

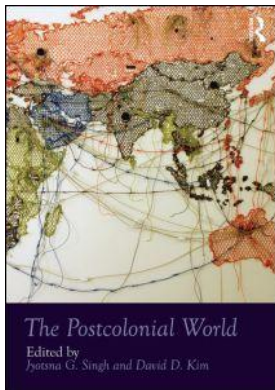
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Toxic Bodies and Alien Agencies

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CHAPTER TWENTY THREE

TOXIC BODIES AND
ALIEN AGENCIES

Ecocritical perspectives
on ecological others



Serpil Oppermann

Similar to postcolonial studies, ecocriticism is a heterogeneous field of study that does not correspond to any unified discourse. Although internally varied, ecocritical discourses converge on non-anthropocentric knowledge practices, which entail a consensual focus to address and conceptualize the global environmental crisis in socio-cultural and literary contexts. In the current critical moment, the argument goes, “we cannot encounter the natural untouched or uncontaminated by human remains.”¹ Ecocriticism focuses on this condition of interfaced reality that points to the ways in which culture and nature are closely entwined. Postcolonialism, however, prioritizes an ostensibly anthropocentric vision, exploring cultural models and methods that account for the relations of power in the “discursive division between the First and the Third World, the North and the South,”² as well as in the construction of forms of alterity. Although the concept of alterity has been theorized from exhaustive perspectives, postcolonial theory has shown little or no interest in the nonhuman other, whereas in ecocriticism “[a]lterity is always also defined by the nonhuman other.”³ Given this fundamental difference, one might expect these two fields hardly to intersect, but negotiating this difference in a slowly developing dialogue, they have actually converged with the arrival of postcolonial ecocriticism.⁴

Embodying ecocriticism’s basic ecological commitments, postcolonial ecocriticism has expanded the postcolonial foci towards more nuanced explorations of ecological conditions, ecological others, and environmental injustices in postcolonial cultures.⁵ In this light, it signals the commingling of postcolonial and ecocritical issues as a means of contesting ecological imperialism, biocolonization, environmental and social injustice, and environmental racism, speciesism, and anthropocentrism – matters of concern that are always intrinsically interwoven. This postcolonial ecocritical framework is important in understanding ecological otherness which, inspired by Sarah Jaquette Ray’s conceptualization of “the ecological other,” I analyze in the form of toxic bodies in this chapter. My argument, however, does not build upon Ray’s analysis of the socially excluded disabled body as the ecological other. Instead I foreground the material “traffic” between the body and the environment from the material ecocritical perspective in my discussion of toxic bodies. Therefore, equally important here is the material ecocritical framework that sheds light on the

intersection of bodies and environments generating this othering process. What perpetuates this form of othering are the dangerous material agencies (such as toxins, chemicals, and pharmaceuticals) that infiltrate bodies and make them permeable and vulnerable. This focus allows me to suggest that ecological otherness is better understood within the wider framework of material ecocriticism as it provides a theoretically compelling account of these major actors' material effectivity. I frame my view by reading the body as a *material text* in which cultural practices, social and political decisions, and environmental processes are intertwined with issues of justice, health, and ecology. I also pay particular attention to the work of postcolonial ecocritics since these issues are confronted by postcolonial ecocriticism in a way underscored by its emphasis on the social injustices occasioned by environmental deterioration. My aim is, thus, twofold: first, to discuss how ecological otherness results from the forces of global capitalism that create trajectories of environmental pollution extending into every metabolic system; and second, to examine how the toxic body becomes a site where social and ecological dynamics intersect compounding postcolonial issues with material ecocritical concerns. In other words, combining the insights of material and postcolonial ecocriticism is necessary in examining the body as a specific instance of the coextensivity of material agencies, discriminatory social practices, and ecological decline. I conclude with brief analyses of two novels, Latife Tekin's *Berji Kristin: Tales from the Garbage Hills* and Richard Powers's *Gain*. These texts effectively illustrate how toxic bodies become ecological others when they are exposed to hazardous chemicals and other powerful alien agencies that act upon bodies in unpredictable ways.

