

# POLAR CONTAGION

## Ecogothic Anxiety across Media in the Twenty-First Century

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**Abstract** – Concerns about climate change have seen increased attention across virtually all media after 2000. In addition to raising ecological awareness, these concerns have inspired numerous gothic fictions, in which the polar thaw consequent on global warming becomes a source of paranoia, fear and horror. This article explores a specific group of twenty-first-century cultural products that associate polar melting with epidemics triggered by pathogens or infectious insects released after lying dormant in the ice. Often called “zombie” viruses or bacteria, these pathogens appear in a wide range of fictions as well as in sensational articles that use gothic paraphernalia to describe the spread of terrible diseases. Like spectres, these agents of contagion return from the past to haunt the present; they also cast a dark shadow upon the future, as they become the invisible protagonists of “dystopian ecological visions” in which humankind and other species are at risk of annihilation. Four types of products are analysed to demonstrate that they convey similar anxieties by combining images of environmental disaster with pandemics. Different though they are in genre and medium, novels like *Thaw’s Hammer* (2010), films like *The Thaw* (2009) and TV series like *Fortitude* (2015-18) not only interrogate the epistemological limits of science; they also shed light onto dangerous socioeconomic dynamics while posing ethical dilemmas about the human meddling with nature. Mostly produced before the spread of coronavirus, these fictions are made more appealing by the current pandemic, which has encouraged speculation over new potential sources of contagion. Their appeal is confirmed by the 2020 proliferation of newspaper/magazine articles focusing on “zombie” pathogens. By merging objectivity with sensationalism, these articles turn pathogens into spectral agents that seek revenge for human crimes against nature.

**Keywords:** contagion; cross-mediality; ecocriticism; global warming; Gothic.

### 1. Polar Gothic: An introduction

Concerns about climate change have seen increased attention across virtually all media after 2000. The risks of global warming have become objects of heated debate in many fields of knowledge and cultural contexts, as evidenced by the popularity of the term “Anthropocene”, increasingly used to define the negative effects of human activities on the environment.<sup>1</sup> While in the previous centuries industrialized cities were the main targets of ecocriticism, the twenty-first century has laid stress on the poles of the planet as the areas impacted most by anthropogenic contamination. Although they are not the *sources* of ecological problems, the poles (the North as well as the South) are the sites

<sup>1</sup> First suggested by Paul J. Crutzen and Eugene F. Stoermer in 2000, “the notion that through human activity our planet has entered a new geological epoch [...] has found widespread acceptance”, encouraging the idea that “this newly acquired status” “necessitates a reimagining of the relationship between nature and culture, between individual and collective action, and between ‘biological’ or short-time frames and so-called ‘deep time’, at the same time as the global environmental and climatic changes confront humans and other species with entirely new forms of risk” (Henning *et al.* 2018, p. 11). On this topic, see also Schwägerl (2014).

where these problems manifest themselves most dramatically, the *victims* of a pollution generated by human greed and arrogance. Pictures of thawing ice, disoriented penguins and starving polar bears proliferate in the media, encouraging us to view the Ant/Arctic regions as personifications of an offended nature, ready to take revenge on human beings and, eventually, contribute to mankind's extinction.

The more widely images of glacial melting circulate in today's popular culture, the stronger their gothic connotations become. A growing source of paranoia, fear and horror, these images convey dark undercurrents to dominant discourses of progress, configuring "the melting ice as a sign of hubris and warped technology" and thereby posing a threat that "has now gone global" (Lanone 2013, p. 42).<sup>2</sup> The nature of this threat has significantly changed over the last three centuries. If nineteenth-century literature tended to represent both poles as regions shrouded in mystery – regions of natural portents and supernaturalism, mystery and psychological enigmas, as evidenced, among others, by S. T. Coleridge's *The Rime of the Ancient Mariner* (1798), Mary Shelley's *Frankenstein* (1818), E. A. Poe's *The Narrative of Arthur Gordon Pym of Nantucket* (1838) and Jules Verne's *The Adventures of Captain Hatteras* (1864-65)<sup>3</sup> – their later explorations and charting ratiocinated these mysteries, mollifying the preternatural abjection of these inhospitable regions. In the course of the twentieth century, fewer fictions were set at the Ant/Arctic which, when chosen as locations, were generally associated with fears and horrors coming from elsewhere. The 1951 film *The Thing from Another World* bears witness to this tendency. Chosen for its remoteness, which creates thrilling effects of entrapment and persecution, the Arctic landscape of the film is not haunted by endemic monsters but is rather connoted as an outpost of civilization attacked by an extraterrestrial creature trapped in the ice and accidentally defrosted.<sup>4</sup>

A further change in the popular imagination occurred in the late twentieth century, when the poles came to embody new preoccupations over the environment and human survival. The alarm sounded by NASA scientist James Hansen in front of the US Congress in 1988 set the ground for several warnings over global warming issued by the scientific community, which have over the years failed to stir significant political action (Milman 2018). One result of this failure is the wide circulation of information and shock images of polar melting in today's media. Employed by climate scientists and activists initially to shock and then to create awareness and to urge immediate action, these data and images have become a staple of ecological discourses, which revolve around the dreary effects of permafrost thawing.

