with mainstream definitions of natural and cultural heritage, we can integrate other arenas into notions of heritage, ones that we might not think of as heritage, including nuclear waste (34-5). Most importantly, a more dynamic and interconnected notion of heritage can help us cultivate the "sense of responsibility, attachment and working toward common futures" (33) that constitutes the aims of radioactive memory in provoking a radical empathy needed to answer pressing ecological questions and future sustainability. Harrison's argument for a more expansive approach to heritage parallels my own project of memory in its call for the "need for plural and diverse forms of knowledge and new modes of decision making with which to take account of them" (32-33). Incorporating a multiplicity of knowledges and multimodal practices can illuminate new areas of insight and expertise and can assist in combating the hierarchy of knowledge and prevents us from envisioning alternatives for the future. Heritage, as Harrison writes, touches all aspects of our lives as a means "by which people globally attribute value and express a sense of care for special objects, places, and practices" that necessarily entails an "ethical stance toward the future" (39). Expanding our notion of heritage to include the legacy of nuclear waste will also expand our sense of care for the objects, spaces, and people affected by the mobilization of that heritage. The radioactive memory of nuclear disaster and its aftermath can help to inform that heritage as well as motivate the further development of new, more dynamic memory practices.

In the introductory chapter of the edited volume *Echoes from the Poisoned Well: Global Memories of Environmental Injustice*, Sylvia Hood Washington, Paul C. Rosier, and Heather Goodall organize the articles in the collection around a similar imperative to that posited by

Chernobyl's radioactive memory. They write persuasively, "Understanding and appreciating the knowledge embedded in the memories of communities that have been environmentally disenfranchised is critical to knowing more fully the social ecology of the world at large and the environmental costs of technological developments" (xxii). The articles making up *Poisoned Well* chronicle a wide range of environmental disasters, such as the impacts of uranium mining, toxic waste dumping, pollution, and harmful industrial practices, the result of technological development consistently "contingent on the benefits outweighing the costs" (xxii). The costs of development are nebulous and abstract, made unintelligible to us through our lack of privileged knowledge and a fuller memory of these disasters. Many environmental disasters are designed to go unremembered from the outset either out of a reluctance to imagine disaster or out of deliberate obstruction; they remain all but consigned to the rubbish of history except for those who live in and experience them, the 'costs' of advancement that "will never be fully understood until we conclude the human costs of environmental inequalities" (xxii). Just as radioactive memory seeks to locate alternatives to the dominant narrative of Chernobyl and nuclear disaster, so to do the authors here in contributing "to the ongoing effort to create an alternative narrative that links the past to the present by demonstrating the continuing ways in which historically marginalized communities suffer the costs of environmental degradation and the consequences for a world that has shrunk in space and time" (xxii). Only people who have experienced them can speak to their effects, while our continued encounters with that experience can amplify acts of witnessing and the formation of radical empathy with others: "Culling the environmental memories of a diverse set of people and peoples will hopefully help guide scholars, activists, and citizens grappling with a challenge to build a sustainable society not only to construct a more just world but also a more peaceful world. For where there is no justice there is no peace" (xxii).

Memory Activism

Getting justice requires activism, which has been an implicit part of this project of Chernobyl's memory, informing the political element of radioactive memory. Memory and activism intersect in various ways, both direct and indirect, with regards to Chernobyl. The disaster itself led to significant eco-activism that then transformed into a national independence movement. In Belarus, the memory of Chernobyl is also linked to an oppositional political movement against the secrecy and corruption of the totalitarian government. The anti-nuclear activism in Germany has successfully coalesced around the memory of Chernobyl so that the anti-nuclear position is part of mainstream politics, as Karena Kalmbach notes: "Chernobyl...is a site of memory that is most firmly anchored in the anti-nuclear movement, but one which, as a result of the success and popularity of this movement and the Green Party, occupies a place in mainstream society" (147). Similarly, other anti-nuclear and environmental activism around the world references the nuclear disaster. Chernobyl has come to symbolize not only the costs of technological and industrial hubris, but also political ineptness. Even as I write this, the United States's gross mishandling of the COVID-19 pandemic under President Donald Trump has been compared to Chernobyl. Fukushima, too, is also described in reference to Chernobyl; after all, both events share a level-7 rating on the scale measuring nuclear catastrophe. Post-Chernobyl, states rushed to secure and update nuclear power plants, making it easier to characterize Chernobyl as a purely Soviet disaster. "Another Chernobyl" was not supposed to happen. The two disasters are now inextricably linked as the world's worst nuclear disasters and looking at them both from a comparative perspective reveals many similarities and key differences.

