Abstract: This article presents a comparative analysis of HBO’s mini-series Chernobyl (2019) and Svetlana Alexievich’s literary testimonies Voices of Chernobyl: The Oral History of a Nuclear Disaster (1997) – both of which represent the events and the aftermath of the Chernobyl nuclear accident in 1986. As a case study in intermedial ecocriticism, the comparative study investigates the ability of each media product to make perceptible the forces of radiation, focusing in particular on what it feels like to inhabit the atmospheres of contamination that the two media products invite their viewers and readers to enter. The article proposes the neologism ‘spectral toxicity’ as a means to describe these atmospheres in which the presence of a threatening nonhuman force feels immanent and impending while also remaining imperceptible. Methodologically, the article is situated in the intersection of ecocriticism and intermedial studies, as it seeks to elucidate the phenomenologically distinct ways in which Voices of Chernobyl, as a literary work, and Chernobyl, as an audio-visual work, employ different aesthetic strategies to represent radiation and to mobilize affective experiences. The article argues that both works employ a type of indexical aesthetics, but that the choice of index differs depending on the modality of the media product. Whereas the mini-series constructs a rich soundscape and striking images of bodily decay, Voices of Chernobyl provides a polyphony of first-person testimonies about the dehumanizing experience of radiation exposure. By comparing the two media products in terms of the experiences they create, the study illustrates the varying affordances of literary and audio-visual media for representing the phenomenon of radiation and the consequences of nuclear disaster.

Keywords: Chernobyl, Voices of Chernobyl, Svetlana Alexievich, Ecocriticism, Intermediality, Ecomedia, Spectral Toxicity, Atmosphere, Affect, Trans-corporeality, Eco-Horror.
We live in a world permeated by invisible dangers. Whether it be global warming, the proliferation of microplastics, radioactive fallout, or global pandemics, we find ourselves threatened unlike ever before by forces that cannot be seen, heard, smelled, or touched. Both vast and minuscule, these disasters are unlike that of the car crash, the hurricane, and the oil spill. As events, they unfold gradually, across great distances in both time and space, making them hard to identify and control. In short, many of the dangers of the contemporary world unfold beyond the threshold of human experience, even though most of them, ironically, are the result of human activity. And yet, to say that these invisible specters of destruction are categorically out of reach would be an overstatement. Sometimes, these forces can be grasped whenever we enter the atmospheric spaces that carry traces of their presence, such as when a Geiger counter starts ticking or when the goosebumps on your arm register something you do not. Literature and film have often been praised precisely for their ability to facilitate such encounters, because, in the act of reading literature or watching a film, viewers and readers enter worlds where previously unseen forces can be experienced more directly (see e.g. Nixon 2011, Ivakhiv 2013). To make the invisible specters of destruction sensible, we need to augment its presence through signs, visions, atmospheres, affects, and sensitivities. In short, we need representation.

In this article, I propose the neologism ‘spectral toxicity’ to describe those affective atmospheres in which the threat of a toxic nonhuman force is felt to be immanent and impending, even though it remains beyond the threshold of direct sensory experience. In the following, I focus in particular on the powers of radiation and how contemporary media products create atmospheres to mediate its presence. Furthermore, I shed light on how the construction of atmosphere changes from one media type to another, because, in the contemporary media landscape, phenomena such as radiation are not mediated through a singular medium but in multiple media forms and products that have different potentials. To this end, the article presents a comparative analysis of HBO’s mini-series Chernobyl (2019) and Svetlana Alexievich’s literary testimonies Voices from Chernobyl: The Oral History of a Nuclear Disaster (1997) – both of which represent the events and the aftermath of the Chernobyl nuclear accident in 1986. Drawing on intermedial studies and ecocritical theory, the article shows how these two media products provide rich affective testimonies about
what it feels like to experience a nuclear disaster first hand. By doing so, I reveal two mutual benefits of comparing and contrasting the two texts. Firstly, I present an examination of the phenomenon of radiation that considers its mediation in different media types, enabling a more multifaceted exploration of the phenomenon. Secondly, the article provides an investigation of the strengths and weaknesses of these two media types precisely in terms of their ability to (re)present the issues surrounding a nuclear disaster and radioactive fallout.

The article is comprised of three parts. To situate the theoretical significance of my argument, I first outline the preexisting research in the intersection of ecocriticism and intermedial studies. I then provide a comparative introduction to the two media products, outlining their respective provenances, central narrative structures, formal characteristics, and modal differences. After these initial sections, I present my comparative close reading of Chernobyl and Voices. Approaching the mini-series and the book through the conceptual prism of spectral toxicity, I highlight three themes that characterize the distinct atmospheres of the two media products: spectrality, trans-corporeality, and dehumanization. I conclude by reflecting on the potentials of what might become a practice of intermedial ecocriticism.

1. Toward an Intermedial Ecocriticism

There is nothing new about the assumption that media products hold the potential to shape our ways of perceiving the more-than-human world\(^2\). Indeed, this premise has become the subject of entire fields of research, ranging from ecocriticism (Garrard 2004, 2014, Clark 2015), environmental communication (Slovic et al. 2019), and the rapidly expanding fields of eco-cinema and eco-media (Brereton 2005, Cubitt 2005, Monani et al. 2012, Ivakhiv 2013, Weik von Mossner 2017). The general question that scholars in these fields have attempted to answer is whether and how our media products enable the reproduction, comprehension, and mitigation of complex socio-ecological issues such as global warming, species extinction, and loss of biodiversity, to name but a few.

Media products, however, do not exist in a vacuum. They co-exist alongside an endless array of other media products that interweave with one another in a myriad of ways. This fact is also not new. Since the 60ies, post-structuralists have used the critical vocabulary of intertextuality to describe the processes by which texts interweave with other texts (Barthes 1977, Genette 1997, Jellenik 2017). Likewise, scholars of visual culture have written extensively on the premise that all media, on some level, are mixed media (McLuhan 1994, Mitchell 2005). Finally, the field of intermedial studies (Elleström 2014, Bruhn and Gjelsvik 2018) has developed a systematic terminology for describing what happens when multiple media products exchange, refer, or represent one another.

