"This is a phenomenal book, beautifully written, powerfully argued, and supported by an extraordinary range and depth of theory and evidence. I have been profoundly moved by this work and have been reminded once again that Greta Gaard is one of the most important thinkers and activist-scholars of our time."
—DAVID NAGUIB PELLOW, University of California, Santa Barbara, author of *Total Liberation: The Power and Promise of Animal Rights and the Radical Earth Movement*

"An engaging and highly readable monograph by one of ecofeminism's most insightful scholars, *Critical Ecofeminism* is a stunning achievement. Gaard gives a reflective account of ecofeminism's evolution as an intersectional framework for interrogating socio-environmental relations and a politics of solidarity that demands eco-justice for all species. Her book provides welcome vindication for those who have remained convinced of ecofeminism's critical power despite thirty years of mischaracterization in most corners of the academy."
—SHERILYN MACGREGOR, University of Manchester

Australian feminist philosopher Val Plumwood coined the term "critical ecofeminism" to "situate humans in ecological terms and nonhumans in ethical terms," for "the two tasks are interconnected, and cannot be addressed properly in isolation from each other." Variously using the terms "critical ecological feminism," "critical antidualist ecological feminism," and "critical ecofeminism," Plumwood's work developed amid a range of perspectives describing feminist intersections with ecopolitical issues—i.e., toxic production and toxic wastes, indigenous sovereignty, global economic justice, species justice, colonialism, and dominant masculinity. Well over a decade before the emergence of posthumanist theory and the new materialisms, Plumwood's critical ecofeminist framework articulates an implicit posthumanism and respect for the animacy of all earthothers, exposing the linkages among diverse forms of oppression, and providing a theoretical basis for further activist coalitions and interdisciplinary scholarship.

Had Plumwood lived another ten years, she might have described her work as "Anthropocene Ecofeminism,""Critical Material Ecofeminism," and "Posthumanist Anticolonial Ecofeminism"— all of these inflections are present in her work.

Here, *Critical Ecofeminism* advances upon Plumwood's intellectual, activist, and scholarly work by exploring its implications for a range of contemporary perspectives and issues—critical animal studies, plant studies, sustainability studies, environmental justice, climate change and climate justice, masculinities and sexuality. With the insights available through a critical ecofeminism, these diverse eco-justice perspectives become more robust.

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CRITICAL ECOFEMINISM

GAARD

CRITICAL ECOFEMINISM

GRETA GAARD

Just Ecofeminist Sustainability

Among first-world ecopolitical scholars and activists, the term *sustainability* has become a popular buzzword, albeit with ambiguous meanings. Is sustainability the same thing as "sustainable development," or the "triple bottom line (TBL)" of corporate social responsibility, as popular usage suggests? Or as environmental philosophers argue, is the meaning of "sustainability" closer to "ecological literacy," or even Aldo Leopold's land ethic?[1] *Environmental justice* has many contested meanings as well, ranging from a movement for distributive justice, a sharing of "environmental goods and bads," benefits and risks, to an argument for participatory and procedural justice. Different analyses of ecopolitical problems lead to different applied responses, from incremental reforms to cultural transformations: Should environmental justice activists work to rebalance the distribution of environmental benefits and risks across race and class, or should these risks outweigh the benefits, and prevent their production entirely? The historical branches and recent developments of ecofeminism also carry diverse meanings, evolving from earlier roots in cultural, radical, womanist, and socialist feminisms to current work in political ecology; posthumanist, postcolonial, queer, and transnational ecofeminisms now provide more inclusive and transformative analyses. Rooted in recognizing the links between human and environmental well-being, these three movements—sustainability, environmental justice, and ecofeminism—have synergistic potential for creating a broader and more inclusive movement for a just and ecofeminist sustainability.

In fact, each movement's strengths, shortcomings, and mobilized populations illuminate the others: in business, government and education, sustainability has been largely a white, male, and middle-class movement. At the level of community activism, environmental justice has been powered by

people of color, focusing on race and class, with grassroots women doing much of the activism and prominent male leaders serving as spokespersons and theorists. Ecofeminism has been powered by feminists of diverse sexualities and nationalities: initially articulated primarily by Euro-western activist-scholars, ecofeminism's focus benefited from the intersectional theories of Black feminists (Crenshaw 1991; Collins 1990) and evolved to foreground intersections of gender, race, class, sexuality, species, and nation in a post-colonial, posthumanist framework. In the face of global challenges such as climate change, the movements for environmental justice, ecofeminism and sustainability may be more effective in collaboration.