By fluidifying what should be solid and permanent, the thawing process upsets the natural state of matter and generates gripping fears of disintegration. These fears are effectively expressed by the Gothic which, traditionally associated with excess and transgression (see Botting 1996, pp. 1-6 ff), challenges secure boundaries and categories, articulates multiple anxieties and pivots around the uncanny that defamiliarizes. Besides

<sup>2</sup> Though applied to specific novels by Margaret Atwood, William Vollman and Dan Simmons, which offer ecogothic revisitations of Victorian Arctic explorations, this description well applies to other representations of the poles as gothic settings affected by the disastrous effects of human activities.

<sup>3</sup> For a reading of these and other pre-Victorian and Victorian texts, see Costantini 2006.

<sup>4</sup> This tendency is still evident in the early 1990s. An episode of *X-Files* titled "Ice" (Season 1, Episode 8, 1993) alludes to the possible extraterrestrial origins of an ancient micro-organism – a kind of worm – which infects an Arctic research team who are drilling deep in the ice core. Even though it is released from the ice by human activities, the worm is assumed to have come from elsewhere and the contagion it spreads is unrelated to polar melting. I am grateful to Ardel Thomas and Luke Chwala for drawing my attention to this episode.

resurrecting the monsters on the ice featured in old stories of Ant/Arctic exploration (Lanone 2013), today's culture has adopted a wide range of gothic paraphernalia to represent the consequences of global warming which, in addition to destroying polar habitats, risks affecting the entire planet, posing, as a result, a serious threat to human certainties and survival. One growing motif in the media is that of sickness. In ways similar to a *contagion* spreading all around, the rising sea levels resulting from the melting ice reach and 'infect' remote lands, provoking floods that, like the polar bears stranded on floating icebergs, doom people to die. The etiology metaphor also appears in numerous slogans about the "sick planet earth" used by influential public figures hoping to raise ecological awareness (see Donnelly 2015).

This article explores a recent cultural phenomenon generated by intertwining discourses of pathology and ecocriticism: the troping of the poles as both victims and sources of contagion. In particular, I examine a group of twenty-first-century cultural products that associate polar thaw with epidemics triggered by pathogens released after lying dormant in the ice and the permafrost. Often called "zombie" viruses or bacteria (see Harvey 2020), these germs appear in a wide range of fictions as well as in sensational articles that describe or presage the proliferation of terrible diseases. Their gothic conceptualization is a recent development in the approach to pandemics established in the first half of the nineteenth century, when cholera outbreaks, supposedly coming from Asia, reached Europe. As evidenced by medical and literary sources of the time, gothic paraphernalia were largely used to narrate global health issues. In addition to highlighting the scary traits of cholera marking the victims' bodies, the Gothic gave voice to fears of transnational contagion, suggesting the porosity of boundaries which, until then, had been thought to safeguard the Orient from the Occident, the familiar from the strange, the pure from the impure (Altschuler 2017). Even more, the development of cholera epidemiology showed that "poverty and pollution predisposed populations to health issues" (Altschuler 2017, p. 563), thereby establishing a frightful link between contagion mechanisms and environmental problems.

Today's fears of "zombie" microbes betray a similar combination of phobias and worries. Like spectres returning from the past or foreign demons coming from afar, these gothic pathogens belong to a primitive world that emerges from the ice to haunt the present; and they cast a dark shadow upon the future by becoming the invisible protagonists of "dystopian ecological visions" (Smith, Hughes 2013, p. 4) in which mankind or other species face extinction. Besides embodying a sense of collective guilt, these pathogens express human fears of nature's retribution against its polluters, whose scientific advancement is baffled by the revival of primaeval, unknown and uncontrollable forces.