What is striking, however, is how little scholars of intermediality and scholars of ecocriticism have drawn on the insights of one another. Only a few scholars have studied
the mediation of ecology from the perspectives of multiple media (Cubitt 2005, Weik von Mossner 2017). Likewise, within intermedial studies, the turn to ecological questions has only recently gained traction. Simply put, there appears to be a vacuum of research in what some scholars propose calling “intermedial ecocriticism” (Bruhn forthcoming).

One notable attempt to bridge this gap can be found in the recent collection Transmediations: Communication Across Borders (Salmose and Elleström 2019), which presents a cluster of articles under the rubric Transmediating the Anthropocene (Bruhn 2019, Tornborg 2019, Salmose 2019). As the name of the cluster reveals, the publication centers on the concept of the Anthropocene (Crutzen 2002, Zalasiewicz et al. 2015), which, according to these scholars, has been transmediated to a variety of media products, ranging from film and poetry to museum display cases. Methodologically, the analytical procedure taken by these scholars is relatively straightforward: First, a source media product (or series of media products) that represents the Anthropocene is identified and described. Second, a target media product (or series of media products) is described and compared with the former, focusing on what has been lost and gained through the process of transmediating the Anthropocene in its various conceptions. In doing so, Bruhn, Tornborg, and Salmose have shown the many forms that the Anthropocene, as a narrative, a concept, and a hypothesis, have taken in a wide variety of eco-media products.

The approach taken in this article attempts to build on this pre-existing research, but it also represents a departure from it in at least two ways. Firstly, instead of focusing on the discourse of the Anthropocene as the primary object of analysis, I trace a number of affective qualities that I suggest dubbing ‘spectral toxicity’. To be precise, I define spectral toxicity as an affective atmosphere in which the threat of an imperceptible nonhuman force (in this case, radiation) is felt to be impending and/or immanent. As such, I retain the media comparative approach exhibited by Bruhn, Tornborg, and Salmose, but, instead of investigating the transmediation of a planetary condition, I turn my attention to the specific phenomena of radiation and nuclear disaster, as they are portrayed in literary and audio-visual representations of the Chernobyl incident.

In exploring these phenomena from an intermedial perspective, I wish to contribute to some of the ecocritical work that has already been done on the topics of toxicity, radiation, and not the least the Chernobyl incident itself. Ursula Heise (2008, 178-203) and Greg Garrard (2004, 1-14), for instance, have both drawn on the work of Ulrich Beck (1986) to show how the tropes of pollution and radiation in literature provide rich testimonies of the experience of living in the contemporary global risk society. Likewise, Laurence Buell’s concept of “toxic discourse” (2001, 30-54) represents a systematic treatment of toxicity as a cultural genre, which follows at least four conventions: “a mythology of betrayed Edens […] totalizing images of a world without refuge from toxic penetration […] the threat of hegemonic oppression […] [and finally] the ‘gothicization’ of squalor and pollution” (Garrard
2004, 12). From a more philosophical perspective, Timothy Morton (2013) has attempted to conceptualize environmental dangers such as nuclear waste through his influential concept of the “hyperobject”, which refers to entities that are so “massively distributed in time and space relative to humans” (1) that they transcend human cognition. In a similar vein, post-colonial ecocritic Rob Nixon (2011) has called attention to how phenomena such as chemical leaks and radioactive fallout perform a kind of “slow violence”, meaning that their impacts are difficult to encapsulate because such events are often dispersed across vast periods of time and space. More recently, Stacy Alaimo (2016) has written about radiation and plastic pollution in the ocean, focusing in particular on how the insights of materialist strands of feminist epistemology have been appropriated by activists in creative ways. What unifies the efforts of Heise, Garrard, Buell, Morton, Nixon, and Alaimo is thus an attempt to understand the challenges that are associated with representing environmental threats that are either so microscopic or macroscopic that they have become virtually imperceptible. However, thus far, nobody has examined this challenge from an explicitly intermedial perspective; the approach taken by the scholars mentioned has almost unequivocally been to assess the potential of a single medium. By contrast, in this article, I will compare and contrast the divergence affordances of different modal forms precisely on this question.

The second way this article departs from this existing body of research is in its deliberate shift from questions of representation to questions of experience. Instead of focusing on what happens to the “communicative content” (Bruhn 2019, 217) in the process of transmediation, I wish to center on the question of what it feels like to inhabit the specific atmospheres that different media products invite their viewers and readers to enter. “A film is what a film does”, writes eco-film scholar Adrian Ivakhiv (2013, 48). I agree. As a result, any media comparative study, I claim, needs to take into account not only the divergent means of representation but also the unique affordances of their presentation, noting in particular how viewers and readers experience the efforts of authors and filmmakers to present their subject matter. To this end, I draw on contemporary research on atmosphere and affect. Hsuan Hu’s (2017) notion of literary atmospherics, for instance, presents a case for the necessity of combining our aesthetic conception of atmosphere (as evoked by a certain style and form) with its material meaning (as comprised by the air we breathe). Writing against the backdrop of the Anthropocene, Hu’s contention is to show how the concept of atmosphere can enable scholars to recognize the potential of aesthetic atmospheres (such as those evoked by literature and film) to map the forms of slow violence that material atmospheres engender around the world. Likewise, Ben Anderson (2009) has proposed the term “affective atmospheres”, which he defines as “spatially discharged affective qualities that are autonomous from the bodies that they emerge from, enable and perish with (80)”. Anderson’s main point in this regard is that an atmosphere has a life of its own in the sense that it has the potential to impact its subjects – whether a character, viewer, or reader – in ways beyond their control (think, for
instance, of how radioactive particles can infest our bodies or how eerie spaces can cause our pulse to increase). By looking at atmospheres in this way, I wish to draw attention to the ways in which Chernobyl and Voices mobilize autonomous atmospheres that are both aesthetic and material: Aesthetic in the sense that they are the product of certain formal and stylistic strategies and material in the sense that they carry bodily consequence for those who find themselves exposed to them. Thus, in exploring what happens to our aesthetic experiences of radiation in these two different media products, I center on the affective atmospheres that they invite their readers and viewers to encounter.

2. Chernobyl & Voices of Chernobyl

Chernobyl and Voices are both monumental eco-media works. Since its release, the mini-series’ Chernobyl, which premiered in 2019 on HBO and SKY, has enjoyed tremendous success and received numerous awards. With more than 13 million viewers tuning in to watch the premiere of its final episode, the images and narratives of Chernobyl have reverberated across the planet, generating responses in mainstream news media and more recently with the controversial rise in Instagram disaster tourism at the border of Belarus and Ukraine (Korilin and Guy 2019). Likewise, Voices of Chernobyl has received considerable praise as a literary work. The book has been translated into almost every European language and in 2015 Alexievich received the Nobel Prize in Literature.