* * *

Considering the deteriorating ecological conditions with social, political, and economic consequences, and calling for climate justice, Greta Gaard perceptively argues that the impact of the anthropogenic ecological crisis is felt “hardest by those least able to make adaptations for survival,” such as “people living in poverty” and “disaster-prone areas.”⁶ Although environmental problems, as Simon Estok avers, “affect all people and defy boundaries of nation, creed, race, ideology, gender, sexuality, class,”⁷ the human dimension of environmental disasters in the Global South is more traumatizing, like the typhoon Haiyan that hit the Philippines in November 2013, displacing more than 3.6 million people and destroying the region's infrastructure, sanitation systems, and telecommunications lines. Many places in the Global South are also under threat by polluted air and water, and toxic waste brought about largely by global economic forces, such as the Koko toxic waste dump in Nigeria,⁸ and Niger Delta oil spills poisoning the water and agricultural lands. Though not figuring explicitly in climate crisis narratives, other hazardous elements continually infiltrate the soil and water, such as “hormone-altering pollutants” that “have affected more than 200 animal species around the world” and caused “increased rates of disease, cancer, or loss of habitat.”⁹ A striking instance of such environmental degradation affecting nonhuman species is presented by Joni Adamson who calls attention to the declining number of pink dolphins in the Amazon basin “by 47 percent” due to “drought, pollution, overfishing, and erosion,” as well as “atmospheric temperatures linked to climate change.”¹⁰

These examples serve to underline the fact that if catastrophic events and toxic detritus dominate postcolonial environments, it is not because of unremitting geophysical forces veering off course in specific places. But in such places climate crisis and other environmental risks come packaged with economic exploitation; that is why they are sites more intensely exposed to the risks of catastrophic events. According to Bonnie Roose and Alex Hunt, the underlying reason here is the “latter-day colonialism based upon economic and cultural imperialism”¹¹ that has incapacitated social systems for administering sufficient response. In the Global South, as Heise concurs, “human populations and natural systems disproportionately suffer the consequences of economic exploitation, toxification, and climate change.”¹² In other words, environmental challenges in postcolonial contexts are more often than not embroiled within political, social, and economic disputes over unequal distribution of resources. One of the major reasons behind this debate is explained by climate scientist Tim Lenton in “Engines of Life”:

Almost half of the world’s total primary energy supply is consumed by the rich G8 nations, despite their having only 12% of the world’s population. The poorest quarter of humanity consumes less than 3%. For them, even modest increases in per capita energy consumption significantly reduce infant mortality and increase life expectancy.¹³

Although these facts point to current postcolonial realities generating the standard discourses of green imperialism, identifying global environmental crises and the “unevenness of our environmental fate”¹⁴ only with the green imperialism of Western powers maybe insufficient.¹⁵ Dipesh Chakrabarty similarly contends that “the familiar narrative of western imperialism [is] necessary but not sufficient for the purpose of comprehending the current crisis.”¹⁶ The present situation engendered collectively by the human species, according to him, impels us to rethink *the* very human agency “over multiple . . . scales at once.”¹⁷ At stake here is what emerges out of large-scale environmental disruption and dispossession with devastating effects on the most vulnerable peoples and species. What needs to be recognized at this point is that tailing the climate crises there is planetary pollution hitting those who are the least responsible, regardless of their location. Apparently in this geopolitical struggle, poverty, scarcity of resources, pollution, health risks, political conflicts, social inequality, and toxic environments, as well as “environmentally embedded violence that is often difficult to source,”¹⁸ take center stage on a global level. Two obvious examples would include the category-five hurricane Katrina that hit New Orleans in 2005, killing over 1,800 people, mostly in black neighborhoods, and the May 2014 Soma mine disaster in Turkey leaving 301 miners dead due to poor safety conditions that the company management deliberately ignored for more profit.

This present-day situation signals a cyclical conjunction of repression launched by the global human and global economic forces, which are instrumental in perpetuating racism, sexism, speciesism, and in creating what Sarah Jaquette Ray calls “the ecological other.” Toxic bodies are palpable examples of this form of othering. In the current social (and environmental) moment, the body is a local text of global contexts, becoming an ecological other through the forces of global capitalism that create trajectories of environmental contamination extended into every metabolic