My analysis of four types of products released in the last twelve years – newspaper articles, novels, films and TV series – aims to show that they convey similar anxieties by combining images of environmental disaster with contagion. Different though they are in genre and medium, novels like *Thaw's Hammer* (2016), films like *The Thaw* (2009) and TV series like *Fortitude* (2015-18) not only interrogate the epistemological limits of science; they also shed light on dangerous socioeconomic dynamics like the industrial and transport use of fossil fuels, while posing ethical dilemmas about humans meddling with nature. Mostly produced before 2019, these fictions were made more appealing by the outbreak of the coronavirus pandemic, which encouraged speculation over new potential sources of contagion. This appeal is confirmed by the 2020 proliferation of newspaper/magazine articles on polar "zombie" pathogens. Fostered by discoveries discussed in the press in previous years, these articles merge objectivity with

sensationalism, turning pathogens into spectral agents that seek revenge for human crimes against nature.

## 2. “Zombie” microbes: Anxieties of contagion in the periodical press

My selection of five articles written between April and July 2020 bears evidence of the above-mentioned phenomenon. Published in different periodicals – from *The Independent* to widely read magazines like *Newsweek* and *The New Republic (TNR)*, to more specialized publications like *E&E News* (released by the independent Environment and Energy Publishing) and the non-profit magazine *The Narwhal* – these articles use common rhetorical strategies to create sensation around the possible resuscitation of hibernated pathogens which, from the poles, might spread all over the planet with lethal effects. As pieces of committed journalism, all the articles clarify that the prospect of an epidemic triggered by primitive micro-organisms buried in the ice is, indeed, remote. Yet, while rationally denied, this ghastly probability is evoked through innuendos, reinforced in turn by contemporaneous preoccupations with the coronavirus pandemic.

The earliest written article of my selection, “The Next Pandemic Could Be Hiding in the Arctic Permafrost”, raises the reader’s anxieties from the very beginning by evoking two real events of contagion: the recent coronavirus outbreak, which had been officially upgraded to a pandemic a few weeks before the article’s publication, and an infection of anthrax occurred in Siberia in 2016. “Global warming could unearth ancient microbes. Will we be as unprepared as we were for the coronavirus?”, we read in the subhead, before being informed of the anthrax outbreak that killed one boy and hospitalized 115 Nenets people in the summer of 2016 (Schreiber 2020). Though limited in space and lethality, the latter outbreak is overtly linked to the thawing permafrost, as the “deadly bacteria”, preserved in “a reindeer carcass buried and frozen in 1941” and defrosted through global warming, “were picked up by thousands of migratory reindeer” and “passed [...] along to the nomadic Nenets peoples” (Schreiber 2020). By juxtaposing two different pathologies in the subhead and the first paragraph – coronavirus and anthrax – the author draws upon anxieties that circulate widely in her milieu. This link is reinforced and widened in its implications in the second paragraph, which explicitly uses contagion metaphors to inflame ecocritical worries about polar melting:

The current coronavirus pandemic, despite likely originating with an animal-to-human crossover far from the Arctic Circle, has come at a particularly weighty moment for infectious disease. As the Arctic warms twice as fast as the rest of the world, its ground is starting to thaw. With that thaw, bacteria and viruses once buried in the permafrost could increasingly emerge from a long hibernation. At the same time, the Arctic is seeing more traffic than ever, with sea routes opening up and natural resource exploitation growing in the region. As microbes begin reemerging, they have more opportunities than ever to encounter people and animals. (Schreiber 2020)<sup>5</sup>

In subsequent paragraphs, the article mentions a few cases of limited risk and draws on scientific knowledge to narrow the range of known microbes capable of surviving in hostile environments. Yet, the wavering between objectivity and speculation is still

<sup>5</sup> The author’s ecological worries are confirmed in the closing paragraph, where the threat posed by many southern diseases [...] advancing northward” is described as one of the consequences of “a warming world”.

evident in a passage like the following, which intimates that “other unknown viruses and bacteria could potentially spread to humans after being preserved for hundreds or even thousands of years within Arctic ice” (Schreiber 2020).

In April 2020, other periodicals associated infectious diseases with global warming. This link is visible, for example, in two articles appeared in *The Narwhal* and *E&E News* between the 10<sup>th</sup> and the 14<sup>th</sup> of April, which use similar information and rhetorical strategies as the *TNR* piece discussed above. Both published in magazines specialized in environmental themes, these articles report scientific opinions to play down future risks of pandemics coming from the permafrost while, at the same time, evoking spectral images of contagion with eye-catching headlines and speculative sentences. “Will the Next Great Pandemic Come from the Permafrost?” announces the article appeared in *The Narwhal*, before referring to “‘zombie’ viruses and microbes” in its subhead (Thomson 2020). The text of the article counterbalances this sensationalism by mentioning well-known cases of dormant microbes that did not prove too dangerous – including the 2016 anthrax infection and the discovery of a gigantic but innocuous virus, also mentioned in the *TNR* article. The author reports scientists’ comments about the improbability of “a disease as contagious and deadly as COVID-19 coming out of the permafrost”; yet, these reassurances are interspersed by experts’ conjectures about still unknown sources of contagion that might emerge from the permafrost, such as the view held by a Belgian research team of polar ice as “a gigantic reservoir of ancient microbes or viruses” (Thomson 2020).