As narratives of crisis and trauma, both the mini-series and the literary work are characterized by their attempts to make perceptible what it was like to experience this nuclear disaster first hand. In Chernobyl, viewers primarily follow the nuclear physicist Valery Legasov (Jared Harris), and his two assistants, the scientist Ulana Khomyuk (Emily Watson) and the USSR party official Boris Shcherbina (Stellan Skarsgård), as they work to bring the escalating nuclear disaster under control. The mini-series comprises five episodes and presents a cohesive story that begins with the nuclear explosion and ends with the historical trial that took place about a year later. By contrast, Voices does not follow a single narrative structure. Instead, it presents a collection of 35 first-person oral accounts of the disaster, which were collected over a 10-year period by Alexievich (Matthews 2006, 1389), who conducted interviews with more than 500 eyewitnesses, including “workers at the nuclear plant, scientists, former party bureaucrats, doctors, soldiers, helicopter pilots, miners, refugees, [and] re-settlers” (Alexievich 1997, 240). Voices is a work that brings together the victims’ testimonies of the tragedy and their opinions on how the government reacted to it, its physical and emotional effects, its impact on children, and its effect on the future generation (Saini 2012). Whereas Chernobyl portrays what happened in the time leading up to, during, and after the incident, Voices – as its title highlights – gives voice to the
individuals who lived through the catastrophe. Finally, in addition to their shared anchor in history, Chernobyl draws on Voices as an intertext. The writer and creator of Chernobyl, Craig Mazin, has stated that he was inspired by and drew on the testimonies in Voices in various ways (Schwartz 2019). One of the most obvious ways this can be seen is the adaptation of the story of Lyudmilla Ignatenko (see below), which makes up the prologue of Voices as well as one of the primary sub-plots in Chernobyl.

In terms of genre, scholars have described the “polyphonic reflections” (Karpusheva 2017) in Voices as a form of “social realism” (Aganice 2019), while others have suggested describing the work as “testimonial literature” (Saini 2012), “literary nonfiction, documentary prose” (Coleman 2017). Chernobyl has not yet received the same theoretical consideration by film and media scholars, but Craig Mazin, has described Chernobyl as “a dramatic retelling of history” and as a “docu-drama” (“1:23:45”). As such, both works occupy the liminal space between fact and fiction, where creative license intersects with historical reality.

Although explicit links and disconnections thus characterize the two texts, I need to stress that the following comparative analysis does not proceed along a logic of fidelity. My aim is not to evaluate whether Chernobyl remains truthful to Voices nor is it to discuss the degree to which both texts remain truthful to the official historical record. Several reasons underpin this. Robert Stam (2012), for instance, suggests moving beyond the concept of fidelity on the post-structuralist ground that this concept is, essentialist in relation to both media involved. First, it assumes that a novel “contains” an extractable “essence,” [...] hidden “underneath” the surface details of style [...] an originary core, a kernel of meaning or nucleus of events that can be “delivered” by an adaptation. But in fact there is no such transferable core: a single novelistic text comprises a series of verbal signals that can generate a plethora of possible readings. (2012, 76)

According to Stam, the problem of fidelity is that works of art have no determinate meaning, and therefore the question of whether or not an adaptation stays true to its original is a contradiction in terms. The same, I would add, is true for Chernobyl and Voices, whose meanings are not fixed and final but dependent on situated interpretations. A related issue derives from the impossibility of originality. As Thomas Leitch writes in his article ‘Twelve Fallacies in Contemporary Adaptation Theory’ (2003), “Although it is certainly true that adaptations are intertexts, it is equally true that their precursors are intertexts” (167). For these reasons, I do not approach the two texts as a question of how a source text has been adapted into a target text, even though Chernobyl draws inspiration from Voices in explicit ways.

Finally, in terms of modality, the two works differ in obvious ways. When compared with the written word in Voices, which represents its primary “material of expression” (Stam 2012: 78), Chernobyl is in more obvious ways a heterogeneous medium that mixes
multiple materials of expression, ranging from moving images to sound, dialogue, and music. Another difference is that the book’s symbolic modality asks viewers to engage in the work of mental representation, whereas the audio-visual iconicity of the mini-series presents images that carry a direct resemblance to their object, such as actors playing characters that would otherwise have to be pictured mentally (Stam 2012: 75). Importantly, these modal differences should not be mistaken for the fallacy of media essentialism (Carroll 1996, Leitch 2003, Stam 2012), which refers to the erroneous view that the performative potential of a given media product (e.g. to frighten or cause reflection) is essential to its “qualified media type” (Elleström 2014: 19). Consequently, I do not consider the atmospheres that I trace in Chernobyl and Voices as evidence of affordances that are essential to their qualified media types but as the result of the specific aesthetic strategies that their modal specificities enable these works to employ (e.g. combining sound and image to create intense cinematic sequences, or, for instance, using perfect aspect to construct a testimony that connects the past and the present). As such, the case study that is presented in this article should not be read as making claims about literary and audio-visual media in general nor should it be seen as a study of characteristics assumedly unique to these qualified media types. Rather, my intention is to provide an experience-oriented exploration of the affective performativity of the aesthetic strategies (e.g. polyvocality and sound-image combinations) that the modal specificities allow the two media products to employ. To this end, I examine the way in which Chernobyl and Voices are capable of making the phenomenon of radiation tangible through their particular (re)presentations of three particular themes: spectrality, trans-corporeality, and dehumanization.

3. Mediating Spectral Toxicity

3.1 Spectrality

One of the most peculiar aspects of the phenomenon of radiation is that, on the one hand, it cannot be missed, but, on the other hand, it cannot be seen with the naked eye. Seemingly omnipresent, this invisible entity takes on the form of a specter that escapes visual representation but registers on the affective level as an object of fear and anxiety. In this first analytical section, I examine and compare a number of scenes in Chernobyl and passages in Voices that I claim are haunted in several ways. By describing these atmospheres as haunted, what I have in mind is not – as will be clear in a moment – that these media products literally portray the return of the dead. Rather, I employ the notion of spectrality as “a conceptual metaphor capable of bringing to light and opening up to analysis hidden, disavowed, and neglected aspects of the social and cultural realm, past and present” (Blanco and Peeren 2013, 21). The specter thereby becomes a figure for those forces that are neither wholly
present nor wholly absent – a liminal figure that we often experience as an encounter with “disturbing forms of otherness” (Blanco and Peereen 2013, 3). In more analytical terms, I use the figure of the specter as a prism through which to clarify those aspects of a film or a literary work which might at first glance seem hidden, but which – when unveiled – may embody an ethical, political, and ultimately ecocritical potential.

