The Vulnerable Body in Extraction Literature:

Eco-Sickness in Caridad Svich's *The Way of Water* and Jennifer Haigh's *Heat and Light*

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Abstract

Contemporary American literature that addresses the social and cultural anxieties about the impending climate crisis, by focusing on the environmental threats caused by fossil fuel extraction, can be understood as breaking a long silence fostered by dominant discourses of prosperity that these energy regimes promised. While climate change speculative literature tends to concentrate on their long-term nefarious consequences in imagined dystopic futures, contemporary petro- and hydro-fracking narratives focused on the present, frequently represent the damage caused by fossil fuel extraction not only to the environment but to also the equally vulnerable human body. This article, using insights from energy humanities and ecocriticism, discusses how this dissolution of the nature/body boundary is represented in two texts, Caridad Svich's play *The Way of Water* (2012) and Jennifer Haigh's novel *Heat and Light* (2016), which directly address oil production and shale gas extraction. It will examine how their narrative strategies invest in the trope of eco-sickness developed by Heather Houser (2016), to render visible and intimate the frequently hidden costs of fossil fuel energy systems, signaling how human corporality is inseparable from the environment.

Keywords

Eco-Sickness; Energy Regimes; Fracking Fiction; Petrofiction; Trans-Corporeality.

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Introduction: Literature and Fossil Fuel Extraction

As studies in Energy and Environmental Humanities have convincingly argued, human concepts of social and economic progress have, since the first industrial revolution, been grounded on a variety of extractive practices of underground resources that, hidden in plain view, have mapped narratives of present growth and projections of prosperous futures. If it is evident that "we are all citizens and subjects of fossil fuels" and that "without these forms of energy we would never have been modern" (Szeman and Boyer 1), it is equally clear that most cultural discourses of extraction-dependent progress have, for a long time, obscured a number of enmeshed imbrications that unravel its apparent simplicities. The most unequivocal fallacy that can no longer be ignored is the trope of an inexhaustible Earth, immune to the double threats of resource depletion and environmental damage, a myth that the impending global warming crisis has irrefutably exposed. Other implications of fossil dominance also problematize the idea of a global energy-based growth, ranging from the economic distribution of its benefits within national communities, to the geopolitical consequences of processes of extractivism[1] whereby the raw materials hauled out of under-industrialized and economically fragile geographies contribute mostly to the wealth of distant and more prosperous societies.

Literature has responded to the many layered impacts of these energy regimes, reflecting the diverse sociocultural discourses that surround particular extraction practices, as Frederick Buell discusses in "A Short History of Oil Cultures: Or, the Marriage of Catastrophe and Exuberance." These approaches, as he argues, have shifted from a celebration of exuberant growth associated with the possibilities provided by new underground resources (be they coal, oil, uranium-fuelled nuclear power or natural gas), to a sense of impending catastrophe, based both on resource anxiety, which debunks what Szeman calls "fictions of surplus" (Szeman 334), and on the awareness of irreversible environmental damage they cause.

The impact of coal, which signaled the first break with biologically-based energy sources such as wood, wax, tallow or sperm whale oil[2] and established the era of fossil fuel,[3] is a case in point. While it created a hitherto unimaginable commodified vision of what geologist Bruce Braun has called a "vertical nature" (40), giving rise to a new "sinister cultural geography of depths" (Buell 279), it also generated a cultural and literary discourse that celebrated the liberation of human society from "nature," promising unimaginable progress and social changes. As Heidi Scott discusses in *Fuel: An Ecocritical History*, after the synergy between coal and mechanical sciences produced the steam engine, not only were natural resources able to be exploited on a much larger scale, but concepts of being in the world and of connectivity were radically changed. As she points out, once transportation "was no longer guided by natural conditions like seasons and weather," the concept of distance and of being of one place changed, and "older social networks based on

local production, neighbor support and barter exchange" began to lose their foundations (Scott 122).

The fact that these new possibilities had other visible negative implications created a tension with the cultural discourse of unstoppable progress heralded by fuel energy. As Buell observes, coal extraction "ended up creating a variety of machine-made organic nightmares" (279). These nefarious environmental implications were amplified by the labor intensive and highly hazardous practices that sustained coal capitalism, fostering, as Elizabeth Miller discusses in *Extraction Ecologies and the Literature of the Long Exhaustion*, a wave of literature that did more than passively register the impacts of industrial extraction, becoming a discursive site where this transformation was mediated (Miller 14).

In the United States, this trend, which according to Stephanie Elise Booth can be read as reflecting an evolution of attitudes associated with different time periods,[4] focused mainly on the representations of the labor of coal miners and of their communities. Health hazards like the black lung disease, the body-breaking working conditions, and labor struggles shaped most American coal fiction of the First Industrial Revolution (LeMenager 5). Two early twenty century novels, Arthur Newell's A *Knight of the Toilers* (1905) and Upton Sinclair´s *King Coal* (1917) illustrate this literary approach that paid little attention to the extended environmental effects of the use of coal, concentrating instead on the social practices associated with its extraction.[5] While the first imagines the great success of a fictional miners' strike, Sinclair's classic, perhaps the first attempt to describe realistically the working and living conditions of American coal miners, fictionalizes a real labor conflict (the Colorado Coal Strikes of 1913-1914).