Similarly, the article appeared in *E&E News* invokes the Gothic mode with its thrilling headline “‘Zombie’ Viruses: Can They Escape the Thawing Arctic?” (Harvey 2020) which, instead of questioning the existence of “zombie” pathogens, only raises doubts upon their ability to “escape” the polar ice and circulate worldwide. The prospect of contagion is made scarier by the article’s references to the coronavirus pandemic as well as to “the 1918 influenza outbreak, which killed at least 50 million people worldwide” – a terrible episode in the history of medicine that is visually evoked by a black-and-white photo of an “influenza ward at a U.S. Army field hospital in 1918”<sup>6</sup> (Harvey 2020). The disquiet generated by these sensational devices is only partly dispelled by the article’s references to scientific scepticism about future pandemics coming from the poles. Defined as “a red herring”, the 2016 anthrax case is said to prove the localized occurrence of occasional epidemics, which are unlikely to spread worldwide. In the closing section, however, litotes and negations are used to raise fresh preoccupations, as the author suggests that “epidemics driven by Arctic climate change are not impossible”, though “probably not especially likely” (Harvey 2020).

A similar approach is found in an article that appeared two months later in *Newsweek*, “Melting Glaciers and Thawing Permafrost Could Release Ancient Viruses Locked Away for Thousands of Years” (McCall 2020), which, despite its rather unexciting headline, offers a crossover of discourses that create electrifying effects. A nobrow text (Seabrook 2000) that appeals to a variegated readership, the article deftly combines scientific cases and opinions with sensational elements. Facts and expertise are mentioned throughout the text, such as the details on ongoing researches, scientific explanations – “The virus’ impressive longevity stems from the fact that technically, they are not living things” –, geo-ecological data and hints at experts’ opinions – “Many

<sup>6</sup> Published under the headline, the photo attaches a bleaker connotation to the influenza by associating it with the destructiveness of World War I.

scientists would say fears over ancient or historic diseases are overblown” (McCall 2020).<sup>7</sup> This factual information, however, is combined with a gloomy reference to a research conducted by Kreuder Johnson and Tracey Goldstein, a new addition in comparison with the April articles examined above. Focused on “a potentially deadly infectious disease that targets seals and other marine mammals”, the research acquires gothic connotations, as it calls to mind the spectre of a contagion affecting humans, who belong to the same class of vertebrates<sup>8</sup> (McCall 2020). In the three paragraphs following the reference to Johnson and Goldstein’s work, the author astutely intimates the possibility of an animal-to-human crossover by using expressions of doubt and potentiality, such as “sparse and hypothetical”, “nobody knows how to estimate the probability”, and “it is, in principle, a possibility” (McCall 2020).

Two months later, an article published in the *Independent* (Cockburn 2020) established an even stronger link between polar melt and contagion. Anticipated in the headline, this link is confirmed in a paragraph that dramatically announces the emergence of “a startling new risk [that] could also be unleashed upon the world – one which binds together both the implications of an overheating planet and the tragedy of a highly contagious disease” (Cockburn 2020). The language of melodrama evoked by words like “startling” and “tragedy” is intensified by reports of experts’ opinions which, instead of suggesting caution, seem to corroborate the blood-curling prospect of pathogens waiting to reactivate and assail mankind:

Scientists have said the rapidly warming climate in the far north risks exposing long-dormant viruses, which may be tens or even hundreds of thousands of years old, and have been frozen in the permafrost in the Arctic.

If [the viruses] come into contact with a proper host then they will reactivate. (Cockburn 2020)

As these articles demonstrate, the obsession with “zombie” pathogens was reinforced by the 2020 outbreak of coronavirus, which attached more ominous connotations than earlier concerns about public health and the climate voiced in the periodical press. During the 2010s, a growing number of articles had addressed these concerns by using pathological metaphors that combined ecological with biomedical preoccupations. Suffice it to consider the headline of a 2018 piece published on the website of NPR (National Popular Radio) – “Are There Zombie Viruses in the Thawing Permafrost?” – whose zombie-virus trope establishes a scary link between a sick planet and dormant microbes<sup>9</sup> (Cockburn 2020).

<sup>7</sup> Whereas the other articles lay more stress on the Arctic, McCall’s provides information also about disastrous ice thawing at the Antarctic.

