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**Conclusion: Thinking as the Stuff of the World**

mornings in the unknown future. Who shall repair this. And how the future  
takes shape  
too quickly. The permanent is ebbing. Is leaving

(Jorie Graham, “Sea Change”)

Just a few lines from Jorie Graham’s poem “Sea Change” evoke anxiety about  
unpredictable futures that arrive too soon, in need of repair. The abrupt departure of a  
sense of permanence may provoke the desire to arrest change, to shore up solidity, to  
make things, systems, standards of living, “sustainable.” The call in the last chapter to  
contemplate one’s shell on acid and dwell in the dissolve needs to be contextualized as a  
radical departure from the most influential version of “environmentalism” of the last  
several decades—that of sustainability. Having worked in the environmental humanities  
and sciences studies for more than a decade and having served as the Academic Co-Chair  
for the University Sustainability Committee at the University of Texas of Arlington for  
several years, I have been struck by how the discourse of “sustainability” at the turn of  
the 21st century in the U.S. echoes that of “conservation” at the turn of the 20th century,  
especially in its tendency to render the lively world as a storehouse of supplies for the  
elite. Gifford Pinchot, Theodore Roosevelt’s head of forestry, defined forests as  
“manufacturing plants for wood,” epitomizing the utilitarianism of the conservation  
movement of the Progressive era, which saw nature as a resource for human use. By the  
early 20th century Pinchot’s deadening conception of nature jostled with other ideas, such  
as those of aesthetic conservation and the fledgling science of ecology. Pinchot was  
joined by the Progressive Women Conservationists who claimed, as part of the broader  
“Municipal Housekeeping” movement, that women had special domestic talents for
conservation, such as “turning yesterday’s roast into tomorrow’s hash.” Many Progressive Women Conservationists not only bolstered traditional gender roles, but wove classism and racism into their conservation mission, as “conservation” became bound up with conserving their own privileges. The anthropocentrism of the Progressive Women Conservationists is notable. As one participant at the First National Conservation congress stated in 1909, “Why do we care about forests and streams? Because of the children who are to be naked and bare and poor without them in the years to come unless you men of this great conservation work do well your work.” During their conventions, the discourse of conservation was playfully and not so playfully extended to myriad causes, including conserving food, conserving the home, conserving morals, conserving ‘true womanliness,’ conserving ‘the race,’ conserving ‘the farmer’s wife,’ and conserving time by omitting a speech.

The U.S. frenzy to conserve, at the turn of the 20th century, was, in part, driven by the desire to demarcate the country’s resources as belonging to some groups and not others, as waves of immigrants came ashore. The current mushrooming of the term “sustainability,” may be fueled by anti-immigration fervor as well as by the desire to entrench systemic inequalities during a time of economic instability. At the start of the 21st century, anti-immigration movements focusing on the Southwestern border of the U.S. are complemented by anxious glances toward the East, as the economies of China, East Asia, and India expand. Fear lurks behind the proliferating, sanitized term “sustainability,” as news reports worry that economies, national debts, personal debt, the housing market, food systems, the Eurozone and all manner of more trivial matters, are not “sustainable.” Although the concept of sustainability, emerges, in part, from economic theories that roundly critique the assumption that economic prosperity must be fueled by continual growth, the term is frequently invoked within economic and other news stories that do not, in any way, question capitalist ideals of unfettered expansion. Like “conservation,” sustainability has become a plastic but potent signifier, meaning, roughly, the ability to somehow keep things going, despite, or rather because of, the fact we suspect economic and environmental crises render this impossible. In other words, “sustainability” reveals the desire for inertia, which is propelled by denial. John P. O’Grady points out the irony here: “That nothing stays the same is the very basis of
history [and] evolutionary theory.” Thus, “there is no ecological justification for the idea of sustainability.”\textsuperscript{iv} The discursive success of the signifier—in business, science, academics, and popular culture—leads one to suspect that it may be serving a psychological function in the social consciousness. Although Slavoj Žižek, in \textit{Living in the End Times}, does not dwell on sustainability he does analyze the mechanisms that allow us to maintain ourselves psychologically while an apocalypse gallops toward us. For example we “\textit{know} the (ecological) catastrophe is possible, probable even, yet we do not \textit{believe} it will really happen.”\textsuperscript{v} Could dwelling in the dissolve suspend this disbelief?

\textbf{Disciplining Movements, Academics, and Knowledges}

Even as the movement for more sustainable universities, businesses, cities, states, and households is a positive development, in that the systematic attempt to reduce energy and water usage, reduce waste, use less toxic products, and shrink carbon footprints is nothing to dismiss, we may well ask how it is that environmentalism as a social movement became so smoothly institutionalized as “sustainability.” The discourse of sustainability, cleansed of its association with “tree huggers,” and articulated to a more technocratic, apolitical domain is more palatable for academic institutions, governments, and businesses. While it would be politically awkward for colleges and universities to ally themselves with environmentalism per se, which may offend some donors or legislators, 840 institutions of higher education are members of AASHE, the Association for the Advancement of Sustainability in Higher Education. On university campuses such things as Environmental Management Systems, defined by the U.S. EPA as “a set of processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency”\textsuperscript{vi} complement the growing faculty management systems in which academic labor must not only become more “efficient” but must be measured in ever more quantitative ways. Not surprisingly, this new Gospel of Efficiency\textsuperscript{vii} values the disciplines that can \texttt{fix} things—engineering, the sciences, and maybe architecture and urban planning. Who has time for philosophical questions, social and political analyses, historical reflections, or literary musings when the world is rapidly heating up and “resources” are running out?