system. The body, then, is an embodiment of toxification of biomes¹⁹ and ecosystems, and thus enacts the ecology of the world, which is, as geographer David Demeritt puts it, “inseparable from the world-shaping network of social practices.”²⁰ As many corrosive environmental and social forces, and especially alien agencies like synthetic chemicals created by science and technology, transit through vulnerable bodies, the body becomes a toxic agent afflicted with long-lasting diseases. Like organic matter, these synthetic forms of human hubris display an agentic capacity due to their active, effective powers. The new materialist theorist Jane Bennett notes that if we want “more ecological and more materially sustainable modes of production and consumption,” we must take them seriously, because these “material powers, which can aid or destroy, enrich or disable, ennoble or degrade us, in many cases call for our attentiveness.”²¹ As such, alien agencies are the major actors of contemporary social and environmental dramas, cultural meanings, and transnational body politics. In material ecocritical terms, the body is seen as a specific instance of the coextensivity of material agencies and biological systems, discriminatory practices and ecological decline. It is through the body that the nonhuman actualizes itself in mutual relations to the human.

And here, in this continual confrontation of the human with the nonhuman, is where the body becomes a sociopolitical palimpsest, that gets culturally inscribed, socially negotiated and commodified, materially crisscrossed, hybridized, toxified, and inevitably immersed in polluted environments. Entangled in environmental transformations, geopolitical forces, social injustices, the body eventually becomes, as Sarah Jaquette Ray also observes, “the site of traffic between culture and nature.”²² It is, then, not too surprising to see that the body serves as a site for cultural critique of its material connections with the more-than-human-environment. As human corporeality gets intimately intermeshed with this nonhuman world, it becomes what Stacy Alaimo calls trans-corporeality, revealing “the interchanges and interconnections between various bodily natures.”²³ Alaimo’s concept of trans-corporeality is significant in explaining how “human bodies, nonhuman creatures, ecological systems, chemical agents, and other actors”²⁴ are mutually caught up in the traffic of anthropogenic transformations. It is in this context that we need to understand the transformation of the toxic body into the ecological other. Forming highly disconcerted partnerships with often incalculable alien agencies inevitably makes the body toxic. These alien agencies braided into bodies in the darkest incitement of trans-global ecologies manifest as immortal microbes, resilient viruses, and undisposable pesticides and herbicides. That is why this partnership today has taken an utterly uncanny turn with globally felt destructive effects especially when we consider bodies that are sexed, gendered, racially differentiated, and socially categorized. Nonhuman bodies, too, incontestably suffer, perhaps even more intensely, the effects of unpredictable material agencies, and of human exploitative practices, emissions, and climate change. It is well known that within the regulatory practices many nonhuman bodies are “tailored to fit . . . market slots.”²⁵ In short, the livestock biomass, wildlife, humans, and other life forms are tangled in a common, trans-corporeal destiny. The essential logic of this destiny is registered at a key moment when, in Serenella Iovino’s words, “material substances interfere and intermingle with each other, determining the world as a site of ongoing hybridizations, from evolutionary processes to environmentally related illness.”²⁶ Hence, becoming maps of contamination, human and

nonhuman bodies increasingly reflect this dynamic process in illness, toxicity, and hybridity, and need to be examined from a perspective that acknowledges the complicity of toxic forces and practices in perpetuating ecological otherness. Material ecocriticism specifically provides this perspective.