Early oil extraction cultural discourses following Edwin Drake's drilling of the first oil well in 1859, in Titusville Pennsylvania, embraced more visibly the imagery of exuberance identified by Buell. One of the early oil tropes heralded the new energy source as introducing a different relation between humans and the treasures hidden beneath their feet, positing that the new fossil fuel was easy on the body, no longer requiring the hazardous work associated with coal mining. This is the position defended by John McLaurin, one of oil´s most prominent defenders. In *Sketches in Crude Oil* (1896), he argued that the discovery of oil signaled that "after sixty centuries the game of 'hide-and-seek' between Mother Earth and her children has terminated in favor of the latter" and that by having "pierced nature's internal laboratories, tapping the huge oil-tanks wherein the products of her quiet chemistry had accumulated 'in bond', humans had liberated 'the modern angel of light'" (McLaurin 1-2). This free-flowing "blessing to humanity" (McLaurin 372) that would require barely any physical effort was also initially perceived as creating new opportunities for enterprising individuals. Now, without the backing of big industrial structures, individuals with only a small crew could strike it rich on their own. This myth of a self-reliant open-

to-all capitalist prosperity, based on daring initiative, shapes Paul Giddens' *The Birth of the Oil Industry* (1938), an account of the first ten years of the American oil extraction experience. The consolidation of corporations into vertically integrated monopolies and the savage competition and corruption that Ida Tarbell documented in *The History of the Standard Oil Company* (1905) would eventually replace that early narrative with one of greed, ruthless industrial empire-building and associated political corruption[6] fictionalized by Upton Sinclair in *Oil!* (1927),[7] set during the California oil boom in the first two decades of the twentieth century.[8]

It could be argued that in the United States, this early attention was replaced by a long silence, and that the age of acceleration that followed WWII created a literary representational paradox as the social and cultural consequences of oil extraction – middle class prosperity, suburbanization, car culture and youth rebellion – were all predicated on an unquestioned energy dependency that was never fictionally scrutinized.

This deficit of attention was identified by Amitav Gosh in his influential 1992 essay "Petrofiction: The Oil Encounter and the Novel," which discusses why, during those post- WWII decades "the oil encounter had produced scarcely a single work of note" (29). For Americans, he suggested, that "muteness" is understandable as for many of them "oil smells bad. It reeks of unavoidable overseas entanglements, a worrisome foreign dependency and expensive military enterprises; of thousands of dead civilians and children and all the troublesome questions that lie in their graves," covered by "regimes of strict corporate secrecy" (Gosh 30). Assuming that these conditions explain why it was "inconceivable" to "imagine a great American writer taking on the Oil Encounter"[9] (30), Gosh also questioned the absence of literary renditions of these transnational unequal extraction experiences, finding them only in Saudi author Abdelrahman Munif´s novel *Cities of Salt* (1984).[10] Since Gosh's diagnosis, a significant number of post-colonial novels have focused on the entanglements of this oil encounter.[11] American literature, responding to the challenges identified by Rob Nixon as the "twinned calamities of squandered time" namely "oil's receding tides and the advancing tides of climate change" (102) began to break what Stacey Balkan and Swaralipi Nandi identified, quoting Frederic Jameson, as "the 'present absence' of oil in the American imagination" (2).

An analysis of the diverse approaches that have shaped this awakening identifies two major trends – an investment in the imagination of extrapolative futures created by global warming and destroyed eco-systems, and a representation of contemporary scenarios of risk and already existing environmental damage. Speculative fiction has been addressing openly or indirectly the destructive impacts of fossil fuel energy regimes, depicting the results of contemporary inaction to replace them. In many climate dystopias that portray specific consequences of global warming, be it sea level rising as Kim Stanley Robinson's *New York 2140* (2017) or extreme regional draught as Paolo Bacigalupi's *The Water Knife* (2015), the

harm caused by fossil fuel energy regimes stands in the background of the narrative, as an implied cause. In parallel, a significant number of novels engage the peak-oil trope[12] that predicts the dwindling and eventual world-wide exhaustion of this resource before alternative energy systems are established. This eco-dystopian construction of imaginary societal collapse is at the center of James Howard Kunster's *World Made by Hand* (2008) and Paolo Bacigalupi's *The Windup Girl* (2009), but also emerges as an unmentioned but essential factor in the construction of the "post- apocalyptic wasteland" of Cormac McCarthy's *The Road*, where the absence of references to the no-longer available oil can be read as "contributing to the novel's delineation of American culture as created, maintained and ultimately destroyed by petro-capitalism" (Donnelly 158).

Alongside these projections of possible environmentally damaged tomorrows, other works of fiction have concentrated their gaze on the present, reflecting existing concerns about the destruction already caused by fossil fuel extraction. The discussion that follows focuses on two texts that engage with highly recognizable American contemporary debates about oil drilling and tshale gas extraction by hydraulic fracturing: the play *The Way of Water* (2016) by Caridad Svich, which revisits the Deepwater Horizon BP oil spilling accident, and Jennifer Haigh's novel *Heat and Light* (2016), which depicts the aftermath of a small former mining town's acceptance of a shale gas hydraulic fracturing project. Focusing on the narrative strategies used in both texts to make visible the environmental damage caused by these extraction regimes, the analysis will examine how they expand the concept of a wounded eco-sphere to include scenarios of human vulnerability, mobilizing the trope of sickness to signify the interdependency between the natural world and the human body affected by the same toxic threats.