The humanities may be dismissed, outright, when it comes to the “triple bottom
line,” of profit, people, and planet. Stephanie LeMenager and Stephanie Foote advocate for what they term the “sustainable humanities,” which denotes, broadly, the “ecological value of humanities education.”viii The fact that the Institute for Humanities Research at Arizona State University drafted a white paper entitled “Contributions of the Humanities to Issues of Sustainability” suggests these contributions require explanation. The first of the 17 contributions in this convincing document asserts that the humanities are crucial for both understanding and solving environmental crises, as humanists “[c]hallenge reliance upon the authority of ‘nature’ or ‘science’ in order to address problems that in their origin and solution are primarily social and cultural.”ix Gert Goeminne, would agree with this assertion. In “Once Upon a Time I was a Nuclear Physicist. What the Politics of Sustainability Can Learn from the Nuclear Laboratory,” Goeminne argues that

expert-focused technological determinism, embedded in a discourse of ecological modernization, now acts to marginalize the issues of human choice involved in putting sustainability into effect and to downplay deliberation over the socio-cultural practices, behaviours, and structures such choice involves. As a result of this techno-scientific focus, the need for accordant social change is removed from view, which makes sustainability all the less likely to occur in practice.x

This technological focus obscures power differentials, political differences, cultural values, and everyday human practices. Technical problems and their solutions become compressed and contained. This may yield some valuable inventions and designs, but the wider human, geographic, social, political, and economic contexts and interconnections are obscured, along with an understanding of multiple scales. The narrow, technical, notion of sustainability could be countered by the sort of critical realism that LeMenager and Foote contend humanities scholarship and pedagogy are well positioned to provide: the artful representation of “realities that are not usually visible because of the scalar extremes and privatization of space in capitalism today.”xi

The techno-scientific perspective contrasts with the alternative epistemologies of “popular epidemiologists” and “ordinary experts” that have emerged from environmental justice and environmental health movements.xii As citizens with little or no scientific background take samples and analyze data gleaned from their own communities, science is shown to be a politically-embedded practice that is too important to be left to the
experts. Environmental justice groups are not alone, however, in challenging traditional models of scientific distancing, objectivity, and authority. Environmental health movements, people with multiple chemical sensitivity, domestic carbon footprint analysts, and environmental activists of all sorts practice DIY (do-it-yourself) science. The chemically sensitive move through the world using their own bodies as monitoring devices, treesitters in the Pacific Northwest from their vantage point hundreds of feet in the air assess how clearcutting leads to mudslides, dolphin advocates on the Texas coast monitor the behavior, communication, and kinship patterns of cetaceans. These modes of knowledge are embedded, passionate, and purposeful—the mirror image of scientific objectivity. Even as the practices of sustainability foster the recognition that nearly everything one does has effects on larger environmental issues, the epistemological stance of sustainability, as it is linked to systems management and technological fixes, presents a rather comforting, conventional sense that the problem is out there, distinct from one’s self. The dominant style of sustainability parallels that of the anthropocene vision discussed in the last chapter, in which a disembodied spectator is outside the externalized and inert world. Sustainability proceeds with the presumption that human agency, technology, and master plans will get things under control. But the crises of the anthropocene render that stance absurd, as the unintentional effects of human activity, and its interactions with other forces, outpace even the best laid plans. Throughout Protest and Pleasure embedded onto-epistemologies, provisional knowledge practices, performances of exposure, and imaginative dissolves diverge from the predominant paradigm of sustainability by staying low, remaining open to the world, and becoming attuned to strange agencies.

Rosi Braidotti embraces the possibilities for the concept of sustainability, arguing that what it stands for is “a regrounding of the subject in a materially embedded sense of responsibility and ethical accountability for the environments she or he inhabits.” Braidotti infuses sustainability with a Deleuzian sense of becoming: “The ethical subject of sustainable becoming practices a humble kind of hope, rooted in the ordinary micro-practices of everyday life: simple strategies to hold, sustain and map out thresholds of sustainable transformation.” This positive sense of transformative micro-practices is countered by Žižek’s condemnation of such activities as purchasing organic food as yet
another mode of disavowal: “I know very well that I cannot really influence the process which may lead to my ruin (like a volcanic eruption), but it is nonetheless too traumatic for me to accept this, so I cannot resist the urge to do something, even if I know it is ultimately meaningless.”

Between Braidotti’s humble yet utopian sense of transformation and Žižek’s impotent activities of disavowal, dwell the less exuberant and less certain practices of environmental and environmental justice activists and amateur practitioners, who recognize that their own bodily existence is caught up in material agencies that are difficult to discern, and often impossible to escape. While the epistemological stance of sustainability offers a comforting sense of scientific distancing and objectivity, trans-corporeal subjects are often forced to recognize that their own material selves are the very stuff of the agential world they seek to understand. The literary and popular genre of the “material memoir,” most notably, Susanne Antonetta’s Body Toxic, for example, transforms autobiography into an examination--often scientific--of how the self is coextensive with the environment.