Material ecocriticism peruses the body as a *material* text, in which cultural practices, political and economic decisions, and natural processes are deeply entwined. If we explore bodies as “compounds of flesh, elemental properties, and symbolic imaginaries,” we see that they are “living texts that recount *naturalcultural* stories.”²⁷ Like all material agencies, bodies tell stories: stories of social choices and political decisions, of natural dynamics and cultural practices, and of environmental risks and health issues. The most conspicuous of these stories are those of corporeal porousness and environmental pollution. In this sense, bodies are vast archives of toxic substances and discourses, and political, social, and medical conflicts. One of the best examples of this vision is offered by environmental historian Nancy Langston in her gripping book *Toxic Bodies* (2010). She claims that bodies are not categorically isolated entities, but internal ecosystems, and they always form a “dynamic ecological relationship”²⁸ with the environment. “Like most ecosystems,” she continues to argue, “the body undergoes disturbances from natural toxins, parasites, solar radiation, and mutagens.”²⁹ Her analysis of the effects of the hormone disruptor diethylstilbestrol (DES) on women’s bodies is particularly relevant for understanding the emergence of toxic bodies through which poisonous material agencies and exploitative human practices have created horrific interactions. Although DES is no longer used, “livestock continue to be treated with steroids,” Langston writes, “while pesticides continue to proliferate in the food supply.” She also refers to the reports of “intersex fish and cancer-ridden whales”³⁰ exposed to plastics such as bisphenol A. “Toxic chemicals,” she announces, “have the potential to cross the boundaries between species and generations, altering the hormone systems that shape our internal ecosystems of health, as well as our relationship with the broader ecosystems around us.”³¹ They do not dissolve in the environment, but accumulate in the soil and waters, and move up the food chain. I highlight this example because it provides a comprehensive narrative framework for the permeable materiality of this world where bodies evidently enact the motion of *naturalcultural* processes, revealing layers of meanings hidden in them. Like all beings, we are crisscrossed and cohabited by other life forms, such as bacteria and microbes, from which we can never completely disengage. As in Langston’s example of DES, or pharmaceuticals that interact with our metabolism, we are also intimately linked with xenobiotic substances (chemical compounds). When these “deviant agencies of xenobiotic chemicals,” as Alaimo names them,³² are discharged into the lakes, rivers, and seas, they also alter the metabolism of nonhuman bodies, such as the androgynous fish detected in rivers. Although such ecological others are thought to undermine nature, as Sarah Jaquette Ray rightly claims, they are “doubly victimized; their *physical*, material bodies often bear the costs of environmental exploitation, and their bodies are *discursively* perceived as threats to national, racial, or corporeal purity.”³³

Ironically, however, as the new materialist scholars frequently point out, no human body is purely human. In *Vibrant Matter*, Jane Bennett famously invokes “bacteria colonies in human elbows to show how human subjects are themselves nonhuman, alien, outside, vital materiality.”³⁴ Bennett proposes a conception of the human as

“an assemblage of microbes, animals, plants, metals, chemicals”³⁵ to explain how the human is always entangled with the nonhuman. Similarly, in Donna Haraway’s account, the human and nonhuman interchanges and coexistence are never mutually beneficent, but a problematic “motley of associations”³⁶ always emerging in combination with regimes of power, cultural experiences, and social discourses. What is important in this line of argument is that all bodies exist in what Bennett calls “an interstitial field of nonpersonal, ahuman forces, flows, tendencies, and trajectories”³⁷ that extend into corporeal and social dimensions. Even as I endorse this new materialist conceptualization, my purpose here is not to celebrate the notion of human and nonhuman assemblages as the new epistemic model, but instead to explore how the ahuman forces (like viruses, bacteria, parasites, and microbes) can produce ecologically othered toxic bodies which become characteristic sites of interesting stories on ecological otherness. Conceived this way, the new materialist theories can be read as a sort of prequel to material ecocriticism’s invocation of the body as a living text. What I intend to foreground here is the idea that interacting in complex ways with organic and inorganic matter, bodies are obviously storied landscapes where matter and meaning are inextricably interconnected. I thus draw a material ecocritical vision of the toxic body as a congealing of biological and discursive processes through which toxic agencies and discourses transit, impressing their visible marks. If we see the body as living text, we can understand the naturalcultural stories of ecological otherness that are materially carved onto it. Many forms of subjugation and otherness, alongside a motley of eco-crisis stories, “are scripted onto material bodies.”³⁸ From this perspective, whether toxic or not, bodies are always tangles of natures and cultures, and stories and ecologies. Understanding this relationship is essential in understanding the mechanisms of ecological otherness, and the key to liberation lies in a non-anthropocentrically reconfigured reality. It means, as material ecocriticism posits, inducing “a transformation in plotting ‘dis-anthropocentric’ disciplinary discourses and political, cultural, and ethical models.”³⁹ Practically, this also means that our discourses and social models, scientific and cultural practices, and literary texts are never separate from the natural dynamics of the planet’s ecosystemic processes. Material ecocriticism, therefore, invites us to closely observe the ways in which nature and culture become confluent, permeable, and porous, a process which is best discerned in the becoming of toxic bodies. The ecologies of the world meet and combine with the ecologies of bodies, inscribing naturalcultural stories of their interconnectedness.