<sup>8</sup> It is worth noticing that the threat posed by a virus attacking marine mammals is also at the core of Allen Edel’s *Thaw’s Hammer*, a hybrid novel that draws largely upon scientific studies.

<sup>9</sup> The article deals with a case of supposed bacterial disease suffered by Zac Peterson, an amateur archaeologist, during an expedition to Alaska. Probably contracted from mummified seals, the disease is successfully treated with antibiotics but not fully explained by experts (“The doctors never tested Peterson’s infection to see if it really was seal finger”). The vagueness of the diagnosis, which turns Peterson into the potential “first victim of ‘zombie bacteria’ rising from Alaska’s thawing permafrost”, contributes to sensationalizing the case, adding more suspense to the unsolved question in the headline (Cockburn 2020).



### 3. Epidemic fears across media: A new subgenre

#### 3.1 A filmic eco-horror: *The Thaw*

Widely debated in the press, these anxieties were also articulated in popular gothic fictions that, in the same period, were published or released in different media. All set in polar regions, these cultural products pivot around dark fears of contagion generated by the impact of anthropogenic contamination over nature and the latter's figurative striking back. After examining a 2009 film and a TV series, I will focus on a 2016 novel centred on the terrible consequences of the "thaw", which evidences the persistence of biomedical and ecological concerns rendered through powerful images of contagion. Another element shared by these products is the popular audience they target – an audience craving for strong sensations, deftly created by blending scientific details with a range of gothic paraphernalia.

An American sci-fi horror thriller directed by Mark A. Lewis, *The Thaw* was released in 2009. Its response to two major concerns of the time – "Swine Flu scares running across the US and an almost 'too trendy for its own good' focus on Global Warming and being green" (Reifschneider n.d.) – is evident in its dramatic representation of a pandemic generated by glacial thawing at the Canadian Arctic, which releases lethal prehistoric bugs. The scary insects, hibernated within a woolly mammoth that emerges when the permafrost melts, use live mammals (a bear and some humans) as hosts for their eggs and food for the larvae. The threat is discovered by three research scientists working at an isolated station led by Dr David Kruipen and, shortly afterwards, by three students sent to the station for training, accompanied by Kruipen's daughter Evelyn and helicopter pilot Bart. Most of the protagonists – with the exception of Evelyn and a student, Atom – are infected by the bugs. The horror of contagion is highlighted by the graphic images of their bodies devoured by the bugs, as well as by a gory scene in which Atom amputates Bart's lower arm in the vain attempt to save his life.

Unable to stop the infection once a bug has penetrated their flesh,<sup>10</sup> the protagonists have to face an ethical dilemma: sacrificing their lives in order to stop the contagion. The drive to self-preservation felt by some is counterbalanced by the sense of responsibility from others, who are ready to die to save mankind. The violent actions committed for opposing reasons by Jane and Federico, respectively a researcher and a student, expose the human capability to commit brutalities in stressful circumstances, when the border between ethicality and self-preservation is tragically blurred. If Jane destroys people to protect the world from contagion, Federico falls prey to his bug phobia and forgets his moral duties as would-be-scientist in the vain hope to save himself.

The situation becomes more disorienting with Kruipen's sudden reappearance on the scene in the final part of the film. Supposedly killed by Jane at the camp station, the scientist arrives at the bug-ridden base station to enact a secret plan: reaching highly populated areas and acting as infection-spreader. Cruel and irrational though it may seem, his plan aspires to a high objective: that of showing the terrible consequences of global warming and convincing the world to stop it before it is too late. As Kruiper announces in a video showing how he deliberately infected himself, the parasites he discovered are "just one of the horrors that will come from global warming". He consequently prepared

<sup>10</sup> This idea is dramatically rendered by the image of Atom extracting and killing a bug that has half-penetrated Evelyn's flesh, thereby saving her life before the insect disappears into her body (*The Thaw* 2009, min 1:07:14-1:07:21).

himself for “the ultimate sacrifice, the only sacrifice”, which will kill many (“though thousands will die the threat will surely be contained”) but, he hopes, will also stir consciousness, convincing people – and especially the younger generations – to act immediately (*The Thaw* 2009, min 1:17:18-1:18:35).

This final twist, which adds to the film’s sensationalism, raises the question of scientists’ responsibility in the face of climate change – a problem that most people, including politicians, prefer not to tackle. Even though Kruipe is stopped in time, killed by his own daughter, the ‘mad’ plan he has hatched proves prophetic. The film closes with a dystopian anticipation of global-warming horrors coming true in the coda set at a pond, in which a fisherman’s dog eats a bug-infected bird. The prospect of an imminent outbreak of the infection attaches a new meaning to some clips shown during the film’s opening credits. Here a woman commentator gives news about infected people and riots caused by the contagion (*The Thaw* 2009, min 3:27-3:40). If viewed retrospectively, the initial clips appear as ominous flashforwards of the catastrophe Kruipe strove to prevent through an “ultimate sacrifice” meant to raise ecological awareness.