Toxic Extraction and the Vulnerable Body

In her 2016 study *Ecosickness in Contemporary U.S. Fiction: Environment and Affect*, Heather Houser identifies an emergent literary mode that "joins ecological and somatic damage though narrative affect," highlighting the interdependence of earth and the body "to bring readers to environmental consciousness" (2). By representing human bodies enmeshed in their environments and foregrounding "the conceptual and material dissolution of the body-environment boundary" (Houser 3), these eco-sickness narratives offer emotionally vivid senses of risk likely to "involve readers ethically in our collective body and environmental futures" (3). And because the imagination of disease in these texts is grounded on material, measurable realities, this mode of ecofiction can also be seen to contribute to a dialogue between scientific discourses and affect, promoting, as Houser argues, "alternative epistemologies of emotion and narration" (7).

This encounter between a damaged Earth and a sick body, between the planetary dimensions of climate crisis and the most private of experiential spheres,

can be traced back to Rachel Carson's decision to preface her scientific study *Silent Spring* (1962) with a fictional text, "A Fable for Tomorrow," where animal and human bodies are presented as barometers of ecological toxicity, in this case caused by DDT and other poisonous pesticides.

If Carson's scientific study, which launched the twentieth century American Environmentalist movement, establishes a direct cause-effect logic between toxic pesticides and "the shadow of death" that affects animals and humans (22), nor all ecosickness fiction draws such direct causal links between the injured body and the injured Earth.[13] As Houser argues, the creative imagination does not always "connect the dots" and literature's great contribution to its dialogue with science "comes through most compellingly when it brackets causes and the empirical approaches that isolate them" (6). In the two texts selected for analysis, that causality appears to be more explicitly suggested, and their discussion will attempt to clarify the different processes used to invite the reader to see how the embodied self is enmeshed in processes of environmental destruction caused by fossil fuel extraction even when that link is not scientifically confirmed.

The Way of Water, a 2012 play by Caridad Svich, which was the recipient of an OBIE Award,[14] revisits the 2010 Deepwater Horizon oil spill, the worst marine drilling disaster in history, which killed 11 workers and gushed nearly five million gallons of crude oil into the Gulf of Mexico,[15] devastating hundreds of miles of fragile wetlands. The disaster was given an unprecedented high visibility, created by the constant public viewing of the footage provided by the "spill cam[16] that streamed out the gushing oil in real time" (Atkinson 214) and by the filmic narratives that followed it[17] creating the idea of a known experience shaped by a public discourse of risk and grief.[18]

The dramatic strategy of the play exposes the limitations of the collective media-dependent short-term memory, opting to tell the story of greed and negligence of both an extraction powerhouse and of a government incapable of imposing appropriate security standards through the lenses of the local and the private. This strategy turns the disaster into an intimate story focused on its effects on a group of four friends who had known each other since they were children – Jimmy and Yuki, two fishermen, and their wives, Rosalie and Neva, who struggle to survive its aftermath. This choice is facilitated by the uniqueness of the public and embodied performative context of theater, where a space and time are shared by two sets of physical presences (the performers and the members of the audience), a condition uniquely suited to foster the kind of encounters that encourage the involvement in the personal experience of unknown others.

In *The Way of Water*, audiences are invited to share the perspective of those who two years later, in a small coastal town of Louisiana, have both their livelihood and their bodies irrevocably disrupted, a perspective that encourages audiences to

associate the local with the global and to establish how malpractices of multinational industries have an impact on individual bodies, that most private of spheres.

This link is suggested at the very beginning of the play, when Jim and Yuki,[19] who are fishing, as they have done all their lives, find their catch affected by the Corexit dispersant (banned in most countries) used in the months after the spill to clean the waters as cheaply as possible. As on many previous occasions, they have to discard the diseased yellowfish[20] that cannot be eaten, and Jimmy reflects on how the "rotten stinker" has killed their business by contaminating every stretch of water and the animal life that used to flourish in it, on the impunity of those who are responsible, and on the ephemerality of the public attention that vanishes as soon as the mediascapes are taken over by another cycle of concerns:

> Jimmy: Pretty soon, we'll have nothin' left… Don't know how those oil pigs do it. First in Valdez way back when… My daddy said "This time for sure somebody's gonna take them to task."…Big news for a while then faded away; Like everythin' else.
> Yuki: The way it all goes.
> Jimmy: Goes as it goes as it goes. Memories like sieves in this country.
> (Svich 22)

If the world has forgotten the accident, those who are vulnerable have not and are increasingly able to look back critically on other industrial disasters that damaged the environment and destroyed illusions of economic stability. Still musing over the poisoned fish and the foul water, Jimmy recalls another accident in Waxahachie[21] during which his cousin "got himself all burned up" when the chemical plant "makin' some kind of ammonia they use in products and things" was the scene of an explosion, which "sent thick plumes of smoke up into the sky for hours" (23-24).