INTERROGATING SUSTAINABILITY

The term "sustainability" rose to prominence through the 1987 World Commission on Environment and Development report, *Our Common Future*, wherein "sustainability" was defined as "development which meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland 1987). The concept of "sustainable development" was soon offered to third world countries with the promise of "catching-up development" wherein these countries would achieve technological developments comparable to first world nations, all while working within the limits of their bioregion. But this illusory prospect could not be duplicated, since the affluence and technological sophistication of first world nations was created through the colonialist extraction of labor, environments, and other "natural resources" from third world countries, compensated at a fraction of their value, and further degraded by international economic institutions and trade agreements, all favoring the more developed countries. The thirty years since the promulgation of "sustainable development" have coincided with the most rapid and unsustainable consolidation of corporate control over nature, confirming critics' initial skepticism of the term "sustainable development" as an oxymoron. As one team of social scientists observes, "the pursuit of sustainable development goals has not resulted in either sustainability or effective mitigation of climate change," confirming the fact that sustainability as a "concept has failed to meaningfully change human behavior" (Benson and Craig 2014).

Some sustainability scholars are well aware of the term's shortfalls. One researcher chronicles the history of sustainability and its meanings, finding as many as seventy different definitions that range from population control to smart growth (Morris 2012). Others find that the "triple bottom line" of ecology, economy, and society is an ineffective measure of a business' sustainability because accurately

defining sustainability as the progressive maintenance of the life-supporting capacities of the planet's ecosystems requires the subordination of traditional economic criteria to criteria based on social and ecological values, and this raises the question of whether business decision makers operating within the constraints of a capitalist system are capable of making sacrifices of profit to protect resources and ecosystems for future generations and other species. (Milne and Gray 2013, 16)

Although major texts such as *Sustainable Capitalism: A Matter of Common Sense* (Ikerd 2005) and *Capitalism As If the World Matters* (Porritt 2007) argue that public policies can be used to impose social equity and ecological integrity upon capitalist economies (Ikerd), or that Green politics can transform capitalism and make it more sustainable (Porritt), other scholars exploring sustainable development and entrepreneurship insist that "sustainability is fundamentally at odds with the prevailing model of capitalism and its emphasis on unbridled growth" (Hall, Daneke, and Lenox 2010). As Lynn Chester incisively concludes, while some find attractive the notion that capitalism may deliver sustainability, this notion is also

at considerable variance with history and reality. Air and water pollution, deforestation, desertification, soil erosion, biodiversity loss, and global warming dominate the ecological legacy from the conjunction of twentieth century capitalism's widespread use of fossil fuels, technological change, industrialization, mass production and mass consumption, and globalization. This is capitalism's relation to nature. (Chester 2010, 5)

Instead of providing accuracy, sustainability measures such as the Global Reporting Initiative, benchmarking, and the TBL of "people, planet and profit" are now "achievable in a manner which offers little or no challenge to business-as-usual," but rather function as empty signifiers in which the true meaning of sustainability gets lost (Milne & Gray 18). In effect, "the TBL may be better understood as an organizational and institutional barrier to develop ecological literacy and a fuller take-up of sustainability" (Milne & Gray 24).

Companioning the reluctance to investigate a postcapitalist ecological economics with the rise of "sustainable development" for third world countries and global corporations alike, the academy has also witnessed the rise of "sustainability studies" and the emergence of academe's flagship organization of sustainability, the Association for the Advancement of Sustainability in Higher Education (AASHE). Shortly after its formation in 2005, AASHE began offering faculty workshops in Sustainability, training higher education faculty to "uncover" the sustainability issues inherent in every discipline across the curriculum. On its website, AASHE "defines sustainability in an