In Chernobyl, a good example of an atmospheric scene that makes the experience of spectrality particularly visceral is the Bridge of Death scene. In this scene, a group of Pripyat citizens have gathered to watch the exposed power plant from what they believe to be a safe distance. The scene is comprised of a series of slow-motion medium-long shots that show laughing children playing in the dust particles falling from the nuclear explosion. Dark and somber color schemes characterize the mise-en-scène, which, in combination with the penetrating light of a street lamp, serves to highlight – often in extreme close-up – the thousands of glowing particles that envelop the individuals on the bridge, inviting the viewer to become entranced by the beauty of the falling toxic remnants of the explosion. Accompanying this cinematography, however, is a howling metallic ominous score that contrasts the joy and innocence exhibited by the young people on the bridge. By employing this extra-diegetic sound, the scene appeals to the viewer’s emotions through the use of dramatic irony: Because the series is a fictionalization of a well-known historical event, the contemporary viewer knows that the explosion at Chernobyl emitted deadly levels of radiation. The characters in this scene, on the other hand, are unaware of this. Through this contrast, the series thus mobilizes an atmosphere characterized by an uncanny perceptual triangulation between (i) the imminent catastrophe, (ii) its oblivious victim and (iii) its privileged onlooker.

The affective atmosphere that is engendered by these formal aesthetic strategies is indicative of Chernobyl’s tendency to draw on the tropes of the horror genre. In line with Hu’s and Anderson’s notions of atmosphere, the series uses the aesthetic conventions of horror to create autonomous atmospheres that are both aesthetic and material: eerie to its viewers and lethal to its characters. The Bridge of Death scene is a key example of this, however, the series in its entirety can be seen to engage with these affective dynamics, as it continuously portrays firefighters, soldiers, and scientists who venture into spaces contaminated with radiation, leaving viewers with the familiar sensation of wanting to break through to the diegesis and call out: “Don’t go in there!”

While the use of the well-known tropes of horror is thus relatively evident throughout the episodes, I think Chernobyl might in fact be better described as a form of eco-horror, which, according to Christy Tidwell (2018), is a subgenre of horror that “reflects real anxieties about the natural world and its existence outside of human control” (114). Though the designation of the mini-series as eco-horror (as opposed to horror more generally) hinges, at least according to Tidwell’s definition, on whether or not the radioactive cloud is considered
part of the natural world, it certainly seems to be the case that the series exhibits something very similar to the kind of eco-anxieties that Tidwell describes. By creating scenes that are haunted by the unintentional byproduct of a manmade experiment, Chernobyl highlights the limits of human experience and provides an affective critique of the anthropocentric bias with which humans attempt to control and manipulate the more-than-human world. In line with Murray and Heuman’s (2009) observation of the historical shift in eco-disaster film “from the ‘nature attacks’ vision to one in which humans attack the natural world” (111), Chernobyl shows that eco-horror is not only about the ‘revenge of nature’ but just as much about how the manipulation of the natural world can create phenomena that challenge narratives of human mastery.

Apart from its cinematography and its extra-diegetic score, Chernobyl also utilizes a vast array of diegetic sounds to make the presence of radiation tangible. Radiation by itself, of course, does not produce sound – at least not sound audible to the human ear – yet Chernobyl often envelops the viewer with the ticking noise produced by Geiger counters. In this way, it is only when the invisible toxicity enters the assemblage of technological mediation that it becomes perceptible to the human sense apparatus. A key example of this dynamic sonic-affective relationship can be found in an intense 90-second one-take that unfolds on the roof of the reactor building. In this scene, the viewer witnesses the dangerous work of the so-called bio-robots, the dehumanizing label given by the Soviet state to the citizens assigned with cleaning up the extremely radioactive debris from the explosion.
Along with the hand-held camera work, the synchronous noise of the Geiger counter, assumedly mounted on the worker’s belt, works in this shot as a form of alignment that invites viewers to immerse themselves in the material atmosphere he inhabits. As the camera moves alongside the heavily panting bio-robot, the sound of the Geiger counter gradually increases, as does the intensity of the viewing experience. Eventually, the scene climaxes, when the biorobot approaches the edge of the roof and stares into the abyss of what the viewer knows to be the epicenter of this nuclear catastrophe. At this point, the ticking sound of the Geiger counter becomes so frequent and loud that it assaults the viewer with an intensity that is overwhelming. In moments such as these, it may be the case that the viewer sees nothing but rubble, but the insistent and intensifying sound of the radioactive specter is nevertheless unmistakably, if not almost deafeningly, present. With allusion to Morton, one might say that even if we consider the force of radioactivity an incomprehensible hyperobject, *Chernobyl* nevertheless succeeds, in scenes such as this one, in translating this incomprehensible force into something that can be heard and felt.

Whereas *Chernobyl* mobilizes the presence of the spectral by audio-visual means such as close-ups of particles and an intensifying score, *Voices* finds other ways of encapsulating the spectral. For example, in a monologue appropriately titled ‘The Shadow of Death’, readers encounter the testimony of Victor Latun, a photographer commissioned to clean up the zone after the accident:

> you didn’t have to make anything up there. You wanted to just remember it: The globe in the school yard crushed by a tractor; laundry that’s been hanging out on the balcony for a year and has turned black; abandoned military graves, the grass as
tall as the soldier statue on it, and on the automatic weapon of the statue, a bird’s nest. The door of a house has been broken down, it’s all been robbed, but the curtains are still pulled back. People have left, but their photographs are still in the houses, like their souls. (Alexievich 1997, 196)