This implicit indictment against industrial practices that extends beyond the negligence of Big Pig (Jimmy´s angry translation of the initials of British Petroleum) establishes a network of social criticism that later in the play will expand to wider targets. The plot soon moves from the motif of the toxic threat to the fishermen´s livelihood – both men refuse to abandon their profession since, as Jimmy states, he is a fisherman, has no other life, knows the water like it´s his flesh and blood (42) and "can't sit behind some desk" (35) – to the vulnerable body. Jimmy´s fainting spells and nausea, which appear briefly in the first scene when they can still be casually dismissed, cannot be disconnected from that water he once knew so well after he learns of the death of a local teenager, 16-year-old Louie Medina, the "Gas Station Kid," who "died from just swimming" (44):

Yuki: […] They say his esophagus disintegrated, and his heart ballooned up.
Jimmy: From swimmin'?
Yuki: Chemical. In the water…Y' know the kind they used to disperse the
spill…
Jimmy: Corexit?
Yuki: All over everythin'. (44)

This death transforms the intimate connection that the community and the two fishermen had with the water on which they had always depended, and which now no longer symbolizes life but the threat of death. It also leads to community protests that at first are only attended by Yuki: "Pretty fierce. Didn't want to leave. We were all chantin' n wavin', holdin' up signs. Felt good to feel like I was doin' sometin' for a change" (63).

The impulse to act is not initially shared by Jimmy; his worsening physical condition has led him to see the problem he and the community face as irreversible, without cure. Feeling the crisis as being already part of his body, he argues that he would have protested if the spill had any resemblance with the consequences of fire that hit his cousin's chemical factory because that was "a solvable problem. A containable problem" (64), while in their case "I just don't see what's good's it gonna do now to shout n make signs…" (65).This perception that the "water is already poisoned" (67) and is already part of him haunts his dreams, which he reveals to the audience as a poetic gothic vision:[22]

Jimmy (towards revelation): I see it. I fucking see…
A dream of water
Hot
Burnin'
Lettin' itself throu me
Floatin'
Through the sludge of sticky crude on cane
Down, down the way of no life. (69)

It is that "no life" that ultimately unites humans and other equally vulnerable species, as the poetic "revelation" suggests, weaving a kinship between human and more-than- human bodies destroyed by the same toxicity:

N' the bodies of the dead baby dolphins
Wash up along the shore,
Silver, blue, black n torn,
Sweet howlin' babies
Claimed by no one
Like us, we'll say

Just like us,
As we look at each other's vacant eyes
N take each other by the hand
N lie down next to the dolphins. (70)

As Jimmy's condition worsens, he is eventually diagnosed with cancer, hospitalized, and given "a month, a week, or he could go on dyin' a little bit" (76). As "everything inside him is corroded" (76), his material conditions reach a point of no return. Even if his wife does her best to keep them afloat, unpaid medical bills and debts pile up and they lose their house. This pushes the two fishermen's wives to attend the protests demanding proper health insurance, compensation for their loss of livelihood, and accountability. When Jimmy returns from the hospital to a home he no longer has, he finally joins them, having realized that what is killing him is not only the oil spill but poverty, since he now understands that the decisions taken by BP to clean up the spill as cheaply as possible had to do with the economic and social invisibility of those most affected. "Why" he asks his friends "do you think they sprayed the fuckin' chemical all over? You think if we were rich here, they´d been so careless with that thing?" (66).

Caridad Svich explained in an interview with theater director Daniella Topol that *The Way of Water* was motivated by a combination of heartbreak, outrage, and sadness, and grew out of a series of poems that attempted to tell a side of the story that is rarely heard. She spent a significant amount of time conducting research on the communities involved (as well as following scientific reports), but she maintains that *The Way of Water* should not be confused with theater of testimony or docudrama. It should, she suggests, be interpreted as a "poetic transformation based on real events," merging "my own take on the situation in the Gulf region and the impact the disaster had on men and women who had been tenders of the waterways all their lives," as a "love story between people and their environment" (Svich, Interview). In the same interview, while admitting to having frequently questioned the notion of efficacy of art, since it always deals with the long-term, even when the subject is the now, she defines *The Way of Water* as her offering towards a dialogue between the humanities and the sciences about fossil fuel and the damage to the entangled living ecosystems its extraction entails.

If writing about a toxic disaster like the Deepwater Horizon oil spill may be seen as weaving a circumstantial causality, dependent on the exceptionality of circumstances that define the concept of accident, representations of hydraulic fracking are spared that kind of equivocation, since its risk lies in everyday routines.[23] This extractive practice, introduced in the United States at the end of the twentieth century in the Marcellus Shale, a broad region of gas reserves that stretches through Pennsylvania, Ohio, and New York, consists of drilling into the earth and directing horizontally a high pressure fluid mixture of water, sand, and

chemicals at a rock layer until it fractures apart and releases the shale gas inside. The fact that natural gas drilling in the US is exempted from the Safe Drinking Water Act means that companies use this exemption to refuse to reveal the composition of the mixture of chemicals used in this highly contaminated flowback fluid which is supposed to be disposed in water treatment sites. Evidence of systemic failures of that "clean-up" and the presence of harmful components implies that the water that flows back into farming wells and domestic pipes is frequently highly unsafe for consumption. To make matters worse, unlike traditional oil extraction, which, at least in the United States, tends to be operated offshore or in "oil boom towns" in low-density populated areas, fracking operations are frequently imposed on already urbanized landscapes, introducing a nefarious presence in structured communities.