inclusive way, encompassing human and ecological health, social justice, secure livelihoods, and a better world for all generations." The model for sustainability in these faculty training workshops advances the inseparability of economy, ecology, and society—variously imaged as the "three-legged stool," "triple-bottom line," or a Venn diagram of three intersecting circles. One especially detailed model illustrates the interlocking circles, clarifying the intersections of any two of these elements is necessary but not sufficient to be termed "sustainability."[2] Nonetheless, workshop leaders for AASHE's "Sustainability Across the Curriculum" faculty trainings are cautioned to take a "hands-off" approach to these trainings, to acknowledge that faculty themselves are "the experts" and to "hold the term lightly" as "there will be a diversity of definitions around the term 'sustainability.'" Indeed, at the 2015 AASHE Sustainability Leaders Workshop held at Emory University, participants were given testimony from past workshop participants, one of whom asserted that "as soon as I heard there was no one right way to define 'sustainability' I was able to relax and participate." Far from the feared fundamentalism of the "one right way," clearly defining sustainability as a specific response to the ecopolitical crises of today would guide AASHE and other sustainability-focused organizations toward enacting more targeted, accountable, and effective programs and policies. So, what's preventing AASHE—the leading sustainability organization in U.S. higher education—from developing clearer definitions of sustainability for widespread usage?

On the surface, it would appear AASHE avoids mandating a single, specific sustainability definition in favor of a more democratic method, supporting its members and member institutions in defining and assessing their own sustainability goals. To assist in that assessment, AASHE has developed a Sustainability Tracking, Assessment and Rating System (STARS) for self-reporting, whereby campus representatives can evaluate their own campus' progress toward sustainability on the basis of academics, engagement, operations, and planning and administration. The idea is that universities can lead the way to sustainable practices by demonstrating the widespread appeal, utility, economic efficiency, and intellectual benefits of such practices; after experiencing these practices on campus, students at these colleges may be inspired to continue sustainability practices in their personal lives, and to disseminate these ideas at their future workplaces. But the campus sustainability data provided annually through AASHE's popular STARS relies entirely on members' self-reporting; AASHE publicizes its members' reports, but does not assess them. As a consequence, multiple and conflicting articulations of sustainability are advanced, and the overarching definition of sustainability shows little progress in advancing an intersectional approach to sustainability over "old-school" definitions of sustainability as simply another word for "environmental sciences."

In a 2013 self-study of topics addressed in the AASHE Bulletin—a publication described as representing "a sample of what is happening in the higher education sustainability community"—the data collected shows that in 279 articles, the leading topic was energy in campus facilities for AASHE member institutions, emphasizing an environmental science and technology approach to sustainability; cultural diversity and inclusion was addressed in only 55 articles, roughly a 5:1 ratio.[3] The omissions of social justice from the envisioned balance of ecology/economy/society are not restricted to AASHE's sustainability-across-the-curriculum trainings but are evident in the assemblage of Sustainability Studies programs at large. In 2015, AASHE's Academic Program database contained 1447 sustainability-focused academic programs at 476 campuses in 66 states and provinces.[4] Of these sustainability-focused programs, there are

- Associate Degree Programs (33) in Agriculture, Architecture, Building Facilities, Development, Energy, Landscaping, Technology, Watersheds, Wind Turbines;
- Baccalaureate Degree Programs (428) with Science and Technology emphases, with a few combining "Environmental and Sustainability Studies";
- (1) program in "Environmental Sustainability and Social Justice," offered at San Francisco State University;
- Master's Programs (469) emphasize sustainable development, resources, management, and technologies, with fewer programs in environmental studies, education, communication, and public administration;
- Ph.D. programs (104) in environmental sciences, law, natural resources, agriculture, development, engineering, and policy; and
- Joint Degree Programs (34) either JD/PhD or JD/MS.

While most sustainability studies program statements express a verbal commitment to implementing interdisciplinary (some even say *transdisciplinary*) approaches to sustainability, these sustainability statements all stem from disciplines in the environmental and social sciences—geography, environmental studies, sustainability studies, business, economics—and overlook the tools and contributions of the environmental humanities, the interdisciplinary nexus producing more transformative approaches to ecojustice (LeMenager and Foote 2012). In practice, at AASHE member institutions, "sustainability" often means greening technologies of development; but on a finite planet, such "sustainability" is not sustainable.