The instances of the confluence between bodies and toxic substances, natures, and cultures can be found in many literary texts, which capture the composition of toxic bodies. As Ursula Heise explains, contemporary novelists “use chemical substances as a trope for the blurring of boundaries between body and environment, public and domestic space, and harmful and beneficial technologies.”⁴⁰ In what follows, a brief reading of two novels by a Turkish and an American author may help to substantiate my argument that the stories bodies tell about their trans-corporeal dynamics reflect the dangerous circulation of alien agencies and toxic discourses across living bodies regardless of national boundaries as well. In particular, *Berji Kristin: Tales from the Garbage Hills* (1983) by Latife Tekin and *Gain* (1998) by Richard Powers epitomize how “the environmental crisis is really the crisis of the body.”⁴¹ Moreover, they effectively capture bodily stories by telling gripping and intimate tales about ecological

otherness. In more general terms, however, embodying postcolonial and material ecocritical perspectives in a balanced way, they alert us to the socio-ecological significance of the mesh of human and other-than-human environments. I want to show that, regardless of their local differences (concerning Turkish and American cultures), these two texts reveal vividly that hazardous material agencies are oblivious to all class, gender, culture, or species boundaries.

Turkish ecofeminist novelist Latife Tekin's tragicomic novel, *Berji Kristin: Tales from the Garbage Hills* (1983), is one of the most striking literary examples that demonstrate the powerful effect of chemicals in producing toxic bodies. Tekin presents a group of desperately poor and illiterate people who try to make a living on a garbage hill, which is ironically called Flower Hill, on the outskirts of Istanbul in the 1960s. Next to the garbage hill is a chemical factory, which further contaminates the area. The people who immigrated here live in tiny shacks built out of old tin cans and scraps of wood and cardboard found in the garbage dump, scavenge for food, and struggle against the factory's poisoning toxins. Their huts are bulldozed many times only to be rebuilt again and again. One snowy night their roofs are torn away by the wind, with babies in cradles flying away. But the worst disaster that follows comes from the factory that illegally pollutes the water and air. It begins with the snow-like fallout dispatched from the factory whose effect unfolds quickly on the bodies of the hut people, who are already enmeshed in detritus. "The hut people seemed no longer human," writes Tekin, "smeared with dust, mud, garbage."⁴² Exposed to the gridlock of toxins, children stop growing and adults develop ulcers and running sores.⁴³

Since they are desperate to clean themselves, but have no clean water even to drink, the residents of the garbage hill find relief in the mysterious blue water. Changes start appearing in those who wash in the blue water. "The skin of some began to peel while the faces of others turned purple. Bright blue spots came on the children's bodies and the hair of two women went white."⁴⁴ This bodily transformation is the first sign of their metamorphosis into toxic bodies. "Their spines caved in, flaccid as dough."⁴⁵ Tekin also says that "waste matter spoiled the earth, and the earth colour turned red while the blue plaster on the hut-walls rotted away."⁴⁶ It is not only the human body that suffers from the effects of life-threatening toxins; gradually "the unfolding of slow violence"⁴⁷ manifests on the landscape. Flowers and trees wither, seagulls are gone, chickens refuse to eat anything, and the dogs die. What emerges, then, is a systematic toxification of biological existence on the Flower Hill that gets plunged into abject misery with human and nonhuman bodies framed as ultimate ecological others. Toxic chemicals on Flower Hill internally bear witness to their oppression materially and culturally, relegating the bodies of the people to radical alterity.

Richard Powers's *Gain* (1998) is another noteworthy novel that offers a similar instance of this process, disclosing how the female protagonist Laura's body turns into a toxic one through the occluded relationship between chemicals and human corporeality. Laura Bodey is an estate agent in Lacewood, Illinois, where the chemical factory Clare has been operating since the 19th century. Clare produces soap, fertilizers, super-pesticides, bleaches, agricultural chemicals, floor wax, pharmaceuticals, artificial cheese, and house siding, as well as nitrogen tetroxide, polyethylene plastic, "aluminum sulfate, aluminum silicate, titanium dioxide, hydrated silica, hydrated alumina, tale, barium sulfate . . . polyacrylamide resins . . . and asbestos."⁴⁸ Like other houses in Lacewood, Laura's house is filled with Clare products: "Clare hiding under

the sink, swarming her medicine chest, lining the shelves in the basement, parked out in the garage, piled up in the shed.”⁴⁹ After Laura is diagnosed with ovarian cancer, she realizes that nothing is safe from these chemicals: “Garden sprays. Cooking oils. Cat litter. Dandruff shampoo. Art supplies. Varnish. Deodorant. Moisturizers. Concealers. Water. Air. The whole planet, a superfund site.”⁵⁰ Laura is right in stating that toxicity impinges on the entire planet. Her example indicates that the toxic body is not always a postcolonial one when it becomes a symbolic site of political contestation and power struggle between the law firm that files a lawsuit and Clare that creates and thrives in “toxic, trans-corporeal, material places.”⁵¹ The power of alien agencies is thus not only amplified by the vulnerability of ecosystems, but also compounded by political decisions.