Similarly, while the promotion of say “sustainable seafood,” holds out the possibilities that there are marine creatures that can be consumed without threatening their continued existence or harming the health of those who eat them, the activist film “A Shared Fate,” discussed in chapter five, documents how mercury and PCBs not only kill massive numbers of dolphins and other marine mammals but threaten humans who eat dolphins and whales, as well as those humans who consume the same fishes that dolphins and whales consume. The video reveals that Hardy Jones, who had devoted his life to protecting cetaceans from slaughter, ends up suffering from the same form cancer that is killing them, as his own body carries high levels of mercury and other heavy metals. An appeal to “sustainability,” would be a rather abstract and ineffectual gesture for this drama that demands, at the very least, more stringent movements and measures to prevent massive amounts of mercury and toxic chemicals from entering the oceans.

Material Agencies and Posthuman Futures

Scholars in the humanities, or, more aptly, the posthumanities, may well ask “what is it that sustainability seeks to sustain?” and “for whom?” Questions of social justice, global capitalist rapacity, and unequal relations between the global north and the
global south are invaluable for developing models of sustainability that do more than try to maintain the current, brutally unjust, status quo. Julian Agyeman, stressing the “inseparability of environmental quality and human equality,” promotes the concept of “just sustainability,” which focuses on race and class and involves redistribution and transformation. While I would agree that sustainability movements must integrate social justice, and income disparities call out for redistribution, the focus on redistribution within a sustainability model still poses nature as inert resources for human use and ignores multispecies claims. Moreover, many environmental harms are silent, invisible, and difficult to detect. Concepts of sustainability, even just sustainability, need be troubled by the recognition of the pervasive “slow violence,” in Rob Nixon’s terms, that characterizes the “environmentalism of the poor.” Imagine if environmental management system metrics included data on “violence,” “disease,” “genetic damage,” or “death,” gleaned from the long-term impact of “resource” extraction, manufacturing, use, and disposal. The “resources” act in unruly ways. The absence of this sort of data is accompanied by other glaring absences. Strangely, “sustainability” evokes an environmentalism without an environment, an ecology devoid of other living creatures. The standard definition of sustainability, given in the 1987 Brundtland Report is “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” Not only are the “generations” here usually taken to be human but the lively world is reduced to the material for meeting the “needs” or future humans. (“Why do we care about forests and streams? Because of the children. . .”)

The anthropocentric rhetorics of sustainability echo those of climate change movements. As chapter four discussed, climate change initiatives by the United Nations and global feminist NGOs are strangely devoid of nonhuman creatures. Even Bill McKibben’s 350. org, “dedicated to building a global grassroots movement to solve the climate crisis,” features photos of assemblies of people around the world who hold up signs or flags or wear T shirts displaying the number “350,” the “safe upper limit’ of carbon dioxide in our atmosphere” in parts per million. The photos depict large groups of people--flying kites, biking, walking, marching, standing, or arranged in symbolic shapes. Less cheery images, which one would expect from a climate change movement,
such as photos of agricultural areas ravaged by drought, clearcut forests, oil and sludge-filled Amazonian regions, and melting icebergs are absent. Instead, we see happy, smiling faces gathered together on behalf a number, 350. As picture after picture continues to roll by, there is not a nonhuman animal—wild or domesticated—in sight. When McKibben spoke at the University of Texas at Arlington in 2010 he showed these same sorts of photos, a veritable parade of equalized global peoples. He did not mention how climate change is expected to condemn a million species to extinction by 2050. He did not show photos of any of these species or their habitats. The non-human species seem to have already disappeared, at least in terms of visibility or concern. The animated feature on the 350.org site, designed, laudably, to explain the movement without using language, so as to be understood by any human anywhere, depicts human stick figures moving on blank, lifeless backgrounds. Humans and their activities are animated, but the material world is rendered as abstract space, not living places, biodiverse habitats, or ravaged ecologies. An invisible *anywhere*. McKibben, famous for his eponymous declaration, in *The End of Nature*, that nothing can now be called nature (if “nature” suggests something untouched by the human), has, disturbingly, set his climate change movement in a world utterly devoid of other than human life forms, agencies, habitats, and systems.

In his afterword to *Living in the End Times*, Žižek calls us to consider the commons:

> Communism is today not the name of a solution but the name of a problem: the problem of the commons in all its dimensions—the commons of nature as the substance of our life, the problem of our biogenetic commons, the problem of our cultural commons (“intellectual property”), and, last but not least, the problem of the commons as that universal space of humanity from which no one should be excluded. 

Is it possible to imagine this “universal space of humanity” as including all nonhuman life forms, in a manner akin to Bruno Latour’s collective of humans and nonhumans? Doubtful. Nonhumans, it seems, have already been excluded from the space “from which no one should be excluded.” The lively, agential world of diverse creatures becomes a blank, “universal space,” or the “substance” of “our life.” The tragedy of Žižek’s
commons is that they are exclusively, sadly, ours, alone. The challenge of how to include
the claims, needs, and agencies of other living creatures, habitats, and ecosystems
remains.