That much is evident in the ethnographic study *Fracking the Neighbourhood: Reluctant Activists and Natural Gas Drilling* published by Jessica Smartt Gullion in 2015, which is centered on the ecological devastation brought about by the fracking operations in the Barnett Shale of North Texas, and where that intrusion is described as follows:

> A 200-foot-tall drill appears one day behind backyard fences, squeezed into green spaces behind the homes. Hundreds of diesel trucks travel back and forth along a narrow two-lane residential road that was never designed to maintain the continued stress. Pipes are laid across the back side of a soccer field. A parent notices her children are having a lot of bloody noses. Her neighbor observes the same in her own children. They look at the rig behind their fences and wonder if that is the cause. They talk to other neighbors and soon the community is presented with a question: Is this a threat to our health? (23)

The timing of the emergence of hydraulic fracking[24] coinciding with a heightened awareness of the toxicity of fossil fuel, probably explains why the practice has always been associated with risk to both the environment and human health. The documentary *Gasland*, directed by Josh Fox and released in 2011, where the chemical contamination of water resources occupies center stage, has been identified as the most impactful cultural artifact to shape public perceptions about hydraulic fracking and to mobilize public opinion and community activism. A study published in the *American Sociological Review*, which stresses the discursive opportunities of this type of visual cultural text, identifies "the extraordinary potential for raising awareness of the environmental danger associated with hydraulic fracking" of the unforgettable scenes in which residents living near shale gas extraction sites light their methane-contaminated tap water on fire (Vasi 937). The impact of these images and of the documentary as a whole can be measured by the wave

of novels published after its release, addressing its nefarious implications, such as Michael J. Fitzgerald's *The Fracking War* (2013) and James Browning´s *The Fracking King* (2014).

Heat and Light (2017) by Jennifer Haigh, which Jason Molesky considers as perhaps "the first big social novel of contemporary American hydrocarbon extraction" since Upton Sinclair´s *Oil!* (Molesky 66), establishes a connection between different fossil fuel regimes. It takes place in Bakerton, the same fictional "small nothing town" (Haigh, *Heat* 3) in Pennsylvania that had been the site of her previous novel *Baker Towers* (2005). In its first life, set in the post WWII decades, Bakerton depended almost exclusively on the mining industry as well as on the company after which the town was named, the only employer and the only source of its ambiguous illusion of working-class prosperity.

When *Heat and Light* begins, the closure of the mines had replaced that promise of affluence with a reality of emptiness: "waves of FOR SALE signs decked the streets, storefronts went dark, the miners died of black lung or heart attacks or simply old age," and "children and grandchildren moved away, forgot everything" (Haigh, *Heat* 11). That scenario of decay is shaken by the discovery that under the house cellars, roads, and small farms of Bakerton lies a hidden bounty. As an agent for the Texas-based Dark Elephant Energy Company explains as he knocks on door after door in a well-rehearsed 2-minute spiel:

> The shale lies a mile underground, has lain there since before there was a Pennsylvania, before a human being walked the earth. Older than coal, older than the mountains. It has an imperial name, the Marcellus. Deep in the bedrock of Saxon County, a sea of riches is waiting to be tapped. (10)

This "Nature's safe deposit box" that had kept "its treasures docked away like insurance for the future" can now be opened, he tells the town dwellers, because "American ingenuity had found the key" (10). All it takes is for the owners to lease their land, which they are promised they can keep on farming, while the company drills for miles under their property. In exchange they will "get a bonus up front" (10). So begins the story of a community´s decision to embrace, out of necessity, the promise of return to a long-forgotten economic prosperity in exchange for a radical disruption they could never have imagined when they leased their small plots to the Dark Elephant agents.

In contrast to the individualized perspective of *The Way of Water*, where a story of environmental degradation is translated into the intimate experience of four characters, the narrative perspective of *Heat and Light* spreads wider than the 'here and now' of the town, weaving together different time frames and events.[25] The novel draws a complex map of personal stories that reveal the interconnectivity of many constituencies involved with and affected by the extraction processes,

including, besides the town locals, the drill workers, groups of environment activists, and company managers. But at the center of the narrative are the parallel themes of the destruction of the environment and of its effects on the human body.

The novel presents the toxic threat to the environment associated with fracking as an accepted concept, in circulation beyond the small town. Even before the deterioration of water resources becomes evident, farmers who refused to lease their land are not immune to the perception of toxicity that now surrounds their products. That is the case with Rene and Mack, the owners of the organic farm Friend-Lea Acres, who find out that the restaurants in Pittsburg that used to be their clients are no longer willing to buy their milk and do not believe their assurances that their land is clean. When the owner of a "Farm to Table" establishment explains to Rena that their customers "read the newspapers" and "know what is going on in your part of the world" (81), and asks if the couple can "guarantee that none of these chemicals are leaching into the water your animals are drinking," she knows that these are assurances they cannot give, and that their dream of living in a healthy ecological island is being destroyed (82).