As these two literary texts illustrate dramatically, unlike natural toxins, like poisonous mushrooms that “have a threshold of safety,”⁵² all synthetic chemicals exhibit adverse effects, creating permeable boundaries of contamination between bodies, soil, water, and air. Their power is reflected upon animals, plants, and as Ray states, more visibly on “disenfranchised groups – communities of color, women and children” who are, like the garbage hill people, “disproportionately burdened with the costs of environmental degradation.”⁵³ But as emphasized in Laura’s story, no one is exempt from their deadly impact. While disadvantaged groups like the garbage people are treated as ecological others “on the grounds of race, gender, ability, nationality, and environmental behavior,”⁵⁴ people like Laura, who are supposedly more privileged in class and/or nationality, also suffer from this curse. Knowing no boundaries, alien agencies travel on complex pathways of trans-corporeality, within and across bodies, both in postcolonial environments and Western geographies, producing what Serenella Iovino and I call “hybrid collectives of humans and nonhumans.”⁵⁵ Latife Tekin’s statement I cited above, that the “hut people seemed no longer human,” instantiates the toxic aspect of this collective hybridity well, while Richard Powers’s *Gain* epitomizes the body as a material text of complexly interconnected ecological, ethical, political, and social forces. This is not a cooperative configuration, but a corrosive hybridization of human and nonhuman agencies, displaying the stark reality of alien kinships.

Unlike the disabled body that encounters social exclusion and social alienation, the toxic body in this configuration is a figure of ecological otherness in the sense of being a small ecosystem gone awry. If only for this reason, we need to listen to the clarion call sent out by toxic bodies for developing new forms of awareness about ecological otherness. We all dwell in a world crisscrossed by deviant agencies that now populate the Earth. Since these xenobiotic forces and substances have the power to reshape bodies and disrupt physical environments, we must pay close attention to their often unpredictable agentic dimension. Agency manifests in many ways, and even in garbage, as Jane Bennett and Latife Tekin in their respective theoretical and fictional frameworks have shown, there is vibrant materiality that evades human control. In a more radical perspective, whether it is detrimental or not, matter in all its formations (alien agencies like synthetic chemicals, organic compounds, metals, and minerals, or human and nonhuman bodies) is the co-producer of planetary realities and literary and cultural imagination. Therefore, decoding the meanings disseminated across material flows, substances, and forces that form a web of entangled relations with the human reality, can move our vision “from the language of

otherness to that of differential co-emergence.”⁵⁶ When ecosystems, climate, species, and human cultures intersect in pollution, poverty, species extinction, depletion of local ecosystems, global warming, disseminated toxic matter, and other ecological problems, they collectively signal the necessity to change our anthropocentric values and destructive practices.