Has the term “sustainability” become articulated too firmly to a technocratic,
anthropocentric perspective? Is it possible to recast “sustainability” in such a way that it
ceases to epitomize distancing epistemologies that render the world as resource for
human use? Should biodiversity be one of the principle, if not foremost, states that
should be “sustained,” notwithstanding the fact that perpetual change, not fixity, is the
ungrounded ground for the survival of diverse species? Could sustainability be
transformed in such a way as to cultivate posthumanist epistemologies, ethics, politics,
and even aesthetics? Consider the oceans. The very liquidity of pelagic habitats, alien to
human understanding, may dislodge us from our entrenched way of approaching the
world. Denise L. Breitburg (et. al), in “Ecosystem Engineers in the Pelagic Realm:
Alteration of Habitat by Species Ranging from Microbes to Jellyfish,” for example,
explains that many species in the open waters of the seas “so completely transform the
pelagic habitat.”\textsuperscript{xxii} The cumulative effects of “many small actions,” result in “habitat
that is created or altered over large spatial and temporal scales.”\textsuperscript{xxiii} Considering creatures
from microbes to jellyfish as themselves “ecosystem engineers,” stresses the lively
interactions within watery worlds, while underscoring that the physical environment is
never mere “background” or abstract space.

Recognizing that the “permanent is ebbing” and the “unknown future” will surely
be in need of “repair,” may discourage us from taking refuge in the idea that we can fix
the world out there in such a way as to ensure “it” will keep providing for “us.” Perhaps
what the environmental humanities and science studies can contribute to “sustainability,”
if indeed, we choose to use that term, would be to formulate more complex
epistemological, ontological, ethical, and political perspectives in which the Human can
no longer retreat to an asylum of separation and denial or to proceed as if it were possible
to secure an inert, discrete, externalized this or that. New materialist conceptions of
agency, explicitly put forth in theory and manifest in various modes of environmentalist
activism strike to the root of what’s wrong with the concept of sustainability. Barad’s
posthuman ethics, for example, counters the tendency of sustainability to externalize and
objectify the world through management systems and technological fixes. Barad argues that an “ethics of mattering” “is not about right responsibility to a radically exterior/ized other, but about responsibility and accountability for the lively relationalities of becoming of which we are a part.”\textsuperscript{xxiv} The interacting material agencies provoked by the staggering scale and fearsome pace of human activities will no doubt bring about unknown futures. Rather than approaching this world as a warehouse of inert things we wish to pile up for later use, we must hold ourselves accountable to a materiality that is never merely an external, blank, or inert space but the active, emergent substance of ourselves and others.

**Thinking as the Stuff of the World**

Being invited to write for the inaugural issue of *O-Zone: A Journal of Object-Oriented Studies* forced me to consider the parallels and the distinctions between different movements within the material turn in theory. As a new materialist and material feminist who developed the concept of “trans-corporeality,” which foregrounds material agencies, I understand the necessity for theory and cultural criticism to forge new ways of accounting for the agencies and significance of material substances, forces, and systems. But as an eco-cultural and animal studies theorist I bristle at the first word of OOO—“object”—which erases all distinctions between consumer projects and living creatures. Yet haven’t the last few decades of science studies, feminist theory, and other fields reconfigured the established divides between subject and object, nature and culture, in such a way so as result in the flat ontology of “objects”? Are the objects of OOO fundamentally different from Haraway’s oncomouse or Latour’s hole in the ozone? Levi Bryant explains that a flat ontology seeks to overcome human exceptionalism: “Rather than bifurcating being into two domains—the domain of objects and the domain of subjects, the domain of nature and the domain of culture—we must instead conceive of being as a single flat plane, a single nature, on which humans are beings among other beings.”\textsuperscript{xxv} It has been difficult for theorists to formulate language that can cross the nature/culture divide, as most Western terminology is always already rooted to one side or the other. The term “equality,” for example, adheres to the political and social realm.\textsuperscript{xxvi} When Ian Bogost contends that “nothing has special status, but that everything exists equally”—plumbers, cotton, bonobos, DVD players, and sandstone, for
example,” xxvii I wonder, why place bonobos and DVD players and plumbers on an equal plane? Doesn’t this flat plane quash the animal studies arguments for animal minds, animal cultures, animal communications? (Sure, there is a plumber on that list but there is little danger that standing adjacent to cotton will dismantle sturdy Humanist presumptions.) Is the focus on objects too posthumanist or not posthumanist enough? How would (how do) the philosophical interventions of OOO play out in popular culture, politics, activism, and daily life? What is the relation between the objects of OOO and consumer products? And what are the relations between emerging transdisciplinary fields and movements such as the nonhuman turn, thing theory, new vitalism, speculative realism, affect theory, new materialism, material feminisms, posthumanism, animal studies, and OOO? This is not the place to address all of these questions of course, so I will focus here on how OOO contrasts with the positions, predilections, politics, and arguments of this book.