In this series of vignettes, readers are asked to imagine – as the title reveals – not death itself but its shadow. The rhetorical use of the perfect tense here mobilizes a sense of used-to-be-ness that haunts the images, as material objects such as derelict laundry become manifestations of the vibrant life that once occupied these places. The reflective and often poetic descriptions in *Voices* thus illustrate the potential of what ruin scholar Julia Hell (2010) calls “ruin gazing”, which is the perceptual and mental process by which our contemplation of ruins can “facilitate an imaginary repetition of the past similar in intensity to the original sensations it afforded. The ruin, in short, enables individual freedom, imagination, and subjectivity” (8). With its vivid descriptions of sites of abandonment, the spectral atmosphere in *Voices* invite readers to share the imaginative openness that its testimonies reflect, creating a distinct attentiveness to that which once was and to the endurance of the past into the present. In turn, this atmosphere is not only mobilized through descriptions of images that invite contemplation but also in descriptions of (the absence of) sound: “I remember stopping in some village, and I was shocked by how silent it was. No birds, nothing. You’re walking down the street and there’s – nothing. Silence. I mean, all right, the houses are empty, the people have all left, but all around everything’s just shut down, there’s not a single bird” (Alexievich 1997, 208). Though our sensorial engagement with the modality of the book is, of course, visual rather than aural, it is interesting to note that, affectively speaking, the written descriptions of silence here achieve a similar effect to *Chernobyl*'s intense soundscape. Both produce an uncanny atmosphere in which readers and viewers feel that something is wrong without being able to tie this disturbing experience to any perceptible object in particular. A subtle difference, however, is that whereas Svetlana’s testimonies tend to evoke contemplation through its vivid descriptions of ruin gazing, HBO’s miniseries mainly uses the sites of abandonment to create a cinematic environment that feels dangerous and frightening to the viewer.

The photographer’s testimony cited above is not the only reference to bird song in *Voices*. In fact, the motif of nonhuman animals gone missing features repeatedly throughout the book, as the presence and absence of animals become indexical signs (i.e. a sign for a causal connection) for the presence and absence of radiation. Echoing the opening chapter in *Silent Spring* (1962), a re-settler explains how:

> Something’s happened to nature [...] The radio wasn’t saying anything, and the papers weren’t either, but the bees knew. They came out on the third day [...] we had a wasps’ nest above our porch, no one touched it, and then that morning
they weren’t there anymore – not dead, not alive. They came back six years later.
Radiation: it scares people and it scares animals. And birds. And the trees are scared, too, but they’re quiet. They won’t say anything. (Alexievich 1997, 52)

On the one hand, the mentioning of the radio and the papers can be read as a critical commentary on the tendency of the Soviet state to suppress the catastrophe in the media. On the other hand, I believe that this description is expressive of a deeper, epistemological truth connected to the experience of spectrality. Whereas humans find themselves incapable of registering the threat and presence of radiation directly, bees and birds display an acute response-ability to the dangers posed by these imperceptible forces – an awareness that is articulated through the motif of their disappearance and which can never be fully differentiated from the possibility of death. Interestingly, in this case, the experience of the spectral does not result in fear – or at least not only in fear – but in an increased attentiveness to the land: “There were no medical bulletins, no information […] Then we discovered a sign, which all of us followed: as long as there were sparrows and pigeons in town, humans could live there, too.” Echoing Hell’s notion of ruin gazing, Helen Whale and Franklin Ginn (2017) argue in their phenomenological study of the declining population of sparrows in London that the absence of birds does not always – or at least not only – entail loss: “the absence of sparrows [also] creates something new: haunted and spectral sparrow places” (94). Something similar, I believe, is at work in Svetlana’s literary testimonies. Whenever the subjects of Voices describe how their environments were exposed to the imperceptible danger of radiation, they simultaneously exhibit a distinct ability to listen out for not only that which is present but also that which is absent. The atmosphere of spectral toxicity, in other words, here becomes connected with an ability to listen to the rhythms and signals that emanate from the nonhuman surroundings in which the disappearance of certain species ironically makes them even more present. As Whale and Ginn (2017) argue: “Loss then should not be seen as the subtraction of sparrows from the world, but as a displacement, as a shift into less certain terrain and a production of haunted place” (106).

What unifies the production of spectrality in Chernobyl and Voices is thus a kind of ‘indexical aesthetics’ that foregrounds not radiation itself, but its traces. The ephemeral nature of the radioactive specter is thus made perceptible in both texts through use of indexical signs that indirectly reveals its presence. Whereas Voices invites readers to simulate an attentiveness to the signs of the land, Chernobyl assaults the viewer with an intensifying score that becomes synonymous with the characters’ proximity to radiation, leading to two very different encounters of the invisible toxic ghost, whose presence can be felt in the bodies and minds of viewers and readers alike.
3.2 Trans-corporeality

The atmosphere of spectral toxicity also carries the mark of what Stacy Alaimo has dubbed “trans-corporeality”, which refers to a relational ontology that emphasizes that “the body can never be disentangled from the material world” (2010, 115). The prefix ‘trans’ in trans-corporeality thus highlights how bodies are un-controllably fluid and engaged in constant exchanges with each other (such as when our stomachs transform the nutrients of our environment into energy). However, in contrast to the life-giving act of eating, the trans-corporeality of Chernobyl and Voices carries deadly consequences, as the microscopic bodies of radioactive particles tear cellular structures apart, leading to the corporeal disintegration of humans and animals alike.

In Chernobyl, the most palpable example of this agency can be found in the many scenes in which characters enter highly radioactive spaces that cause their skin to transform in a variety of ways. As a kind of porous and vulnerable membrane, skin can here be read as an example of what material ecocritics Iovino Serenella and Serpil Oppermann refer to as “storied matter” – material compositions that give testimony to the many trans-corporeal exchanges and transformations that take place all around us (2014, 1-2). The series in particular focus on the gradual transformation of the body of the firefighter Vasily Ignatenko (Adam Nagatis) who, upon his efforts to extinguish the fire at the nuclear reactor, is hospitalized with symptoms of severe radiation poisoning. At first, viewers see Vasily’s skin immediately turn red as he enters the dilapidated reactor building. In the subsequent scenes at the hospital, where viewers mainly follow the perspective of Vasily’s wife, Lyudmilla, Vasily’s body begins to form blisters. As the story progresses, however, his body starts to decompose entirely, leaving his insides visible for the viewer’s eyes to contemplate. In the final images of the firefighter’s crumbling body, Chernobyl’s portrayal of trans-corporeality again exhibits genre conventions of horror, as it evokes responses of shock, dread, and repulsion in its portrayal of the grotesque bodily transfigurations that extreme radioactive exposure entails.