In a familiar story, and despite the safeguards enacted after Chernobyl, Fukushima was in many ways inevitable in Japan. A flawed reactor design, a precarious location, the inability to imagine such a disaster, and a suspect government - all of the necessary elements were in place, so that when a magnitude 9 earthquake, followed by a massive tsunami, pummeled the coast south of Sendai, the Fukushima-Daiichi nuclear power plant, operated by TEPCO, was directly in its path. The details of the disaster are covered in full in *Fukushima: The Story of a Nuclear Disaster*, by David Lochbaum et. al. The earthquake and tsunami inflicted an unexpected amount of damage to the plant's six reactors. The primary issue extended from a station blackout that crippled the plant's backup generators and emergency systems, affecting all units. Without power, all control over the reactor ceased, sending multiple cores toward meltdown. A situation in which multiple units lost power was never conceived of, and so emergency models and protocols proved unhelpful: "They were confident that the electrical grid and the backup emergency diesel generators were highly reliable and could be fixed quickly if damaged. They refused to consider scenarios that challenged these assumptions" (12). Additionally, efforts to assess the extent of the damage were complicated by the unfolding aftermath of the natural disasters that had hit the region. The nuclear disaster consisted of three reactor meltdowns, three hydrogen explosions, and the release of radioactive materials from their exposed cores.

In *Post-Fukushima Activism: Politics and Knowledge in the Age of Precarity*, Azumi Tamura discusses how the disaster had radical political implications for Japan and led to activism not seen in contemporary Japanese society since the 1960s. Much like Chernobyl, Fukushima was a destabilizing force that had widespread political, social, and cultural ramifications: "In addition to the physical loss of lives, properties and communities, it undermined Japanese people's trust in authority such as the government and scientists, who kept advertising that

nuclear energy was safe. It shattered people's belief that their lives would be stable if they stuck to the dominant norms" (4). Tamura characterizes post-Fukushima activism as largely unorganized, at least in terms of any ideological goals. What did motivate people's activism was a regret over their own past complacency and indifference toward the status quo. It was a bodily activism, rooted in the search for a new post-disaster identity and a re-thinking of the future:

> Many people took to the street without any political language or concepts to describe who they were. They just had their body and emotions. They realised that their 'reality' constructed within these static frames had allowed such a catastrophic disaster that could even affect a future generation yet to come. Post-Fukushima activism sprung from the protesters' rejection of the authority, discourses and the stable identity which they had blindly accepted. (4)

Tamura's examination of Japan's post-disaster politics raises interesting questions about the role of hegemonic power in our daily lives, as well as the importance of alternative knowledges in challenging that power. She interviews post-Fukushima anti-nuclear protestors to discern the varied and experimental strategies that they employ in working toward a ethico-political practice. Tamura also examines the role of emotions and affective knowledge in mobilizing political action. She comes to similar conclusions as those discussed throughout this dissertation concerning the limits of reason, official knowledge, and political institutions to accurately describe the complex reality in an 'age of precarity.' The position of post-Fukushima activists was not anti-science or anti-intellectualism but was directed against the objective rendering of reality and the position of scientists who observed the world "without hoping to change it" (128).