In Alien Phenomenology, or What’s It Like to Be a Thing, Bogost dismisses environmental studies, animal studies, science studies, and posthumanism, within a mere two pages, for not being posthumanist enough. But he cites very few examples, claiming, mistakenly, that “posthuman approaches still preserve humanity as primary actor” and science studies “retains some human agent at the center of analysis.” xxviii He also charges, correctly, but oddly, that environmentalism limits its concern to “living creatures.” xxix By ignoring the work of feminist science studies scholars such as Donna Haraway, Nancy Tuana, and Karen Barad, he positions OOO as the only escape route from the “tiny prison of our own devising,” in which “all existence is drawn through the sieve of humanity.” xxx Barad’s theory of agential realism, for example, offers a potent conception of material agency that does not privilege the human. Moreover, Barad challenges the very notion of discrete “objects.” Bogost’s lists of things—which mix types of humans with animals, household appliances, banal consumer products, and anything else one could think of—circumscribe each thing as a separate entity. Barad, on the other hand, drawing on Neils Bohr, takes “the primary ontological unity to be phenomena, rather than independent objects with inherent boundaries and properties. . . .[P]henomena are the ontological inseparability of intra-acting ‘agencies.’” That is, “phenomena are ontological entanglements.” xxxi Inhabiting Barad’s theory, contemplating the utterly counter-intuitive
sense of the world as made up of intra-acting agencies, rather than separate objects, is to me, more vertiginous and generative than contemplating objects as distinct alien beings. Moreover the focus on detached objects promotes a consumerist ideology, especially as capitalism would like nothing better than to utterly obscure relations of production, in which the object is entangled with exploitative working conditions and environmental harms. By contrast, tracing intra-actions across substances, systems, and bodies, enables political critique, economic interventions, and the development of less harmful practices.

Levi Bryant, taking up Bogost’s conception of “alien phenomenology,” contends that “in all cases” it “consists in the attempt to suspend our own human ways of operating and encountering the world so as [to] investigate non-human ways of encountering the world.”xxxii This is a valuable endeavor for posthumanism, animal studies, and plant studies, and Bryant’s conception of the “machine” rather than the object, levels out the human and non-human in a way that eludes anthropocentrism while also escaping “a highly sedimented philosophical tradition surrounding objects and subjects.”xxxiii Bryant also insists on the ethical and political potential of alien phenomenology, contending that “a great deal of human cruelty arises from the failure to practice alien phenomenology,” including sexism, “colonial exploitation, oppression, and genocide,” and the mistreatment of animals. He proposes that “through the practice of alien phenomenology, we might develop ways of living that are both more compassionate for our others and that might develop more satisfying social assemblages for all machines involved.”xxxiv Bogost, however, disregards the environmental and social implications of this theories, as he reinstalls a humanist and masculinist disembodied subject. The philosopher asks, “What is it like to be a computer or a microprocessor, or a ribbon cable? . . . As operators or engineers we may be able to describe how they work. But what do they experience? What’s their proper phenomenology? In short, what is it like to be a thing?”xxxv He rejects science studies as the route to an answer because it “retains some human agent at the center of analysis.”xxxvi But the method of philosophical speculation seems terribly ill-equipped for the task of accessing objects, as it places the human mind squarely in the “center of the analysis.” Allow me to note that I can’t drink the KoolAid here and believe that a cable experiences anything at all; nor do I find it useful—personally, intellectually, ethically, politically, nor in any other way except for perhaps as some sort of psychadelic
koan—to imagine what it is like to “be” a cable. I do wonder, however, albeit rather anthropocentrically, what it is like to be a human imagining what it means to be a thing. In this case Bogost’s speculations on what it means to be a particular object emerge from a detached, rational mind. There is no sense of embodied, interactive, intra-active, situated or scientifically-mediated knowledges here. Feminist, postcolonial, and environmental epistemologies have long critiqued modes of knowing that install a gap between the subject and the object of knowledge. But these theories are overlooked. Instead, the knower who undertakes the phenomenological explorations of the aliens that surround him is separate from that which he ponders. Since I don’t expect a cable to possess a sense of “being,” I’m not surprised we are not given a vivid account of what it is to be a cable. But it is strange that this alien phenomenology ends up telling us so little about the cable or any other object. The abyss between the philosopher and the objects he contemplates, leads us to Derrida. If we follow Derrida following the animal, we might trace some parallels here, as the philosophers’ point of enunciation is that of being those who “have given themselves the right to give” the word—in this case, the word would be that of “object,” rather than “animal”: “the word that enables them to speak of the animal with a single voice and to designate it as the single being that remains without a response, without a word with which to respond.”xxxvii Although OOO intends to level various entities, putting the human on the same ontological plane as other “objects,” the human voice is the only thing we hear.

Philosophical contemplation may not be the most generative method for accessing objects, substances, or other materialities. Andrew Pickering’s model of the “mangle of practice,” is a revealing counterpoint here, as it allows for nonhuman agencies to register, even as it accounts for the interactions between the scientific, economic, and social.xxxviii Kim TallBear’s extraordinarily promising, multidimensional project on the scientific, regulatory and indigenous approaches to pipestone provides another striking model, which approaches the material as that which is vitally interconnected with lives, stories, and practices. She counters the way “making monuments and doing science risk deanimating” pipestone, by analyzing the stone from Dakota standpoints, where it is more like a relative than an alien:
The stone is sometimes spoken of as a relative. Unlike with blood or DNA, pipestone does not possess a cellular vibrancy. Yet without it, prayers would be grounded, human social relations impaired, and everyday lives of quarries and carvers depleted of the meaning they derive from working with stone. Just like indigenous people who insist on their continuing survival and involvement with their DNA, indigenous quarries and carvers, medicine people, and everyday people who pray insist on living with the red stone daily.