Highlighted by the film’s anachronic structure and by a variety of horror special effects, including the abject appearance of the bugs<sup>11</sup> and their disturbing screeches, the ecocritical message of *The Thaw* makes a strong impression upon the audience. This impression is evidenced by what a climate-change sceptic writes in a review of the film, after lamenting that “the subtext or theme” beats “the audience to death”: “I guess a majority of my complaining is due to the fact that I don’t think there is such a thing as Global Warming [...]. With that said, I guess this movie accomplished its goal... it made me talk about it after I watched it and therefore it’s a successful movie” (FreddysFingers n.d.).

### 3.2 Ecocriticism and abjection in Fortitude

A thriller with nightmarish creepy crawlies that look quite realistic, *The Thaw* belongs to a subgenre of eco-horrors produced across media, which gothicize scientific theories of global warming by using powerful metaphors of contagion. Six years later, the British TV series *Fortitude* gave voice to similar terrors by using a different insect as vector: a prehistoric parasite wasp. The first season of the series, aired between January and April 2015, describes the spread of a mysterious contagion among the inhabitants of Fortitude, a fictional town located on a sub-Arctic Scandinavian island, which is inhabited by a small, multiethnic community. Initially described as “a veritable Utopia” – a “safe, comfortable, and even friendly” place that embodies the ideal of Scandinavian safety – the town soon proves to be “a site of wildness, desolation, and yes, danger” (LaFauci 2018, pp. 21-22). What makes it dangerous are the disastrous effects of climate change. When the permafrost starts to thaw, the town becomes infested by lethal wasps released from a defrost mammoth.

Images of the mammoth remains found by two children and collected by two men who try to sell them illegally (*Fortitude* 2015, 1, 1, min: 2:08-2:47, 9:49-10:42, 12:55-13:21, 16:12-17:44) are shown in the first episode of Season 1. Yet, the connection between the impending ecocatastrophe and the insects’ infection is not immediately revealed. Typical devices of horror thriller films are used to postpone disclosure, while a

<sup>11</sup> The Kristevian abject is insistently evoked by the many images of vomit, pus and bleeding, by the devoured corpses and the bugs’ assimilation of people’s flesh, which suggest the blurring of the separation between animal and human, and the breakdown of the symbolic order (Kristeva 1982).



series of mysterious killings upset the community. First ascribed to bears, the killings are later discovered to be murders committed by trusted members of the community, who brutally cut open neighbours and family members. In Episode 6, forensic examination reveals that a boy, Liam Sutter, attacked scientist Charlie Stoddard and tore up his body with inexplicable violence. The upsetting discovery casts some light on the identity of the perpetrator although his motive remains obscure until Episode 7, when a similar crime is committed by a young woman, who attacks her mother, cuts her belly open and vomits into the wound. The following episodes of Season 1 gradually disclose the awful truth. Infected by the larvae of the parasite wasps, the murderers are driven by instinct to commit their fierce crimes in order to find new hosts for the insects that are growing inside their bodies. Their zombie-like behaviour when they kill people reinforces “their uncanniness as both human beings and predators” and “questions the distinction between human and other animals”, thereby offering “an ironic critique of anthropocentrism and a dramatic metaphor of the Anthropocene” (Koistinen, Mäntymäki 2020, pp. 268-269). The blurring of the boundary between human and animal is confirmed by the dreadful effects of the wasps on other mammals – such as a polar bear that develops cannibalistic leanings in Episode 6 – as well as by the horrific image of Dr Shirley Allerdycy’s body riddled with sores from which the wasps start to emerge before a swarm explodes from her mouth (*Fortitude* 2015, 1, 11, min 44:20-46:05).

Uncanny and shocking, all these images of abject corporeality suggest that the climate changes produced by human greed are threatening to all creatures and especially to human beings who, despite their wish to remove themselves from nature, easily regress to an animalistic, nonhuman behaviour. Configured as a sort of punishment inflicted by nature, the scary infection is temporarily stopped at the end of Season 1 by the incineration of all the wasps in town, but their danger is not permanently neutralized. A first hint at the possibility of new waves of the infection is offered in the last episode of Season 1, in which a man searching for mammoth remains falls into a subterranean cave beneath the ice that contains buzzing wasps (*Fortitude* 2015, 1, 12, min 44:07-44:50). The idea that ever-new horrors might be generated by glacial thawing is confirmed in Season 2, which opens with an ominous flashback to the 1940s. Set in the Soviet part of the island, the opening scenes of Episode 1 suggest that military operations had already revived the wasps in the past, spreading a contagion that had turned people into violent, zombie-like creatures. The retrospective image of an infected survivor preying on an infant with a bloodstained mouth (*Fortitude* 2017, 2, 1, min 02:03-02:33) indicates that, long time before the events narrated in Season 1, anthropogenic activities had triggered a contagion that would be rekindled several decades later.