For the other farmers who eagerly signed up to "the first glimmer of hope" their dying town has had for thirty years (249), the unpleasant consequences of that decision becomes visible from the very beginning. The town, as its dwellers complain, "is being changed permanently" (129), disrupted by the constant heavy traffic of trucks and lorries with Texas license plates and by the presence of drilling crews working for subcontractors which are replaced every two weeks. No new jobs are created, contrary to expectations, as no locals are ever hired to join the workforce. For those who now live surrounded by drilling operations, the nightmare is constant and inescapable. For Rich Devlin, who had so eagerly waited for the activation of his lease contract, and never expected to have "a rig two hundred yards away, lit day and night with klieg lights," the disruption goes beyond the need to live with drawn curtains or wear earplugs at home to protect against the constant "mechanized roar like a tropical storm" (215). It is imprinted in the scars he sees from his window:

> He looks out over his back yard, what's left of it. With the forest gone, the property looks smaller than sixty acres, stripped and shrunken like a dog in the bath. Beyond the house, the crew left a single patch of glass, twenty foot scare. Beyond it lies a vast expanse of bare earth, dry and cocoa-colored, enclosed with chain-link fence. […] Over the hill, mercifully out of view, sit the containment pond and concrete drill pad – surrounded, depending on the day, by a dozen or more trucks (216).

What he still does not understand is that the bleak bare landscape, once covered by a vibrant forest, hides a gothic toxic threat protected by a policy of nondisclosure

(Molesky 54) – the highly contaminated water that spreads through pipes and wells, invading and contaminating the human soma.

The narrative strategy used in the novel to represent the vulnerability of the human body to the toxicity associated with shale gas extraction deliberately suggests lines of continuity between different systems of energy production, represented by two stories of sickness. One goes back to the past, to the Three Mile Island nuclear platform disaster in 1979, and is told by the voice of Wesley, the now-dead former Bakerton pastor who lived near the accident as a young boy, while the other is set in the present, embodied by Olivia Devlin, a seven-year-old child..

Wesley's story is reconstructed through his ghost-like voice in a dedicated book chapter with the ironic title "Normal Accidents" and travels back to the days when he was one of the fifteen thousand people who lived a mile from the nuclear plant where "the thing" that the company Handbook said "cannot happen" actually happened (Haigh, *Heat* 140). After the explosion, they were told that only a small amount of radioactive iodine had been found in the ground, that the forty thousand gallons of radioactive water released posed no danger to public health, that there was no need to be evacuated, that children should just stay indoors until midnight. When Wesley, at thirty-three, looks at his dying body, plagued by thyroid cancer, he clearly sees that seven-year-old boy who was not evacuated, though he could make out the contaminated fumes from his backyard. Convinced he can trace back the cause of his announced death to those poisonous spills, he tries to find evidence, engages in frantic research, and becomes "a corpse in possession of abundant information" (306) that has no destination but himself, trapped between a certainty that no one else shares and the irony of trying to delay death by having his cancer caused by radiation treated by radiation (305).

In the case of Olivia, a similar pattern of causal uncertainty occurs. Her vomiting, stomach pains, and headaches are initially dismissed as a result of her food allergies, not the consequence of the contaminated water coming out of her house taps. Her father initially convinces himself that Olivia's mother is overreacting hysterically to her deteriorating health. After all he remembers running in the abandoned strip mining fields with his childhood friends and coming home "black with coal dirt" and not being allowed into the house before he cleaned himself up in the basement (198). If that coal did not harm them then, that's evidence that "kids aren't that fragile" (198). So he finds it easy to dismiss Olivia's health problems: "Pollution gives her migraines. Food additives. Power lines, you name it. She needs her own fucking planet" (199). In an attempt to convince himself that he did not make the wrong decision when he signed the drilling lease, he also dismisses his brother's information about the toxicity of the undisclosed

two hundred different chemicals in the fracking fluid: "Everything is made of chemicals. If you eat an apple. If it´s in the periodic table, it's a chemical" (200).

And in an almost transactional reflection on his country´s energy history, he asks his brother to think of Olivia´s discomfort as a price to pay for the way they live: "What are, after all, the alternatives? [...] Send more kids to the Gulf like I got sent? Or we could build more nuclear" (202). When his brother suggests "wind, solar, hydroelectric" his skepticism is transparent: "Yes, fine, renewables. Let's build a few windmills and sit around in the dark" (202).

If Olivia's father's reticence to publicly consider that his decision may be responsible for his daughter's symptoms of illness appears to be grounded on some psychologically silenced sense of guilt, Rena, the organic farmer who is also a nurse, is mobilized to help the child, based on what she believes to be a highly probable causal link between her symptoms and the chemicals in the water in her home's pipes. After getting engaged in the anti-fracking campaign organized by environmentalist groups that take up the cause of the town, and having done her own research, she makes sure that the little girl is seen by a series of doctors, who never find an undisputed and clear relation between the toxicity that surrounds her and her ailments. This formal uncertainty, complicated by rumors that Olivia's mother may be responsible for her daughter's illness, a suspicion that is never confirmed and that the community dismisses, invites readers, as Houser argues, to an exercise of "connecting the dots" (6) even when what can be inferred cannot always be proven.