TallBear’s methods, which involve science, site-based research, archives, and participant observation, promise to yield rich, robust analyses as she develops “indigenous, feminist and queer theory approaches to critical ‘animal studies’ and new materialisms.”

Readers might object that the previous chapter in this book does something similar to cable contemplation. Dwelling in the dissolve of the acidifying seas also involves an imaginative, speculation across an abyss. But my call to consider your shell on acid entails a sense of the human self as permeable, part of the flux and flow of the anthropocene, part of the stuff of the world. It is a call to contemplate the actual acidification of the seas as scientific data is captured, to reckon with the moment of the 6th great extinction, and to inhabit an environmentally ethical sense of the self as immersed within an altering world. Trans-corporeality, as it reckons with material agencies that traverse substances, objects, bodies, and environments, entails reckoning with scientific captures, even as the data is always already mangled by social and economic forces.

I agree, as many environmentalists, would, with Timothy Morton’s contention that what “ecological thought must do, then, is to unground the human by forcing it back onto the ground,” but disagree with what follows, “which is to say, standing on a gigantic object called Earth inside a gigantic entity called biosphere.” Defamiliarization affords aesthetic pleasure, of course, but the scalar leap from the ground inhabited by the human to the earth as “gigantic object,” obscures the sort of entanglements that are the very stuff of ethical and political relations. Morton distinguishes his position from “ecophenomenology, which insists on regressing to fantasies of embeddedness.” But embeddedness need not be phenomenological, nor a regressive fantasy. Rather, the
embeddedness of trans-corporeality involves grappling with data, information, scientific captures, and political modes of mapping interactions and relations across different scales. This is just too much work to be a regressive fantasy. The more convenient and persistent fantasy of the human, as we have seen throughout this book, is that he is free floating, unencumbered, and anything but embedded. Morton’s ungrounded human who contemplates the earth as a “gigantic entity” seems similar to the human who views the predominant visual depictions of the anthropocene discussed in the last chapter, in that they are both disembodied and disconnected from the scene. A rather different creature appears in Hyperobjects a few pages later, however, in a chapter called “Viscosity.” Here Morton writes from his own embodiment. As global warming burns the skin on his neck, he tells of the agency of hyperobjects, and the mercury and toxins in his blood. This embodied human more like that of the trans-corporeal subject or the subject conceptualized by Nancy Tuana in “Viscous Porosity: Witnessing Katrina.” Tuana argues that “in witnessing Katrina, the urgency of embracing an ontology that rematerializes the social and takes seriously the agency of the natural is rendered apparent.” She explains how drinking out of a plastic water bottle transforms her flesh: “Once the molecular interaction occurs, there is no divide between nature/culture, natural/artificial.” Plastics even interact with something as social as poverty: “Political failures to address the environmental hazards of plastics have left their signature on the flesh of many bodies, but the bodies of industry workers who toil in the plastics factories or the garbage incinerators and the bodies of those who live in the path of their pollutants have disproportionately suffered the negative effects of this material-semiotic interaction.”

Exposure then, is terribly uneven, across such simultaneously social and material categories as class, race, and the disparities between the global North and the global south. And while much of this book has emphasized the material dimensions of the exposure, it is crucial to point out that ideological and discursive categories position bodies differently and have material effects. For feminists, LGBTQ people, people of color, persons with disabilities, and others, thinking through how corporeal processes, desires, orientations, and harms are in accordance with or divergent from social categories, norms, and discourses is a necessary epistemological and political process. For some people this is a matter of survival. Eli Clare, in “Meditations on Natural
Worlds, Disabled Bodies, and a Politics of Cure,” writes first of the terms “natural and unnatural, normal and abnormal” as they are invoked within prairie restoration projects, and then states: “It is not an exaggeration to say that the words unnatural and abnormal haunt me as a disabled person. Or more accurately, they pummel me.” Clare works through the painful clashes between the discourses of disability and environmental restoration, to arrive at the choice “between monocultures, on one hand, and bio- and cultural diversities on the other, between eradication and uncontainable flourishing.” Clare concludes with a clearly stated position, but it is his more complex location, within the material-semiotic landscapes of the language and practices of ecological restoration as well as the experience of living as a body that cannot be “restored,” that drive the essay. To analyze, to critique, to create and transform as someone who is undeniably embodied, from within a matrix that is simultaneously social and material, is to think as the stuff of the world.

Eva Hayward’s dazzling work demonstrates how the long history of feminist and queer writing as a politics of exposure may flourish as a newly transfigured posthumanism. Her work, in my view, rises to the formidable challenge that Cary Wolfe poses in What Is Posthumanism? when he states that the “nature of thought itself must change if it is to be posthumanist.” In “More Lessons from a Starfish: Prefixial Flesh and Transpeciated Selves,” Hayward writes of transsexuality as a “mutuality,” a “shared ontology,” a “shared sexuality,” with the starfish.