In Voices, the depictions of the material consequences of radiation are in some ways similar to those in the mini-series, as readers read about skin turning brown from “nuclear tan” (Alexievich 1997, 105) and other bodily disfigurations, such as children born without genitals (86). However, there are also significant differences in the way the two media products present trans-corporeality. Consider, for instance, Lyudmilla Ignatenko’s description of Vasily’s body:

He started to change – every day I met a brand-new person. The burns started to come to the surface. In his mouth, on his tongue, his cheeks – at first there were little lesions, and then they grew. It came off in layers – as white film... the color of his face... his body... blue... red... gray-brown [...] He was producing stool 25 to 30 times a day. With blood and mucous. His skin started cracking on his arms and
legs. He became covered with boils. When he turned his head, there’d be a clump of hair left on the pillow. I tried joking: “It’s convenient, you don’t need to comb”.
(Alexievich 1997, 11-12, 15)

On the one hand, what readers picture when they read this description may not necessarily differ significantly from what viewers see in Chernobyl. But at the same time, the modal differences that distinguish Voices and Chernobyl impact how we experience these portrayals – not to mention the degree of detail that each medium allows. For instance, though both works operate in a space between fact and fiction, the fact that Svetlana’s book is comprised of monologues by the victims themselves might cause readers to identify and sympathize with the plight of Lyudmilla precisely because the testimony itself is authentic and because her voice, for this very reason, is highly personalized. The same, however, cannot be said of Chernobyl, which, in more obvious ways, represents a fictionalization of that very history. Whereas the series depicts trans-corporeality through its visually grotesque images, the literary testimonies present these bodily consequences through highly personalized descriptions that are based on actual historical experiences.

Another difference derives from the different temporalities that each media product operates within. Whereas Chernobyl’s narrative structure spans a relatively short period in history, Voices incorporate testimonies that go far beyond the narrative timeline of Chernobyl. In turn, this enables Voices a more nuanced depiction of the forms of slow violence that followed – and continues to follow – in the wake of the disaster:

“We came home. I took off all the clothes that I’d worn there and threw them down the trash chute. I gave my cap to my little son. He really wanted it. And he wore it all the time. Two years later they gave him a diagnosis: tumor in his brain... You can write the rest of this yourself. I don’t want to talk anymore” (Alexievich 1997, 73-74).

In contrast to the more or less immediate bodily transfigurations that viewers see in Chernobyl, readers of Voices learn how the trans-corporeal forces can exert a slow violence that, as Nixon (2011) writes, is “dispersed across time and space, an attritional violence that is typically not viewed as violence at all” (2).

From an ecocritical perspective, the fact that literary and audio-visual media can render the immediate and long-term consequences of trans-corporeality visible is not irrelevant because it means that media products such as Chernobyl and Voices are capable of performing what Alaimo describes as an “insurgent vulnerability” (2009, 26). This concept refers to a “recognition of our material interconnection with the wider environment that impels ethical and political responses” (2009: 26). Though Alaimo develops the notion as part of her feminist argument for the subversive potential of naked climate activists, I think that it may feasibly be applied to the trans-corporeal transformations depicted in Chernobyl and
described in *Voices*. The difference, however, is that, instead of it being the naked body of the female climate activist that signifies the material vulnerability of the human body, it is here the bodies of firefighters, miners, and citizens that turn porous – depictions that invite viewers and readers to become apprehensive of the unintentional consequences of techno-scientific advancement, exemplified here by widespread radioactive fallout. By providing viewers and readers with grotesque visions of our “openness to the world in which we are immersed” (Alaimo 2009: 23), *Chernobyl* and *Voices* thus illustrate how the aesthetic production of atmosphere can take on a critical bend.

### 3.3 Dehumanization

Above, I have shown that both *Chernobyl* and *Voices* effectively portray the vulnerability associated with exposure to atmospheres that are toxic and contaminated. However, this bodily vulnerability, which the atmospheres in the two works serve to underscore, is only one side of the story that both texts tell. For even if the ontological reality of trans-corporeality above all stresses the interconnectedness of humans, animals, and the environment, the atmospheres in *Chernobyl* and *Voices* also involve various types of social and mental distancing. The invasive power of the invisible specter, in other words, results not only in a heightened awareness of our interconnectedness, it paradoxically also results in measures of separation and containment.

When comparing the two media products’ engagements with the lived consequences of radiation exposure, *Voices* differs markedly from *Chernobyl* by the fact that it provides readers with extensive first-person testimonies about the experiences victims of radiation go through. Whereas the viewers of *Chernobyl* need to infer this experience by looking at the characters ‘from the outside’, as it were, the readers of *Voices* learn about these experiences directly through their description of it. This shift from surface to interiority becomes especially tangible if one compares the two versions of the story of Lyudmilla Ignatenko. In the series, this sub-plot mostly centers on the passionate love shared by Lyudmilla and Vasily as well as the ordeals Lyudmilla go through to be with her husband. In *Voices*, however, Lyudmilla’s testimony includes descriptions of her animosity toward the dehumanizing gaze of scientists and doctors:

> When I was there with him, they wouldn’t, but when I left – they photographed him. Without any clothes. Naked. [...] For science, they said. I’d have pushed them all out of there! I’d have yelled! And hit them! How dare they? It’s all mine – it’s my love – if only I’d been able to keep them out of there [...] I tell the nurse on duty: He’s dying.” And she says to me: “What did you expect? He got 1,600 roentgen. Four hundred is a lethal dose. You’re sitting next to a nuclear reactor” (Alexievich 1997, 17).
Though the act of photographing a living human body, capturing its lethal disfigurations in still images, might arguably be the ultimate act of dehumanization, this process of dehumanizing can also be traced in more subtle ways. For instance, it is also apparent in the language used, such as when doctors use dehumanizing metaphors (“nuclear reactor”) to describe Vasily or when Lyudmilla herself refers to her dying husband using the third person pronoun ‘it’ as opposed to ‘he’, highlighting a perceptual blurring of Vasily as a body and a human. In the most literal sense, *Voices* thus provides a voice to the victims of the disaster, by enabling them to describe it in their own words. Importantly, I am not arguing that the viewers of *Chernobyl* cannot infer this from Lyudmilla’s (Jessie Buckley’s) physical display of distress in the series.