Sustainability scholars themselves have noticed that most commonly cited definitions of sustainability fail to mention economic justice and racial equity, thus distancing sustainability from the environmental justice movement, despite the fact that the two movements emerged around the same time: only four years

separate the Brundtland Commission's 1987 definition of "sustainable development" from the 1991 Principles of Environmental Justice. As a "top-down" phenomenon emerging from "international processes and committees, governmental structures, think-tanks and international NGO networks," sustainability is more future oriented, while the environmental justice movement is a "bottom-up" response to local and immediate struggles for just transport, community food security, and sustainable cities (Agyeman, Bullard, and Evans 2002). But the term "environmental justice" is not often used among sustainability professionals in academe; why not? Is it because the relationship between environmental justice and environmental sustainability is not one of interchangeability, and may even be one of competing emphases? As some have argued, environmental justice can favor social justice over environment, while environmental sustainability tends to take a resource management approach (Margolis 2005). Or is environmental justice backgrounded in sustainability workshops and practices because environmental justice is so clearly political in its challenge to white privilege itself as antienvironmental—and because the majority of sustainability professionals are white? (Taylor 2014).

Environmental justice scholar Julian Agyeman has led the way toward efforts to bridge the two movements through the concept of a "just sustainability"—as opposed to a purely *environmental* sustainability—and has even keynoted an AASHE conference in 2010, introducing this intersection to an audience of sustainability educators and businesspeople, though this intersection has yet to catch on. Yet in public life, sustainability scholars researching sustainable development have uncovered "social injustices associated with some sustainability initiatives [that] are in many cases intentional" (Pearsall, Pierce & Kruger 2012, 936).[5] According to geographers reflecting on research presented at the 2010 Association of American Geographers annual meeting, allegedly "sustainable developments" ranging from New York to South Carolina and the Galapagos Islands have tended to privilege green consumerism while "compromising (rather than just overlooking) social justice concerns" (Pearsall, Pierce & Kruger 937). Most important, these scholars challenge the very definition of sustainability, asking "what is to be sustained, by whom, for whom?" and concluding that

> For some in the US environmental justice movement, the 'sustainability movement' is merely a renaming of the 'old' environmental movement which did not hire minority staff, nor take up 'door-step' or environmental justice issues, preferring instead, wilderness, resource and other 'green' issues. And in many respects it is. (Agyeman & Evans 2004, 156, 162)

This concern is shared by sustainability studies scholars in higher education, who note the proliferation of sustainability programs and the absence of comprehensive evaluation frameworks that would ensure the promised integration of ecology, economy, and society—thus, a *just* sustainability—is fully enacted across the curriculum and weighted equally in importance with decisions affecting these institutions' facilities and community relations (McFarlane and Ogazon 2011; Mader, Scott, and Razak 2013; Koehn and Uitto 2014).

Silences about race are not uncommon to sustainability conversations in academe, and are companioned by silences around class, gender, sexuality, and species. In the AASHE literature on sustainability, there is little attention to the *intersectionality* of gender, race, class, sexuality, species, and climate justice—this despite the affirmation from AASHE's 2013 Annual Report that "AASHE defines sustainability in an inclusive way, encompassing human and ecological health, social justice, secure livelihoods, and a better world for all generations."[6] As feminists and ecofeminists have repeatedly demonstrated, paradigms omitting or backgrounding discussions of race, class, gender, sexuality, and species effectively ensure that these paradigms will be marked by the "unmarked" dominant group—white, male, middle class, heterosexual, and human animals. For "sustainability" to reach its full potential, its advocates will need to recast sustainability in dialogue with an ecofeminist, environmental justice framework.

ENVIRONMENTAL JUSTICE

Today the stories of Alberta's tar sands excavations, and the devastating impacts on forests, water, wildlife and native people dominate the environmental news. We are well past peak oil, as the effort to extract, transport, and refine tar sands crude produces less oil at greater costs than ever before: 4 tons of sand and soil are used to produce 1 barrel of tar sands oil, at a rate of 400 million gallons of water per day dumped as toxic waste.[7] Increases of 30% and more in rates of rare cancers among Fort Chipewyan residents, decreases of more than 70% among caribou herds, and dangerously high arsenic levels in muskrats, ducks, and moose are diminishing the lives of indigenous people, animals, and ecosystems around Alberta's tar sands (Nikiforuk 2010).[8] Hazardous air and water pollution from tar sands operations concentrates at Fort McMurray, another home of First Nations people, and extends to nearby Edmonton, bringing along polycyclic aromatic hydrocarbons (PAHs) and other carcinogens such as benzene and styrene, all causing elevated leukemia rates for people living near tar sands oil-processing facilities. The climate change effects of tar sands have increased 21% since 2010, already warming the planet well beyond the two-degree Celsius limit scientists have set to maintain the world we have known (McKibben 2010).[9] Yet Canada's oil