Trans-morphic as zoomorphic—if we can understand the cut as an act of love, then can we not imagine that “like a starfish” it is an enactment of trans-speciating? We, transsexuals and starfish, are animate bodies; our bodies are experienced and come to be known through encounters with other animate bodies. These epistemological moves describe a shared phenomenological ontology. This is sensate intertwining-intercorporeal zones between these bodies in language and in experience. Starfish and transsexuals share worldhood both semiotic (as metonymic kinds) and phenomenological enactments—is this not some form of intercorporeality?
Hayward, by thinking her body across the regenerations of the starfish, “fundamentally unsettle[s] and reconfigure[s] the question of the knowing subject,” as Cary Wolfe puts it,lii as the starfish—and the human self—are known through a kind of intercorporeality. This is a palpable, dazzling, posthumanist figuration, as the shared ontology with the starfish culminates in a “transspeciated self,” a self who is, who knows, through an encounter with another species. Hayward describes her method as a “critical enmeshment rather than a personal account,” arguing that the “material, the literal matter, of being, surfaces and resurfaces as a constitutive force that cannot be digested in the acid fluids of anthropic concerns.”liii Hayward’s work exemplifies the possibilities for new materialist thought to emerge from lived genders, sexualities, and other embodied knowledges and performances of exposure. But it also exemplifies how thinking with a multitude of living creatures may enrich new materialist theory, and thus how fruitful the alliances may be between new materialisms, posthumanisms, and animal studies. It is also important to point out, however, that as speculative and creative and intrepid a Hayward’s work is, she draws upon scientific disclosures about starfish rather than simply imagining their being. Hekman argues that the concept of disclosure “avoids the problem of representationalism” and relativism, offering us a model, such as that of Andrew Pickering’s mangle, in which “multiple elements interact, or intra-act, to produce an understanding of the reality we share.”liv Although that reality is shared, animal studies scholarship insists that particular species experience and understand the world in significantly different ways. Hayward, for example, explores how although “many echinoderms do not have many well-defined sensory inputs, they are sensitive to touch, light, temperature, orientation, and the status of water around them: “their very being is a visual-haptic-sensory apparatus.”lv

One chapter in Alien Phenomenology is entitled, “Revealing the Rich Variety of Being,” but there are no creatures akin to Hayward’s starfish dwelling there nor is there any mention of the 6th great extinction, which is, no doubt, diminishing the rich variety of being. The celebration of consumer objects as fascinatingly alien diverts attention from the loss of living creatures in the world. When Timothy Morton cavalierly states, “we might add that OOO radically displaces the human by insisting that my being is not everything it’s cracked up to be—or rather that the being of a paper cup is as profound as
mine,” we might wonder what “profound” and “being” mean in this context. Such an argument may circulate as a sort of *reductio ad absurdum* of arguments for the rights, welfare, or continued existence of nonhuman creatures, as they leap over serious claims about how characteristics formerly reserved for the human, such as consciousness, intelligence, and communication, are in fact distributed throughout nonhuman animals and cultures—landing in an absurd reality where cups can be considered profound beings. A different sort of attention to consumer objects, percolating through environmental activism and new materialism, traces and reckons with the often invisible systems and networks that produce ordinary objects, discloses the often unintended consequences of the material agencies of those objects, and forges new ethical and political practices that arise from the material-semiotic entanglements of the world. It is how objects are entangled—economically, politically, and substantially across bodies, ecosystems and built environments—that matters, not how each object exist in isolation.

I share Bogost’s contention that “wonder has been all but eviscerated in modern thought.” And the mundane-sublime of alien phenomenology, in which we celebrate “the awesome plentitude of the everyday” offers a zen-like appreciation for what is, giving us respite from anguished worries about what (or who) will no longer be. Bogost’s cool yet captivating prose style succeeds in seducing us into a blissful recognition of the wondrous strangeness of commonplace objects. To object to this vision makes one feel a bit like an environmentalist version of the feminist killjoy. Who could resist this lusty invitation: “The density of being makes it *promiscuous*, always touching everything else, unconcerned with differentiation. Anything is enough to party.” This pro-sex feminist can’t help but be enticed by this invitation, yet I suspect that consumerist orgies produce particularly toxic hangovers. Fortunately, Annie Sprinkle and Beth Stephens, in their “Ecosexual Manifesto” invite us to more exuberant, less capitalist, festivities. Such pleasures, from the ethical modes of inhabiting with which this book began, to the agonizing ecolalic anthropocene dissolves, refuse the prevailing disconnection of the human from everything and everyone else. Thinking as the stuff of the world entails thinking in place, in places that are simultaneously the material of the self and the vast networks of material worlds.
The supposedly awesome plentitude of objects looks different from the perspectives of postcolonial ecologies, environmental health and environmental justice movements, those enduring “slow violence” (Nixon), climate refugees, Bhopal survivors, ocean conservation movements, and from the perspectives of myriad nonhuman creatures. We could wonder what it would be like to “be” a plastic bag or a plastic bottle cap. Or, we could consider the networks of chemistry, capitalist consumerism, inland waterways, ocean currents, and addiction to high fructose corn syrup that have created the Great Pacific Garbage patch. Rather than seeing the world as comprised of inert resources or as discrete objects, new materialist theories and new political movements, focused on stuff, stress the strange agencies of everyday things. The recognition that banal objects such as toothbrushes, razors, plastic bottles, plastic bags, food containers, children’s toys, and etc. intended for momentary human use, pollute for eternity, renders them weirdly malevolent. As chapter five discussed, activists against plastic pollution dramatize the strange agencies of plastics, which absorb toxins in the seas, enter the ocean food chain, and harm birds, mammals, reptiles, and fishes, causing disease, obstructing airways, or clogging digestive tracks. The artist Pam Longobardi, who collects plastic ocean debris and uses it as her material, explains how the everyday objects that surround terrestrial humans become something quite different when understood from the perspective of ocean ecologies: “The plastic elements initially seem attractive and innocuous, like toys, some with an eerie familiarity and some totally alien. At first, the plastic seems innocent and fun, but it is not. It is dangerous. In our eagerness for the new, we are remaking the world in plastic, in our own image, this toxic legacy, this surrogate, this imposter. The plastic world of the anthropocene, made by humans but beyond human control, not only surrounds us, but invades us, literally transforming our flesh as Tuana explains. The practice of thinking from within and as part of the material world swirls together ontology, epistemology, scientific disclosures, political perspectives, posthuman ethics, and environmental activism. There is no position outside, no straight path, no belief in transparent global systems of knowledge, only modest protests and precarious pleasures, from within compromised locations shadowed by futures that will surely need repair.
My thanks to Joni Adamson and Sally Kitch for allowing me to quote from the Institute for Humanities Research white paper, and to Jeff Howard, James Grover, and Chris Morris for many discussions about the term “sustainability.” I am grateful to Joni Adamson, Catriona Sandilands, and Siobhan Senier for their insightful comments on earlier versions of parts of this chapter and to Eileen Joy for inviting me to contribute to O-Zone. The epigraph is from Jorie Graham, “Sea Change,” in Sea Change (New York: Harper Collins, 2008). 3.