By the end of the novel, once the hydro-fracking extraction operations in Bakertown are suspended,[26] the residents are left with only one certainty – that the sickness of their land, unlike that carried by some of their bodies, cannot be refuted or ignored:

> The land looks sicker in the harsh light, backfilled acres that were supposed to recover. They haven't recovered. What's left is a treeless expanse, empty as a Russian steppe, the dry summer grass lit blond in the morning sun. The grass looks plausibly healthy, but what lies beneath is altered forever. It will never be the way it was. (Haigh, *Heat* 358-59)

Although most characters in the novel rarely express their love for what is now lost, it seems palpable that the grief they now feel for the missing trees and for the poisoned soil may be read as a new emotional recognition of their need for what they had always taken for granted, a first step towards a consciousness of their dependence on the more-than-human ecosystem they had unconsciously help destroy.

Conclusion

The aim of this discussion was to analyze how contemporary American literature has been responding to the awareness of the environmental damage caused by fossil fuel energy systems in narratives that have those practices at their center. Its objective was to scrutinize the ways in which the selected texts reflect a reconfigured perception of what Stacy Alaimo characterizes as "the interconnections, interchanges and transits between human bodies and non-human natures," making evident the "extent to which the substance of the human is ultimately inseparable from the 'environment'" (2). It also intended to reflect on Houser's proposition that eco-sickness fiction that brings "body and earth together through narrative affect" is likely to "illuminate how emotion rather than empiricism alone [...] conducts "individuals from information, to awareness and ethics" (7).

The analysis of both texts identifies how the reworking of the logic of human and natural boundaries, replaced by what Delia Byrnes calls a logic of "entanglements and assemblage" (246) shapes their narrative construction, extending, in the case of *The Way of Water*, the vision of kinship between humans and nature to the more-than-human life injured by the same poisoned waters.

Whether this is a strategy that enhances the effectiveness of aesthetic discourses related to the environmental damage caused by fossil fuel is a more contentious proposition, since it depends on predicted readers' responses, an area of uncertainty that matches the ambiguity that surrounds the debates about whether fear or hope is a more effective mobilizer of environmentalist consciousness. David Wallace-Wells, attempting to assess which were more conducive to environmental awareness, cites a number of scientific and academic studies that concluded that there is no single way to "best tell the story of climate change, no single rhetorical approach likely to work on a given audience, and none too dangerous to try" (157).

This assessment does not invalidate the communicational hypothesis put forward by Houser, but it seems plausible to argue that both in the play *The Way of Water* and the novel *Heat and Light* the use of the eco-sickness trope, anchored in a number of narrative and aesthetic choices, may not necessarily be based on a deliberate strategy of encouraging readers' responses through affect, but rather on the assertion of an ecocritical awareness of what Serpil Oppermann describes as "material 'traffic' between the body and the environment" (412). It can also be argued that the two texts, both set in economically vulnerable communities, expose how far from simple and uneven that traffic is, and how entanglements with conditions of social frailty turn the human body into an intersectional "sociopolitical palimpsest that gets culturally inscribed," serving as a "site for cultural critique of its material connections with the more-than-hu-

man world" (Oppermann 415) and a translator of a frail, environmentally damaged Earth on which it depends.

Notes

[1] Szeman and Wenzel define extractivism (as distinguished from extraction) as a process that involves a mode of economic production in which natural resources are taken from a periphery to be used as inputs to industrial processes elsewhere, as "feedstock for the manufacture of a 'modernity' to which the periphery is supposed to catch up" (506). The term, originally used in the political and ecological discourse in Latin America (Parks 353) would also describe practices in other continents, extending and actualizing the predatory plunder of colonialism.

[2] Tallow, animal fat that could be processed and stored, provided light through combustion and was cheaper than wax, though malodorous. It would be replaced in the United States at the end of the eighteenth century by whale oil, which, according to John Adams, created "the clearest and most beautiful flame of any substance that is known in nature" (qtd. in Shannon 311).

[3] The idea of cycles, such as "the age of wood" or "the age of coal" should be understood in terms of dominance and not totality, since the emergence of a new energy system does not imply a global shift, and old sources continue to be used alongside the new.

[4] In her analysis of the literature produced between the years 1876 and 1981, Booth distinguishes five distinct time periods: "the rise of industrialization, 1895-1910; the ascendance of the United Mine Workers of America, 1895-1910; the era of opulence versus poverty, 1910-1929; the Great Depression and World War II, 1930-1945; and the postwar era, 1945-1981" (125).

[5] Recent fiction that addresses the same tropes tends to focus on the wider economic and social landscapes of the practice, namely on the local organizational function of the industry in communities where it becomes the dominant economical force. This is the case, for example, in *Baker Towers* by Jennifer Haigh (2013), which draws a complex portrait of a small Pennsylvanian town after WWII, dominated by a mining company that is the sole employer of unskilled immigrant workers.

[6] The impact of her pioneering investigative journalism would lead to a court-ordered break-up of the company, which was found to have violated America's first anti-trust law, the Sherman Act of 1890.