companies continue to seek ways to transport tar sands crude to refineries. First, it was the Keystone XL pipeline through the central United States, but numerous protests succeeded in stalling presidential approval of that line. Activists in Nebraska—ground zero for the Ogallala aquifer—built a "Cowboy and Indian Alliance" of indigenous and Euro-American environmental justice activists to lead the national resistance movement. Meanwhile, the Canadian corporation Enbridge is expanding its Alberta Clipper and Sandpiper lines across the upper Midwest, respectively promising to ship 800,000 and 600,000 barrels of crude oil per day (Fesher 2015).[10] With a history of "spills" yet to be "cleaned up"—most notably Enbridge's 2010 pipeline spill of 800,000 gallons in Kalamazoo, Michigan—and with massive local opposition in Canada and the United States, these pipelines nonetheless receive approval from U.S. state environmental agencies to cross sovereign native lands, wild ricing areas, fragile forests and wetlands. From Canada's tar sands or North Dakota's Bakken oil fields, pipelines transport crude oil across the Upper Midwest to refineries in Minnesota and in Superior, Wisconsin—where some claim there is a movement to ship this crude oil by tankers across Lake Superior, the world's largest freshwater lake. Additional pipelines run the length of North America's west coast, and from the Pacific Northwest to the Gulf of Mexico.

From an environmental justice perspective, the colocation of oil production on indigenous lands or within communities of color is no coincidence. Along with Alberta's tar sands and their impact on the First Nations communities nearby, oil refineries in Michigan disproportionately affect African-American communities. At the June 6, 2015, Tar Sands Resistance March in St. Paul, Minnesota, activists such as Emma Lockridge from Detroit, Michigan, arrived to tell stories of oil and environmental injustice, this time in the African-American community of Boynton, a Detroit suburb. There, residents are experiencing alarming rates of kidney cancers and cancer mortalities linked with prolonged benzene exposures emanating from Marathon Petroleum Corporation's tar sands oil refinery. When Marathon planned its refinery expansion, it offered homeowners in the Oakwood Heights neighborhood of zip code 48217–also shared with Boynton—a buyout that included both a base price plus 50% of the appraised value, or a minimum of $50,000 for owner-occupied homes (Halcom 2012). Not surprisingly, nine out of ten property owners were interested in the buyout, while across the way, other Boynton residents received no such offers, and saw their property values plummet to $16,000 or less by 2014, as a result of the refinery expansion (Lewis 2014). The complicity of industry and government became even more suspect in May 2013, when the Michigan Occupational Safety and Health Administration announced it was giving Marathon a safety award one week after the refinery had an explosion. In 2014, in an effort to compel the

Environmental Protection Agency to fulfill the promises of the Clean Air Act, Earth Justice filed a Community Impact Report Addendum on "The Toll of Refineries on Fenceline Communities," profiling ten environmental justice communities who share the commonality of elevated cancer and asthma rates associated with their proximity to oil refineries.[11] Citizens in many of these communities have appealed to courts and federal and state regulatory authorities for justice, but their claims are often disregarded.

Detroit, Michigan, is one of those ten environmental justice communities, with an 82.7% African-American population, and 38.1% of residents living below the poverty line. Though Marathon's oil refinery has persistently violated the Clean Air Act, faced numerous penalties, and paid more than $4.5 million in formal enforcement actions, it was still allowed to expand its capacity and take on tar sands oil processing. Seventy miles north of Detroit, Flint has become well known for its drinking water crisis which surfaced in 2014, as the nation learned Flint officials had changed the source of Flint's water from Lake Huron to the polluted Flint River, in an effort to save the city $5 million over two years: in practice, the city's economic savings was achieved at the expense of health for between 6,000 and 12,000 children now exposed to lead through their drinking water.[12] Cartoonist Matt Wuerker's (2016) depiction of the water crisis as two separate drinking fountains—one providing clear water for whites and the other, brown water for people of color—illustrates the Flint water crisis' longstanding roots in U.S. racial segregation.