Activism, as Tamura views it, is crucial for developing a radical politics based in ethical practices that are sensitive to the fragility and uncertainty of life: "Activism helps people both to construct and deconstruct identities and meanings. It continues to provide people with the opportunities to experiment with a new form of relationship and to change their own perspectives through encounters with other people. It suggests a possible political practice without the concept

of authority and order" (172). Activism is the language of the body and its emotion directed toward change and the future. Part of Tamura's project concerns the role of non-hegemonic knowledge in navigating post-Fukushima reality. Denise Kera, Jan Rod, and Radka Peterova also look at a kind of non-hegemonic knowledge in "Post-apocalyptic Citizenship and Humanitarian Hardware," found in an edited volume dedicated to Fukushima. Their examination of the "collective practices of investing in and building do-it-yourself (DIY) tools for radiation monitoring" (98) complements Tamura's work, representing the concrete efforts of citizens to gain access to knowledge about the spread of radiation. These DIY practices which found citizens building their own Geiger counters and various humanitarian tools "demonstrated a whole new dimension of citizen empowerment" and a "new type of collective and political action" as part of an increasing "responsibility...for the environment and human health" (98). Their collective endeavors often operated independently of governmental bodies (99) but also challenged the official information released by institutions and organizations, which downplayed radiation levels. With community-led DIY tools and data sharing methods "many citizens independently made small, individual decisions based on their Geiger counter measurements on how to move around, where and what to eat, and how to work and live under the constant threat and risk of radiation pollution" (102). In a sense, they created their own manual for survival in a nuclear disaster, circumventing state-led information services:

> Rather than waiting for the centralized authority to intervene and supply data, which was found in the Fukushima case to take a long time and be inappropriate at the local level because of its technical complexity, citizens post-Fukushima acted and innovated at the grassroots level and demanded change based on user-friendly independent citizen data. (102)

These practices enabled citizens to respond to the shifting dangers of the post-disaster landscape with urgency and immediacy in a way that effectively cared for the safety of their own neighborhoods. They empowered citizens to be active and creative in finding solutions.

Citizens crowdfunded initiatives and crowdsourced information, and they shared pertinent information with one another. While the practice of data sharing allowed for the mapping of dangerous hotspots to avoid, DIY dosimeters and monitoring equipment also proved beneficial in assuaging the psychological stress of uncertainty around radiation: "The DIY radiation monitoring devices simply enabled a psychology of basic control and comfort (as well as practical outcomes), also related to a feeling that people were not alone but had the support of a global community" (104). Grassroots organizations such as Radiation Watch helped to "empower citizens through implementing radiation measuring as shared technology and *everyday practice*. This enables people to produce data themselves to make radiation monitoring highly accessible collectively" (106). It is not that traditional researchers did not monitor radiation levels, but that they did not make that knowledge accessible to the wider public, who had trouble translating the highly technical language (110). Kera et al. connect these practices to the emergence of a "'cosmopolitical' citizenship" of "pragmatic and plural collectives around DIY tools with various, even conflicting goals and aspirations" (113) that reclaimed a measure of political power for citizens and generated a new form of citizenship based in responsibility. Armed with new knowledge, citizens were then able to exert pressure on the Japanese government over the country's reliance on nuclear power. Before the Fukushima disaster fifty four reactors supplied nearly thirty percent of the country's power, and now, it is uncertain whether the target for nuclear power to produce twenty percent of the country's energy is in doubt. Twenty-one reactors have been decommissioned, and all reactors must now undergo

expensive updates to meet stricter safety standards, preventing many from returning to operation. Furthermore, local resistance to nuclear power has also hindered plans to reinstate plants as citizens block operations in court and base their voting decisions around anti-nuclear policies ("Japan's Nuclear").