![Figure 3. Lyudmilla contemplating Vasily’s disintegrating body, Chernobyl, 2019.](image)

My point is rather that the book makes strategic use of the first-person oral accounts to make this experience particularly visceral and specific. Whereas the visual iconicity of *Chernobyl* affords the series a detailed portrayal of the bodily consequences of trans-corporeal disintegration, the symbolic modality of *Voices* affords the book a detailed representation of the experiences that subjects had with these transformations.

The stylistic choice to incorporate a multiplicity of voices marks another key difference between the two texts’ mediation of the experience of dehumanization. Whereas *Chernobyl* provides viewers with the perspective of a few main characters, *Voices* presents its readers with a much more diverse group of subjects that provide different testimonies, in different
tenses, about different topics and opinions related to the disaster. As a reader, you are asked to navigate through these sometimes contrasting – or at the very least divergent – accounts of what it was like to live through the catastrophe. By doing this, *Voices* creates a space of contemplation that invite readers to reflect on the ethical significance of the many individual experiences, descriptions, and judgments that the voices make. To use the words of Bakhtin, Svetlana’s *Voices* can be described as “polyphonic” precisely because it highlights “what happens between various consciousnesses, that is, their interaction and interdependence” (1984: 36). For instance, in *Chernobyl*, viewers are invited to sympathize with the devastated Lyudmilla as she watches her husband being buried in a lead coffin and covered with concrete to contain the radiation emitted by his corpse. In *Voices*, the account of the widow is put into dialogue with the voices of the soldiers themselves, who the readers learn felt “lonely. We’re strangers here. They even bury us separately, not like they do other people. It’s like we’re aliens from outer space [...] I’d have been better off dying in Afghanistan [...] In Afghanistan death was a normal thing” (Alexievich 1997, 83). Instead of anger, remorse, and powerlessness, as was the case with Lyudmilla, the experience of dehumanization in *Voices* also reflects an affective amalgam of solitude, estrangement, and frustration about not being able to make sense of one’s situation.

This sense of estrangement is developed further in other testimonies, which highlight how the sudden necessity of thinking in terms of containment contradicted the sense of community that its subjects associated with the Soviet Union:

> Chernobyl happened, and suddenly you got this new feeling, we weren’t used to it, that everyone has his separate life. Until then no one needed this life. But now you had to think: what are you eating, what are you feeding your kids? What’s dangerous, what isn’t? Should you move to another place, or should you stay? [...] We were Soviet people, we were collectivized [...] Then we changed. Everything changed (Alexievich 1997, 170).

In contrast to *Chernobyl*, *Voices* gives readers a sense that the forces released at Chernobyl shattered not only cellular structures but also the affective structures of community, which had hitherto given the Soviet people a sense of collective identity. In the same vein, a historian explains at one point: “Chernobyl is the catastrophe of the Russian mind-set [...] it wasn’t just the reactor that exploded, but an entire system of values” (Alexievich 1997, 175). “The world has been split in two: there’s us, the Chernobylites, and then there’s you, the others. Have you noticed? As if this is a separate people. A new nation” (Alexievich 1997, 126). Although Chernobyl marked, as Heise argues, “a truly transnational risk scenario” (2008, 179), what *Voices* reveals is in a sense the exact opposite: From the perspective of those close to the disaster, it was increasing division between nation-states that characterized the perception of the transnational. As such, the experiences of alienation, dehumanization,
estrangement, and solitude unfold throughout the book on multiple scales, between different actors, and across different periods of time, ranging from the intimate relations between previous neighbors to felt separations between the international community and the countries most heavily affected by the accident.

Whereas the affordance of the audio-visual mediation of Chernobyl thus consists in its striking visuals of the material consequences of trans-corporeality—of an intrusive man-made substance that seeps into the skin, causing it to disintegrate in dreadful ways—the affordance of the literary polyphony is that readers are granted access to an array of extensive personalized accounts about what it feels like to be treated by society as a radiation victim. In both cases, however, Voices and Chernobyl portray the processes by which individuals are no longer considered purely human, but as haunted by radioactive particles that both literally and figuratively rob them of their human status.

4. Conclusion

In this article, I have shown that, by examining two different mediations of nuclear disaster through the prism of spectral toxicity, both readers and viewers can become attentive to a world of nonhuman forces that move beyond their sensory experience, in and through bodies, and with (deadly) consequences that exceed human comprehension. Bringing together the spectral, the trans-corporeal, and the process of dehumanization, these works mobilize atmospheres that, in their own way, are capable of rendering the ephemeral force of radiation tangible. Chernobyl mobilizes an affective atmosphere in which the presence of radiation registers as intensity and where bodies—both human and nonhuman—become infested with radioactive contamination, assaulting the viewer’s sensory apparatus with intensifying Geiger counters and explicit images of corporeal decay that evoke dread and disgust. By contrast, Voices constructs a rich polyphony that provides insight into the rhythms of the more-than-human environment and encapsulates the dehumanizing experience of trans-corporeality on multiple scales, inviting the reader to reflect on the ethical complexity of the many individual perspectives that the book includes. Common to both, however, is that neither simply gives an account of what happened during and after the explosion. Rather, Chernobyl and Voices envelop their viewers and readers within the haunting experience of what it feels like—or rather, felt like—to be there, at Chernobyl, in 1986. What both stories teach their viewers and readers is that even though one cannot see, touch, or smell the forces of radiation these forces are still present and performative in a variety of ways, often to the detriment of human beings and the more-than-human world alike.