Across the nation from Detroit, Hispanic and Latino residents on the north side of Corpus Christi, Texas, are exposed to the toxic emissions of six large oil refineries, which together in 2012 released over 1.5 million pounds of hazardous air pollutants including benzene, diethanolamine, and xylene. These emissions are public knowledge, yet the courts do little to protect the residents or to enforce environmental regulations.[13] And while the U.S. Environmental Protection Agency's environmental justice website claims the Agency ensures "the same degree of protection from environmental and health hazards and equal access to the decision-making process to have a healthy environment" for all communities, its record of enforcing punitive actions and providing reparations for environmental injustices falls short of these stated goals, to say the least.[14]

The environmental justice framework does well to explain these practices as environmental racism and classism. Traced back to initial resistance in Warren County in 1982, the U.S. environmental justice movement took shape in 1991 at the First National People of Color Environmental Leadership conference, where the 17 Principles of Environmental Justice were formulated. Subsequent conferences in 2002 and beyond expanded the definition to address climate justice as a manifestation of environmental justice, and to

address economic injustices as integral to environmental justice: as Robert Bullard states, "We are just as much concerned with inequities in Appalachia, for example, where the whites are basically dumped on because of lack of economic and political clout and lack of having a voice to say 'no'."[15] But how does the environmental justice framework address such incidents when they occur outside the framework of an oppressed race and class?

In 2005, for example, Minnesotans were alarmed to learn that the state's flagship corporation, 3M (Minnesota Mining and Manufacturing), had for five decades discharged an annual and unpermitted 50,000 pounds of PFCs (perfluorinated chemicals) into the Mississippi River and contaminated the groundwater in Cottage Grove, a community that is 86% white, with a median household income of $81,622. Instead of listening to lead scientist Fardin Oliei, a Minnesota Pollution Control Agency's (MPCA) employee of 16 years, the Agency silenced her, prompting Oliei to file a complaint with Public Employees for Environmental Responsibility, a Washington, D.C.-based nonprofit that specializes in providing legal assistance to government whistleblowers. Two years later, in an out-of-court settlement, the MPCA gave Oliei $325,000 to drop her whistleblower lawsuit, even while the health effects on the surrounding communities—the people, water, and wildlife—remained uncertain.[16] Existing research showed that persistent exposure to PFCs bioaccumulates in human and animal tissues, increasing the risk of tumors in the liver, pancreas, and testes; adversely affecting animal immune systems; increasing the risk of prostate cancer, cerebrovascular disease, and diabetes; and producing reproductive abnormalities in offspring.[17] These and other data formed the foundation for Minnesota's Attorney General to file a lawsuit against the 3M Corporation on behalf of the people of Minnesota, 3M's remediation efforts of over $100 million notwithstanding (Mosedale 2006; Edgerly 2005).[18]

From an environmental justice standpoint, it's clear that while dumping on inner-city communities of color, indigenous lands, or rural poor communities has become almost commonplace through terms such as "sacrifice zones," illustrating environmental racism and classism, dumping on white middle-class communities gets the attention of the media, the judicial system, and the state. It prompts extensive cleanup efforts for the middle-class communities, but still does not deter corporations' illegal, antiecological and unjust practices. Clearly, this dumping isn't environmental racism or classism, so, what is it?

Forty-six years apart, two separate incidents in a wealthy community help to name the phenomenon. The first incident occurred in Santa Barbara, California, on January 28, 1969, when a massive eruption of crude oil leaked from Union Oil's Platform A into the Santa Barbara Channel, covering the entire city coastline (along with Ventura and Santa Barbara county coastlines) with

a thick layer of crude. Santa Barbara's largely upper-class residents immediately deployed their resources, time and contacts with national and international elites to bring attention to the situation. Supported by widespread media coverage, Santa Barbarans held rallies, wrote letters to key Congressional officials, introduced legislation to ban offshore oil drilling, and filed lawsuits against the oil companies and the federal government. Two bird-cleaning centers were established to cleanse the oil from damaged wildlife, as seabirds either suffocate from the oil, become unable to fly, or ingest the oil on their feathers through continuous preening. Dead porpoises and whales washed up on the beaches; unusually large numbers of dead sea-lion pups were sighted on the Channel Islands, beyond the Santa Barbara coast. Equally poignant were the frantic and largely futile efforts of local citizens to speed the cleanup of beaches by dumping straw over the oil-soaked sands and then raking it up, or pouring cat litter on the sands in the hopes that it would "clump" the oil (Molotch 1970; LeMenager 2014).[19] But these new citizen activists discovered the alliance between government, corporations, and science was stronger than their local, albeit wealthy community. As Santa Barbarans experienced the inaction of federal regulatory agencies—from the Department of the Interior to the U.S. Army Corps of Engineers, the U.S. Geological Survey, and the Federal Water Pollution Control Administration—their responses moved from indignation to disillusionment and even "radicalization," according to Harvey Molotch, then a sociology professor at UC-Santa Barbara. A testament to the visibility and impact of environmental hazards when they take place in economically well-off white communities, the Santa Barbara oil spill of 1969 is credited with launching the first Earth Day in 1970, along with a raft of environmental legislation enacted throughout the 1970s by a growing environmental movement.