My point in bringing post-Fukushima activism is to underscore the ways in which political action looks towards its recent past to reinvent the future, The successful grassroots efforts of citizens to reclaim the narrative of disaster through the mobilization of local knowledge acquired through the experience of it. As Japanese citizens were shocked out of complacency, they crowdfunded, hacked, and unified as a wider community to care for their neighbors in a moment of prophetic vision. That knowledge affected political change and helped to shape nuclear policy in Japan on local and national levels, and the memory of disaster has sustained that change to ensure that Japan's future is at least a little less nuclear. Such activism is vital for the trajectory outlined by radioactive memory and necessary for the realization of its anti-nuclear agenda. What also emerges through the activism and active citizenship of post-Fukushima Japanese society is how to mobilize and organize in the aftermath of disaster in a way not so dissimilar to what Kate Brown describes in *Manual for Survival* in chronicling the formal and informal conversations and commentary surrounding the disaster. Chernobyl was responsible for change, in prompting decisions that would lead to the collapse of the Soviet Union, although any initial environmental successes later suffered a reversal; its memory echoed in calls for independence and in contemporary political protest, but its direction was also fundamentally altered in the shift to anti-Soviet nationalism. The anti-nuclear agenda of Chernobyl's radioactive memory has been neglected, and the hegemonic power manifested in state and economic interests once more decides the future of energy, so that "Chernobyl nor, it seems, Fukushima

have yet dealt the knockout blow to nuclear's ambitions and pretensions as the salvation to the energy problem" (Blowers "Future" 175). Radioactive memory reinvigorates the struggle for a more just and ecologically informed future.

The Future of Chernobyl's Exclusion Zone

Sarah D. Phillips, in "An Illustrated Guide to the Post-catastrophe Future" looks at some actual and proposed projects for repurposing the CEZ. Some of the ideas are examined satirically, such as the idea of the zone as a farm that produces agricultural products "made in Chernobyl" (127). Other ideas have already taken shape, like tourism ("Think of such tours as a weekend Chernobyl safari, with dosimeters.") and the notion of the zone as a historic landmark. The satirical presentation masks a pointed criticism and gestures toward the limits of our need to "revitalize" the zone. Each sketch reminds us of the long shadow cast by the disaster. Several of these futures have already been mentioned throughout the past several chapters. At one point, Phillips mockingly suggests dispensing with plans to revitalize the zone and instead turn it into a dumping ground for Europe's nuclear waste: "It will be a long time before the EU allows Ukraine in the European Union, but perhaps in the meantime Ukraine can take out the garbage?" (137). Eight years later, the exaggerations seem almost prophetic, particularly in regard to Chernobyl tourism, which now includes tours that let visitors have five minutes inside the infamous control room of reactor four, a feature (coincidentally?) added soon after the release of HBO's popular Chernobyl miniseries. Visitors must wear protective clothing and mandatory testing to measure any radiation exposure (Daley). Chernobyl's Exclusion Zone, or Zone of Alienation, is under siege by a variety of competing interests vying for control over the zone's future. Phillips poses several questions for the reader's consideration around who might benefit

from plans to rejuvenate the Zone and who decides what is safe. She also asks, "How much space is there to accommodate competing interests and competing narratives about what has happened here and what must happen next?" These questions are important because the "value (of life), responsibility, and power are at stake here" (138).

Our need to revitalize the space and ultimately, return it to human use; proposals for the site's future come across as our futile attempts to contain the zone's representational excess and bring the disaster to a close. Such closure is virtually impossible to secure. Perhaps if we had learned anything from Chernobyl, we might have obtained some kind of closure, but ultimately we did not learn enough about the risks of our use of nuclear power. Kate Brown writes, "Accidents happen. They are supposed to have a concluding chapter where humans learn a lesson or two. Calamities with no perceptible end make it harder to draw conclusions" (9). She continues on, summarizing the dominant