In my analysis, I have provided an example of how an intermedial approach to environmental narratives can explore how affective encounters with constructions of the
more-than-human world can be subject to significant experiential changes when examined across media borders. However, there are several other avenues that would be relevant for intermedial ecocritics to explore further. A comparative approach to environmental narratives might also attempt to historicize eco-media works in ways that can elucidate the epistemological ruptures and continuities that govern our perception of environmental risk. As Patricia Levy writes in *Iconic Events: Media, Politics, and Power in Retelling History* (2007), “Films do not recount the ‘truth’ of the past, but rather present a version of the truth that is bound to the time and place in which it was produced” (150). Consequently, the task of “the adaptation critic”, as Glenn Jellenik argues, is “to explore the ways twice-told tales translate not merely their sources but also aspects of the sociocultural moments that produce and consume them” (2017, 40). In the context of *Voices* and *Chernobyl*, one might thus draw attention to how the two texts, as historical artefacts, reflect different attitudes toward (and experiences of) risk. Watching *Chernobyl*, in my case, soon brought to mind the present dangers of climate change and global pandemics – not to mention the risks associated with fake news and post-truth discourse. *Chernobyl* thus exhibited a distinct example of what Julia Leyda (2016) has termed “the climate unconscious”, which refers to the “structures of feeling” (Williams 1997) that permeate texts which are not on the surface about climate change, but which nevertheless reflect many of the cultural anxieties around environmental change. The same, however, seems less applicable to the subjects of Alexievich’s interviews, for whom it is very clear that the phenomenon of nuclear disaster represents the arrival of a new paradigm of manmade crisis and risk. At the time *Voices* was written, the Chernobyl incident marked an unprecedented event in human history and this historically unique structure of feeling can be traced throughout the book, as the voices continuously draw parallels to military conflict, yet lament how this comparison always falls short for making sense of what had happened to them: “War you can undertand, but this? People fell silent” (Alexievich 1997, 145). Following Heise, Garrard, and Beck, one might thus suggest that *Voices* and *Chernobyl*, as historical texts, mark a transition from the early era of risk society to its later, more developed stages in which “societies and their foundations are shaken by the global anticipation of global catastrophes” (293). In this way, further studies within the intersection of ecocriticism and intermedial studies might approach the phenomenon of transmediation as a reflection of the diachronic changes in the structures of feeling that permeate particular societies and cultures at particular points in history.

Regardless of how the practice of intermedial ecocriticism develops, it remains a fact that the process of mediation and medial mixing is all around us. And if these processes are in fact necessary, as I believe they are, for cultivating a response-ability for the socio-ecological crises the world currently faces, further exploration of how different media products interweave and move us will indeed be essential.
End Notes

1. Henceforth, *Voices*.
2. I deliberately employ the term “more-than-human” here to avoid the dualistic and anthropocentric connotations commonly tied to terms such as ‘nature’ or ‘the natural world’.
3. Apart from my interest in the two media products in question, my choice to circumvent the concept of the Anthropocene in favor of the more specific notion of spectral toxicity is in part based on a concern that the concept of the Anthropocene might be fraught with an ambiguity that complicates its study as an object of transmediation. For Salmose (2019), for instance, the Anthropocene is (nothing less than) “a critical discourse about media content involving science, narrative, emotions, activism, fiction, dystopia, time philosophy and religion that occurs within different media forms” (257). For Tornborg (2019), the Anthropocene is “not solely a natural scientific notion but a political, cultural, philosophical and economical concept” (235) that is “presented to us via news media, documentaries and popular science magazines, as well as via academic science journals” (236). For Bruhn (2019), the Anthropocene is “a temporal concept often related to doom, distress and lack of future” (217) as well as a “hypothesis” (219). Though such an assemblage of interpretations does testify to the heuristic potential of the concept of the Anthropocene – let alone the diffuse nature of its reality – I cannot help but wonder whether the width and flexibility of the concept might also invite the risk that it becomes too ambiguous or all-encompassing.
4. Though Morton’s hyberobject and Nixon’s slow violence share many of the same concerns, Nixon is arguably more optimistic than Morton, as the former argues that slow violence may in fact be rendered visible through representation (in Nixon’s case: imaginative writing), whereas the latter argues that hyberobjects are *a priori* incomprehensible. In part, this difference in outlook is a result of how the two writers conceptualize and define their respective concepts. It is beyond the scope this paper to pursue these in detail, however, it is worth noting that both writers describe similar phenomena such as climate change and global warming using both terms (Nixon 2011: 2; Morton 2013: 15).
5. It is worth noting that I do not consider this change in perspective as reflective of two categorically distinct approaches to transmediation. In my view, any study of representation is by definition also a study in experience, as some form of viewer or reader subject is inevitably always assumed, however the degree to which this is made explicit in the analysis varies depending on the focus of the study. In the cluster by Salmose, Bruhn, and Tornborg, for instance, the focus is mainly placed on *what* is being transmediated as well as *how* (Salmose 2019: 266; Bruhn 2019: 217-218; Tornborg 2019: 235) and less on the consequences that these transformations have in terms of the particular aesthetic experience of the hypothetical viewer and reader.
6. In focusing on what happens to potential viewers’ and readers’ experiences, it is of course important to highlight that the consumption of media products never takes places in vacuum. Every viewer’s and reader’s experience of *Chernobyl* and *Voices* will always already be situated – both culturally, historically, socially, and materially – meaning that it will inevitably differ from those of other viewers and readers. The following intermedial
analysis of spectral toxicity is therefore not intended as a representative account of how all viewers and readers can be expected to experience the two media products. Rather, the intention is simply to explore how experiences of the same phenomenon – here that of spectral toxicity – change when it unfolds across different modalities, taking my own particular experience as a point of departure.

7. I use the term mini-series instead of TV-series to emphasize that Chernobyl represents a series with a limited number of episodes. Moreover, the term ‘web-series’ might also describe Chernobyl as the series was released exclusively on the streaming platforms HBO and SKY. I acknowledge that such changes in both the technical media of display from television to web-based streaming and from an open-ended to a predetermined series have implications for viewers’ experience, but it is beyond the scope of the present paper to pursue this topic in detail.

8. By modality, I here refer to Elleström’s (2010) four modal dimensions, which characterizes any media expression: the material, sensorial, spatiotemporal, and semiotic.

9. I take Stam’s concept of material of expression as largely synonymous with Elleström’s concept of “semiotic modality” (Elleström 2014, 38–39) which refers to the semiotic structures that allow a given media product to generate meaning.

10. By describing the atmospheres in Chernobyl and Voices as a form of spectral toxicity, I inevitably draw inspiration from some of the pre-existing scholarship that has already been done on the notion of spectrality as well as related post-structuralist concepts such as hauntology, however it is beyond the scope of this paper to account for this field in its entirety (see, e.g. Derrida 1993, Blanco & Peeren 2013).

11. Although Patricia Levy (2007) writes in the context of films, the same, I would add, can feasibly be said about literature.

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Spectral Toxicity: Atmospheres of Radiation in HBO’s Chernobyl and Svetlana Alexievich’s Voices of Chernobyl