Fears of ever-new outbreaks are partly dispelled in the second and third seasons which, as I demonstrate elsewhere, “bring human-hatched conspiracy plots into focus” (2020, p. 29). By showing how corrupt doctors and pharmaceutical companies experiment on the wasps’ victims to find a key to tissue regeneration, the two seasons deflate the abject connotations of an infection that, though triggered by anthropogenic pollution, is configured as a natural phenomenon that escapes human control in Season 1. This shift from nature to culture contributes to gothicizing the effects of glacial melting depicted in the first season. Whereas human experiments suggest the possibility of managing the contagion, the spread of an infection produced by primitive insects conveys the grim prospect of nature’s revenge against its polluters. What makes this prospect more frightful is the possibility of a wide-ranging epidemic affecting the whole world. Although the wasps are never shown to move beyond the island’s borders, their repeated resurrections pose the problem of similar phenomena taking place elsewhere as a consequence of global

warming. “The series makes global of the local: when viewers become aware of the effects of thawing permafrost on the small fictional island, they are simultaneously reminded of the effects of climate change in different parts of the ‘real’ world” (Koistinen, Mäntymäki 2020, p. 274).

### 3.3 A literary hybrid: Thaw’s Hammer

One year after the first season of *Fortitude* was broadcast, a variation on the theme was developed in the novel *Thaw’s Hammer*. A medical thriller written by Allen Edel, a patient advocate for men with prostate cancer who has authored two suspense novels (Allen Edel n.d.), *Thaw’s Hammer* is set in the years 2030-31, a post-apocalyptic future distressed by the negative impact of global warming. The Prelude, aptly titled “The Warming”, offers a diquieting list of the ecological and socioeconomic catastrophes generated by polar thawing, which has flooded whole regions, engendered or erased coastal cities, inundated farmlands with the loss of “millions to famine”, and changed power balance with “organizations that promoted ecology [rising] in prominence” (Edel 2016, p. ii). Written as a dry historical report of the Warming disasters, the Prelude is distinguished from the novel’s text by its Roman numerals, which configure it as a non-fictional paratextual document. This initial impression is, however, dispelled by the hybridity of the text itself which, in typical postmodern style, blends together a variety of styles, forms and cultural levels.<sup>12</sup> Always preceded by a location and date, the chapters combine narrative passages with historical reports and scientific data, some of which are faked, while others draw upon real paleontological, biomedical and geological literature. The authenticity of the latter material is substantiated by numerous endnotes which, based on referenced scientific sources, provide detailed explanations of some phenomena mentioned in the text. Their discursive seriousness contrasts with the gothic and sensational expedients used in the long narrative sequences. In addition to cliff-hangers and twists typical of the thriller, Edel evokes corporal abjection through graphic details of sickness, adds some episodes of adulterous and quasi-incestuous sexuality, and concocts a story of love and rivalry involving some of the protagonists. The result is a nobrow text that, while offering specialized information to the learned reader, appeals to a wider public craving for suspense and passion.

In ways similar to *The Thaw* and *Fortitude*, Edel’s novel establishes a strong link between climate change and contagion by narrating the outbreak of an unknown infection coming from ancient mammals that resurface from the melting permafrost. Called Blue Cancer, the infection spreads among some researchers working at an Antarctic station and, from there, it moves to other continents in the southern hemisphere. Initially thought to have been provoked by a mistake made by the leading scientist at the station, Dr Jace Nechuston, the disease is later found to affect all types of mammals, including sea ones, which act as dangerous vectors. Through a long sequence of twists, misadventures and suspenseful passages, the novel narrates two important discoveries made by Jace and his team who, in addition to their medical challenges, have to suffer terror attacks by environmental fanatics such as Libby Downs, President of the Green Club. First of all, the researchers understand that penguins are the missing link in the chain of contagion and plan their extermination through a lab-manufactured bird flu; secondly, they manage to isolate the retrovirus responsible for the disease and develop a cure from the DNA

<sup>12</sup> Chapter 3, for example, is structured as an email and printed in a different font.

segments of people with partial immunity to HIV. Highly sensational and not always plausible in their conceptualization, the two successive discoveries rescue the human species from annihilation and enable scientists to save other mammals too, despite heavy losses among wild species.