> Reactors, many of which are working long past their expiration dates, are most often built in economically strapped, rural communities where people are grateful for the jobs the plant provides. If a reactor or nuclear bomb factory is shuttered because of an accident or planned obsolescence, the immediate territory is abandoned, a cyclone fence goes up, and the radioactive brownfield becomes a nature preserve, but one with strange regulations posted at the entrance to the park: "No dogs. Do not step off the gravel paths. Do not pick up any masonry object." The fencing and designation "nature reserve" normalize disaster, soothe, and reassure like the 1986 Soviet-issue survival manual that begins "Dear Comrades." (9-10)

Brown's mention of how these spaces seem destined to become nature preserves is prescient and chillingly accurate. It is not often that the term "nature reserve" is chilling, but many nuclear sites are transformed into them, despite the risks. Take Rocky Flats for instance, the site of the former nuclear bomb factory has been transformed into a wildlife refuge over the past decade. The approximately five-thousand-acre site boasts hiking trails and recreational campgrounds and touts a mission of wildlife conservation and environmental preservation. The refuge's website

underscores its designation as part of the U.S. Fish and Wildlife Service's National Wildlife System. The history presented on its website glosses over its nuclear associations and certainly does not mention anything about plutonium particles, even as former plant workers and other experts testify to several contamination incidents. In 2019, plutonium was found in elevated levels in soil near the former plant, indicating that there might be some unknown hotspots (Associated Press) The findings remind us once again of the precarious nature of trust we are asked to give regarding the safety of nuclear power, including the "[m]any inescapable decisions have been forced upon us - decisions about nuclear weapons and nuclear energy that will have far-reaching consequences with sometimes dangerous and unintended results" (Iverson 344). Kirsten Iversen covers the tragic memory of the Rocky Flats disaster as a child growing up nearby in her engaging book *Full Body Burden*.

The lack of closure to nuclear disaster is so unsettling that we impose our own endings, which is what these post-disaster nature preserves and wildlife refuges become. They do "soothe, and reassure" us by anesthetizing the potency of its memory, even going so far as to invite us in to recreationally enjoy the space. In many ways, this dissertation is about the need to embrace future uncertainty, not blindly or nihilistically, but resolutely in conjunction with thinking what Timothy Morton calls 'the ecological thought.' Morton persuasively writes:

> The ecological thought hugely expands our ideas of space and time. It forces us to invent ways of being together that don't depend on self-interest. After all, other beings elicited the ecological thought: they summon it from us and force us to confront it. They compel us to imagine collectivity rather than community - groups formed by choice rather than by necessity. Strange strangers and hyperobjects goad us to greater levels of consciousness, which means more stress, more disappointment, less gratification (though perhaps more satisfaction), and more bewilderment. The ecological thought can be highly unpleasant. But once you have started to think it, you can't unthink it. We have started to think it. In the future, we will all be thinking the ecological thought. (135)

Morton's notion of ecological thought draws together the broad contours of radioactive memory that urges us to think about the interconnectedness of things and our coexistence with other living beings in a shared environment. It is not an enjoyable or easy way of thinking as it calls into question many of the familiar constructs and ingrained ways of living that we cling to out of a need to emphasize that what happens over there happens over here, too. This is the broad framework with which we need to consider alongside the more localized knowledges of life post-disaster; the two registers complement each other well, collapsing the local and global through an intimate distance. Radioactive memory challenges us to imagine an alternative non-nuclear future as well as its inevitable uncertainty, an uncomfortable task, to be sure, but one that can be accomplished with concerted effort and an attention to the memories of nuclear disaster.

This is not simply a "call to 'remember'" as Susannah Radstone and Bill Schwarz explain, but a call for critical engagement with "memory *as* politics": "No simple call to "remember" - charged as that imperative now finds itself, with the power to heal and to restore, or to stoke the fires of deadly conflicts - can leapfrog over the complexities of history, of politics, and of speaking positions" (Radstone and Schwarz 3). Over the last four chapters, I have demonstrated the importance of critical engagement with Chernobyl's memory for revealing not only valuable insight about the impacts of Chernobyl, but also about the widespread impacts of nuclear power. We are largely unaware of these impacts, due to the invisibility of radiation and the concealed nature of power that decides nuclear power's role in our lives. As discussed in Chapter 1, the invisible dimensions of radiation's consequences in combination with the narrow limits of our senses to detect it have generated a variety of visual strategies for documenting the disaster's impacts. The most unimaginable visual strategies coalesce around Chernobyl's material traces and historical materials, neatly contained within narratives that offer a kind of