ENDNOTES

1. Patricia Yaeger, “The Death of Nature and the Apotheosis of Trash; or, Rubbish Ecology.” *PMLA* 123.2 (March 2008): 332.
2. Homi Bhabha, *The Location of Culture* (New York: Routledge, 1994), 30.
3. Ursula Heise, “Globality, Difference, and the International Turn in Ecocriticism.” *PMLA* 128.3 (May 2013), 638.
4. On the definition of postcolonial ecocriticism and its subjects, themes, and topics, see Graham Huggan and Helen Tiffin’s “Introduction” and the first chapter, “Development” in their book, *Postcolonial Ecocriticism: Literature, Animals, Environment* (New York: Routledge, 2010). Other influential publications instituting postcolonial and ecocritical perspectives include Elizabeth DeLoughrey, Renée K. Gosson, and George B. Handley, eds., *Caribbean Literature and the Environment: Between Nature and Culture* (Charlottesville: University of Virginia Press, 2005); the special cluster on postcolonial ecocriticism edited by Cara Cilano and Elizabeth DeLoughrey in the Winter 2007 issue of *ISLE*; Helen Tiffin, ed., *Five Emus to the King of Siam: Environment and Empire* (Amsterdam: Rodopi, 2007); Laura Wright, *Wilderness into Civilized Shapes: Reading the Postcolonial Environment* (Athens: The University of Georgia Press, 2010); Bonnie Roos and Alex Hunt, eds., *Postcolonial Green: Environmental Politics and World Narratives* (Charlottesville: University of Virginia Press, 2010); Pablo Mukherjee, *Postcolonial Environments: Nature, Culture and the Contemporary Indian Novel in English* (New York: Palgrave MacMillan, 2010); Elizabeth DeLoughrey and George Handley, eds., *Postcolonial Ecologies: Literatures of the Environment* (Oxford: Oxford University Press, 2011); Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge: Harvard University Press, 2011); Simon C. Estok and Wong-Chung Kim, eds., *East Asian Ecocriticism: A Critical Reader* (New York: Palgrave MacMillan, 2013).
5. Postcolonial critics have also realized that contemporary power structures and conflicts over geopolitical issues are inseparable from fundamental environmental questions, such as the use of energy, depleting natural resources, global pollution, and concerns over social injustices in the changing climate. See Gayatri Spivak, *Death of a Discipline* (New York: Columbia University Press, 2003) and “Why Planet? Intellectual Autobiography.” In *The Endangered Planet in Literature* (IV. International Conference of Literatures in English. Selected Proceedings), ed. Barry Tharaud and Elizabeth Pallito (Istanbul: Doğuş University, 2005), 15–29; Robert J.C. Young, “Postcolonial Remains.” *New Literary History* 43.2 (Winter 2012): 19–42; Dipesh Chakrabarty, “The Climate of History: Four Theses.” *Critical Inquiry* 35 (Winter 2009): 197–222, and “Postcolonial Studies and the Challenge of Climate Change.” *New Literary History* 43.1 (Winter 2012): 1–18.
6. Greta Gaard, “Global Warming Narratives.” In *The Future of Ecocriticism*, ed. Serpil Oppermann, Ufuk Özdağ, Nevin Özkan, and Scott Slovic (Newcastle upon Tyne: Cambridge Scholars Publishing, 2011), 52.
7. Simon C. Estok, “Afterword: Reckoning with Irreversibilities in Biotic and Political Ecologies.” Spec. issue on “Postcolonial Ecocriticism Among Settler-Colonial Nations,” ed. Travis V. Mason, Lisa Szabo-Jones, and Elzette Steenkamp. *Ariel: A Review of International English Literature* 44.4 (2014): 220.