Besides stopping the contagion, mankind develops a stronger ecological awareness, adopting policies that reverse the global-warming process. “Without the presence of fossil fuels, and with the huge uptake of CO<sub>2</sub> by the sea ferns of Antarctica, the world began to cool down again and the ice sheets and glaciers refroze” (Edel 2016, p. 300), we read in the Epilogue, after learning how Jace managed to save the life of his beloved Mirana, affected by Blue Cancer. Still, this happy ending does not solve some thorny questions raised by the novel. In the last paragraph, Jace reflects on “the banality of evil, and also the high-minded principles that drive it” (Edel 2016, p. 300). If greed and arrogance wield a dreadful impact on nature, the fanaticism of environmental activists – embodied by Libby and her mate Tory, who “abjured [an] anthropocentric point of view” – is equally dangerous, for it risks annihilating mankind (Edel 2016, pp. 60-61). Another pressing question posed by the text is that of the unstoppable sufferings of life on earth. While reflecting on the luck that HIV preceded the Blue Cancer outbreak, Jace thinks that “he can’t bring himself to think of that as providential” if he considers “the millions who suffered and died from HIV” (Edel 2016, p. 300). The idea of necessary suffering is also evoked by the interclass struggle narrated in the novel, in which the survival of mammals is achieved through the almost total extermination of a group of birds.

These ethical considerations cast an ominous shadow over the prospect of a harmonious future made by the peaceful coexistence of all species. Like an avenging spectre returning from the past, the Eocene retrovirus buried in the ice emerges as a retribution for two phenomena that have unbalanced the natural order: the dominance mammals acquired over other classes in the Eocene and the human destruction of the environment through various anthropogenic activities. If the former unbalance is part of a long natural evolution, the latter has a more direct impact on the environment, as it unleashes forces difficult to control that punish humans for their arrogance. Even though mankind is rescued by the almost chance discovery of individuals who have cross immunity to Blue Cancer and HIV, people suffer heavy losses for upsetting the ecosystem. The notion of revenge is evident in the chain effect described in several passages like the following, which establish significant connections between global warming and the infection:

Then he explained his epidemiology – [...] how the Warming had thawed them [deep-frozen infected placental mammals of the Eocene Antarctica] and transported the disease encased in dismembered body parts downstream, where Emperor penguins who lived on the eroded ice shelf had been forced closer to the glacial runoff, and were opportunistically dining on the flesh the new rivers brought to them; how they held the undigested meat in false stomachs to feed their young, and how seals, taking advantage of concentrated penguin populations ate them and the undigested meat, becoming infected. The seals were then used for food and fur by people [...]. (Edel 2016, p. 177)

Words and phrases like “the Warming had thawed them”, “eroded ice”, “forced”, “opportunistically”, and “the new rivers” suggest that the circulation of the primaevial retrovirus is inextricably linked to the anthropogenic impact on the poles. Spread by the new rivers and transmitted from one group of animals to the other, the Blue Cancer turns the Antarctic into a gothic setting haunted by a tiny ancient pathogen, which comes back to life to avenge human environmental crimes. “The worldwide Ecological Revolution” that mankind is said to have experienced before 2030 does not prevent nature’s revenge,

which demands its retribution for “the way the world produced and utilized resources” in the previous centuries (Edel 2016, p. ii).

Unlike *The Thaw* and *Fortitude*, *Thaw’s Hammer* chooses a microbe, rather than a scary insect, as the agent of a contagion that could annihilate mankind and other living species. What all these cultural products share, however, is the inextricable link between infection and glacial melting, as they dramatize the outbreak of an insidious disease coming from prehistoric remains that had until then been preserved safely in the ice. Revived by fictional ecocatastrophes that have much in common with the actual disasters occurring in the last few decades, these filmic and literary stories of contagion belong to a cross-media subgenre of eco-horrors that is experiencing growing relevance in today’s culture. Additionally, in ways similar to nineteenth-century narratives of cholera, these fictions draw largely upon the Gothic, and they combine medical knowledge with fantasy to arouse popular anxieties about an infection that blurs the boundaries between the familiar and unfamiliar, the human and animal, the past and present. The prominence gained by their recurrent motif – i.e., the resuscitation of an uncanny hibernated pathogen or infectious insect – is confirmed by recent scientific discussions on the risks posed by “zombie” microbes lying dormant in the ice. Sensationalized in many articles appearing in the last decade, the grim scenarios elicited by these discussions have acquired more topicality during the coronavirus pandemic, which has rekindled both expert and popular interest in new potential sources of contagion.

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