closure that is not possible. Closure would allow us to move on despite Chernobyl's continuation. The experiences of survivors combat the domesticating function of our efforts to contain what cannot be fully understood and to counter the uncertainty those experiences foster. An uncritical consideration of these visual strategies only replicates the original violence, making those survivors invisible, too. In Chapter 2, the sites and objects of Chernobyl's memory offer the possibility of further engagement. Despite their material rigidity and seeming intractability, these objects and sites are surprisingly mutable in terms of memory, embodying multiple contradictory aims. In a rhetorical sense, they 'speak' differently to different visitors and are consequently read differently by visitors, who not only bring their own desires, perceptions and histories to their encounters, but also have those memory encounters conditioned by tourism practices and varying modes of instruction and interaction that can elide. We come to understand the multiplicity embedded in memory and the need to adopt a critical perspective toward memory practices and how they influence the cultivation of memory. This project is not only about Chernobyl's memory, but our memory, too.

The poetry in Chapter 3 contains a different kind of memory, a deep and expansive one that invites us to consider the traumatic rupture of nuclear disaster. The splitting of the atom constituted a severing of humans from nature, and the disaster forced a confrontation with that disruption and the ideas of time and progress that generated and sustains nuclear power. With direct language and kaleidoscopic description, the poetry of Kostenko, Sirota, and Zabuzhko enjoin the personal and global to prompt us to think about not only the consequences of nuclear disaster, but the consequences of our one-sided relationship with the environment. The memory of the Chernobyl is an Anthropocenic memory that we need to understand the apocalyptic dimensions of nuclear power. Chapter 4 looked at Chernobyl's popular culture life. Although

popular culture is often associated with entertainment and a flattening of complexity, the examination of how the disaster's memory is employed in crime thrillers, video games, and through media events produces some interesting engagements. These engagements are not shallow and one-dimensional but attempt to virtually immerse viewers and readers in Chernobyl's memory. The prosthetic memory that many, though not all, iterations of Chernobyl's popular culture life carry the potential to elicit our understanding of and empathy for other people and experiences. Altogether, these chapters offer a model of archaeology of Chernobyl's radioactive memory that uncovers the disqualified knowledges that imbue radioactive memory with a potency that threatens the dominance of hegemonic power over the exercise of nuclear power against vulnerable bodies and spaces. We can then counter the "soothing and tendentious message that nuclear was a necessary, reliable, safe and secure component of the energy mix that will avert impending environmental disaster" (Blowers "Future" 182). An event like Chernobyl should not have happened, could have meant that a similar disaster would not happen again, but instead, an examination of the disaster through the lens of memory reveals that these kinds of disasters are inevitable, and will be as long as we can forget the high stakes of its use: "Without a better understanding of Chernobyl's consequences, humans get stuck in an eternal video loop, the same scene playing over and over (Brown 3). Nuclear power is unsustainable as an alternative energy, but it remains uncertain if we can challenge ourselves to collectively envision a future without it. Kate Brown notes when reflecting on what she has learned deep in Chernobyl's scattered archives, "A general lesson I learned from the Chernobyl disaster is that technology promoted as infallible sometimes fails and there is, as yet, no good guide for societies struggling with large-scale technological and environmental disasters" (9). She creates one, of course, with her *Manual for Survival*. Similarly,

I locate my work on Chernobyl's radioactive memory with the same milieu, as a guide to not only understanding the role of power in preventing us from doing better in terms of conceiving of alternatives to the status quo, but also to finding the opportunities for deeper generative engagement with the kind of memories that could lure us out of complacency.

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