ii Ibid.

iii Given that sustainability has become such a pervasive paradigm within the U.S., it is ironic that the term itself originated as part of “sustainable development” movements. Catriona Sandilands notes that even though word “development” has largely disappeared it is “very much still the ghost animating the rhetoric” (personal communication).


Ibid., 278.


Ibid., 198.


Similar to “equality” would be Levi Bryant’s use of the phrase “democracy of objects,” which he clearly delineates: “The democracy of objects is not a political thesis to the effect that all objects ought to be treated equally or that all objects ought to participate in human affairs. The democracy of objects is the ontological thesis that all objects, as Ian Bogost has so nicely put it, equally exist while they do not exist equally. . . . In short, no object such as the subject or culture is the ground of all others.” Levi Bryant, The Democracy of Objects (Ann Arbor: Open Humanities Press, 2011), 19.

Ian Bogost, Alien Phenomenology, Or What is it Like to Be a Thing (Minneapolis: University of Minnesota Press, 2012), 6.

Ibid., 10.

Ibid., 7.

Ibid., 3.

Karen Barad, Meeting the Universe Halfway, 337.

Levi R. Bryant, Onto-Cartography, 63.

Ibid., 37.

Ibid., 71.

Bogost, Alien Phenomenology, 9-10.

Ibid., 10.


Ibid.


Ibid., 18. I do not know which “ecophenomenologists” Morton is targeting here since none are listed in his endnotes. I don’t characterize my own work as “ecophenomenology,” but rather as part of new materialism, material feminisms,
ecomaterialisms, and science studies. See the introduction of this book for a brief discussion of the limits of phenomenology.

Nancy Tuana, “Viscous Porosity: Witnessing Katrina,” in Material Feminisms, ed. Stacy Alaimo and Susan J. Hekman (Bloomington: Indiana UP, 2008), 188. Morton does not cite Nancy Tuana or Karen Barad in Hyperobjects. The chapter after “Viscosity” is entitled “Nonlocality,” and it includes descriptions that parallel my notion of transcorporeality and Tuana’s “viscous porosity”: “Likewise, endocrine disruptors penetrate my body through my skin, my lungs, and my food. The disruptors in pesticides such as Roundup, a cousin of Agent Orange (also made by Monsanto), often dioxins of some kind, start cascading reactions in my body, interfering with the production and circulation of hormones.” Morton, Hyperobjects, 38. This description could be extended to include the affects of Roundup on the workers who manufacture it and the nonhuman creatures who encounter it, rather than reducing the scene to an isolated human and an isolated hyperobject.


Wolfe, What is Posthumanism? xxix.

Ibid., 65, 82.

Hayward, “More Lessons,” 70.


See Sara Ahmed’s *The Promise of Happiness* (Durham: Duke UP, 2010). Bogost includes a story about an image of a woman in a Playboy bunny suit, which betrays the fear that females have no sense of humor or intellectual sophistication. *Alien Phenomenology*, 93-99. Feminist and queer theory and disability studies have themselves developed playful, pro-sex understandings of bodies, objects, pleasures, and desires that would contest simple notions of sexual objectification. Given this exciting body of work—not to mention the lively sexual (sub)cultures that the theories are allied with—it’s hard to imagine that we (“women or girls or sexiness”) need OOO to give us an “ontological place alongside chipmunks, lighthouses, and galoshes.” Ibid., 99.


To find the ecosexuals, see chapter four.