8. Between August 1987 and May 1988, 4,000 tons of toxic wastes were dumped in Koko, Nigeria.
9. Malin Ah-King and Eva Hayward, “Toxic Sexes: Perverting Pollution and Queering Hormone Disruption.” *O-Zone: A Journal of Object Oriented Studies* 1 (Autumn 2013): 5.
10. Joni Adamson, “Environmental Justice, Cosmopolitics, and Climate Change.” In *The Cambridge Companion to Literature and the Environment*, ed. Louise Westling (New York: The University of Cambridge Press, 2013), 169.
11. Bonnie Roos and Alex Hunt, “Introduction: Narratives of Survival, Sustainability, and Justice.” In *Postcolonial Green*, ed. Bonnie Roos and Alex Hunt (Charlottesville: University of Virginia Press, 2010), 2.
12. Heise, “Globality, Difference, and the International Turn in Ecocriticism,” 639.
13. Tim Lenton, “Engines of Life: Review of Vaclav Smill’s *Energy in Nature and Society*.” *Nature* 452.10 (April 2008): 691–692.
14. See Mark Whitehead, *Environmental Transformations: A Geography of the Anthropocene* (New York: Routledge, 2014), 7. Whitehead argues that there is a “problem with thinking about environmental problems in global terms alone,” and that “the inhabited areas that are most likely to suffer the worst impacts of climate change are Africa and South Asia” (p. 7). Though this is undeniable, I would stress the fact that the poor communities in the Global North are also involuntarily exposed to climate-related diseases and the uneven impacts of climate change.
15. On this point, see Malcolm Sen’s essay, “Spatial Justice: The Ecological Imperative and Postcolonial Development.” *Journal of Postcolonial Writing* 45.4 (December 2009): 365–367.
16. Dipesh Chakrabarty, “Brute Force.” *Eurozine*, October 7, 2010, 2.
17. Dipesh Chakrabarty, “Postcolonial Studies and the Challenge of Climate Change.” *New Literary History* 43.1 (Winter 2012): 1.
18. Rob Nixon, *Slow Violence and the Environmentalism of the Poor* (Cambridge: Harvard University Press, 2011), 7.
19. Biomes are regional or global biotic communities, usually characterized by a dominant vegetation, such as a grassland, forest, tundra, or desert, with a prevailing climate.
20. David Demeritt, “The Construction of Global Warming and the Politics of Science.” *Annals of the Association of American Geographers* 91.2 (June 2001): 312.
21. Jane Bennett, *Vibrant Matter: A Political Ecology of Things* (Durham: Duke University Press, 2010), ix.
22. Sarah Jaquette Ray, *The Ecological Other: Environmental Exclusion in American Culture* (Tucson: The University of Arizona Press, 2013), 9. Ray uses the term “corporeal ecology” (p. 16) to explain the connections between environments and bodies.
23. Stacy Alaimo, *Bodily Natures: Science, Environment, and the Material Self* (Bloomington: Indiana University Press, 2010), 2.
24. *Ibid.*
25. Val Plumwood, *Environmental Culture: The Ecological Crisis of Reason* (New York: Routledge, 2002), 25.
26. Serenella Iovino, “Bodies of Naples: Stories, Matter, and the Landscapes of Porosity.” In *Material Ecocriticism*, ed. Serenella Iovino and Serpil Oppermann (Bloomington: Indiana University Press, 2014), 101.
27. Serenella Iovino and Serpil Oppermann, “Introduction: Stories Come to Matter.” In *Material Ecocriticism*, ed. Serenella Iovino and Serpil Oppermann (Bloomington: Indiana University Press, 2014), 6.
28. Nancy Langston, *Toxic Bodies: Hormone Disruptors and the Legacy of DES* (New Haven: Yale University Press, 2010), 147.
29. *Ibid.*, 149.

30. *Ibid.*, xii.
31. *Ibid.*, 2.
32. Alaimo, *Bodily Natures*, 139.
33. Ray, *The Ecological Other*, 9.
34. Bennett, *Vibrant Matter*, 120.
35. *Ibid.*
36. Donna Haraway, *When Species Meet* (Minneapolis and London: University of Minnesota Press, 2008), 250.
37. Bennett, *Vibrant Matter*, 61.
38. Stacy Alaimo and Susan Hekman, "Introduction: Emerging Models of Materiality in Feminist Theory." In *Material Feminisms*, ed. Stacy Alaimo and Susan Hekman (Bloomington: Indiana University Press, 2008), 8.
39. Iovino and Oppermann, "Introduction: Stories Come to Matter," 8.
40. Ursula Heise, "Toxins, Drugs, and Global Systems: Risk and Narrative in Contemporary Novel." *American Literature* 74.4 (December 2002): 748.
41. Ray, *The Ecological Other*, 60.
42. Latife Tekin, *Berji Kristin: Tales From the Garbage Hills*. Trans. Ruth Christie and Saliha Peker, 1983; rpt. (London: Marion Boyars, 1996), 22.
43. *Ibid.*, 60.
44. *Ibid.*, 29.
45. *Ibid.*, 35.
46. *Ibid.*, 47.
47. Nixon, *Slow Violence*, 51.
48. Richard Powers, *Gain* (New York: Picador, 1998), 393.
49. *Ibid.*, 345.
50. *Ibid.*, 323.
51. Stacy Alaimo, "Trans-Corporeal Feminisms and the Ethical Space of Nature." In *Material Feminisms*, ed. Stacy Alaimo and Susan Hekman (Bloomington: Indiana University Press, 2008), 261.
52. Langston, *Toxic Bodies*, 6.
53. Ray, *The Ecological Other*, 23.
54. *Ibid.*, 24.
55. Iovino and Oppermann, "Introduction: Stories Come to Matter," 10.
56. Serpil Oppermann, "Material Ecocriticism: and the Creativity of Storied Matter." Spec. issue on "Ecocriticism." *Frame: Journal of Literary Studies* 26.2 (November 2013): 69.

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