[7] In the novel, the attempt to influence the presidential election of 1920 in favor of Senator Warren Harding in exchange for the rights to drill on government oil reserves appears to be inspired by the infamous Teapot Dome Scandal, a corruption case involving the bribery of officials of the Harding administration in return for drilling rights in public oil reserves.

[8] In those decades, before the discovery of oil in Saudi Arabia in 1938, the now-exhausted Californian oil resources constituted 22% of the world's production (Walonen 61).

Notes

[9] This assertion is questioned by Peter Hitchcock's reply to Gosh's article, where he suggests that he misses the possibility of a representative "logic of oil that puts it in the shade" (81) and offers Sinclair's classic as evidence that "the Great American Oil Novel is contemporaneous with the emergence of oil in American history" (90).

[10] The novel depicts the transformation of a pristine landscape (the Wadi al Uyoun oasis) and its inhabitants by the arrival of an American oil company, which imposes the disruptive rhythms of oil extraction on this never-changing harmony .

[11] See Helon Habila's *Oil on Water* (2010), which explores the drastic environmental destruction and human disease and death caused by leaking crude oil that poisons nature, bodies, and illusions of prosperity in the Niger Delta, or the 2021 novel *How Beautiful We Were* by the Cameroonian writer Imbolo Mbue, which explores scenarios of nature's depletion and embodied frailty caused by an American company's mismanagement of oil spills in an unnamed African country.

[12] Peak-oil theory, developed in the 1950s by geologist M. King Hubert, identifies timelines for the decline of oil availability after a peak of extraction, which was originally predicted to occur in the 2020s.

[13] That is the case for most of the corpus discussed by Houser, which includes, among others, Richard Powers's *The Echo Maker*, David Foster Wallace's *Infinite Jest* (1996) and Leslie Marmo Silko's *Almanach of the Dead* (1991).

[14] The play was developed in a series of writer retreats at the Lark Play Development Center, New York City, between 2011 and 2012. Under the sponsorship of the NoPassport theater alliance, it had a number of international public readings, including in South Africa, Australia, Germany, Brazil, and Great Britain (Svich 11).

[15] The spill on the Macondo Prospect, off the coast of Louisiana, lasted for five months (from 20 April to 19 September 2010). Before it, the biggest spill in US waters had been the 1989 *Exxon Valdez* accident when a tanker bound for California ran aground and spilt its cargo into the sea.

[61] BP was pressed by lawmakers to make available the live footage of the leak site, filmed by a video camera placed 1.524 m below water, which the public could access three weeks after the explosion that caused the spill, exposing its equivocations about the dimensions of the disaster (Hargreaves). The company would plead guilty in November 2012 to eleven counts of manslaughter, two misdemeanors and a felony count of lying to the United States Congress, in a settlement that forced it to pay $4.525 billion in fines (Rushe).

[17] The best example of this might be the film *Deepwater Horizon* from 2016, directed by Peter Berg, which reconstructs the events from the point of view of those who worked on the operation and died as a result of the explosion, as well as the mismanagement that led to it.

[18] The names of the eleven dead workers are listed and honored, for example, in the dedication of the Report to the President by the National Commission on the BP Deepwater Horizon Spill (National Commission).

[19] Jimmy Robichaux and Yuki Gonxalo Skow (described in the introductory notes as being mixed race) are in their 30s and have lived all their lives in a small town

Notes

in coastal, southwestern Louisiana, in Plaquemines Parish, along the Gulf of Mexico. They have known each other since they were children, and attended the same school. All the lines of the four characters reproduce the speech patterns common in their geo-social location.

[20] A number of studies reported that two years after the spill birds, dolphins, and other marine life continued to die and that a number of species had developed mutations (such as shrimps with no eyes) and deformities of the heart and other organs that would be expected to be fatal (National Commission 174-95).

[21] This is likely to be a reference to the massive chemical accident in a fertilizer plant in Waxahachie, Texas, in 2011 that killed fifteen people and injured hundreds and forced the evacuation of schoolchildren and residents to avoid possible exposure to dangerous gases (Henry).

[22] As Caridad Svich explained in an interview with Daniella Topol, before she wrote the play, she started to write poems related to the many health and environmental issues the disaster effected, some of which were later integrated in the play, in moments that interrupt the realist mode of the text and performance (Svich, Interview).

[23] The practice of hydraulic fracturing (fracking) is banned in most European countries as well as in Australia, Brazil, and Argentina.

[24] Although this method of extracting natural gas was already used, in limited ways, in the 1940s, it is in the late twentieth century and early 2000s that drilling companies developed methods to harvest natural gas trapped in shale rock which involve horizontal wells, a process that requires a much bigger quantity of water mixed with sand and chemicals (Vasi 937).

[25] The narrative visits, for example, the geopolitical implications of fossil fuel dependency, by recalling the Iran hostage crisis of 1979, when President Carter´s embargo on Iranian oil drove up prices, a predicament that, though bad for consumers, was good for business, a lesson learned as a young student by Kip Oliphant, the future CEO of Dark Elephant Energy.

[26] This suspension is more related to shareholders issues with the running of Dark Elephant Company than to local protests or environmental activism.

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Biography

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