Why, then, almost fifty years later, on May 19, 2015, did another crude oil spill occur in Santa Barbara County? This time the rupture occurred onshore from a corroded Plains All American pipeline (with no automatic shut-off valve) bringing oil along the coast to a pumping station, where the crude is moved inland. Once again, effects on wildlife were recorded in agonizing pictorial detail: more than 100,000 gallons of oil along the coastline produced oil-soaked brown pelicans, sea lions, elephant seals, dolphins, and smaller creatures such as crabs, snails and fish, and will have lasting effects on the reproductive health of these animals. Even so, the initial flood of national news coverage—always anecdotal, rarely analytical—subsided after a few weeks into what Molotch calls "the routinization of evil" that habituates the news-watching public to further inaction and acceptance of the corporate status quo: pollution becomes routine, it is cliché that politicians are corrupt, compromises are required, and if "about half" of the oil gets recovered this is dubbed an "improvement" (Molotch 1970, 140–41).

Environmental justice analyses don't explain the impact on diverse animal species, or the repeated occurrences in areas of wealth for these Santa Barbara oil spills as coherently as an Interior Department memo from the 1969 event. Justifying the policy of refusing public hearings prefatory to oil drilling, an engineer wrote to assistant secretary of Interior J. Cordell Moore, "we preferred not to *stir up the natives* any more than possible" (Molotch 1970, 139, italics mine). The reference to colonialist relations suggests that oil extraction and transport, along with its hazardous effects on indigenous people, wealthy white people, more-than-human-animals and ecologies is an updated expansion of colonialist practice, manifesting through the corporate takeover of local, state, and national governance.

Consider Alberta's tar sands as a case in point. Before the recent tar sands boom, Alberta's primary economic industry was cattle, and before that, fur. As Andrew Nikiforuk (2010) explains, seventeenth- and eighteenth-century European colonists began by exploiting the Athabascan forests, wetlands, and wildlife in the fur trade. Whereas indigenous people traditionally lived by a communal sharing of food, the fur trade introduced money and incentivized accumulation of surplus furs for trading, eventually encouraging the rapid decline of the beaver population. Previously communal hunting grounds became divided, introducing the concepts of territorial ownership and Catholicism—thus replacing the spiritual immanence and animism of indigenous cultural views with a mechanistic, transcendent, hierarchical, and patriarchal worldview. Together with alcohol and European diseases, these forces decimated the native communities.[20] From an anticolonial ecofeminist perspective, the domination of "nature" others—indigenous people, animals, land and ecosystems—is intertwined with the construction of the Master Self (Plumwood 1993, 1997).[21]

Colonialism of earthothers continues today through tar sands operations, fracking, and industrial animal agriculture. Research such as the report by the Food and Agricultural Organization of United Nations, *Livestock's Long Shadow* (Steinfeld et al. 2006), T. Colin Campbell and Thomas M. Campbell's *The China Study* (2006), the National Academy of Sciences research on industrial animal agricultural and climate change (Springmann et al. 2016), along with documentaries such as *Forks Over Knives* (2011) and *Cowspiracy* (2014) all confirm the ways that the western industrialized animal-based diet harms human health and livelihoods, produces immense animal suffering, and accelerates climate change through methane emissions, deforestation and waste. Using vast tracts of land to feed animals for human consumption creates real material hunger for humans and wild animals, and suffering for the billions of animals instrumentalized in these animal food industries. It also creates ill health for the workers who dismember, process, and/or consume these tortured animal bodies. Neither sustainability studies nor environmental

justice offer a framework for recognizing the linked environmental injustices variously harming nonhuman animals, indigenous people, and wealthy communities, a silence that suggests intersecting sustainability's middle-class appeal and environmental justice's analyses of race and class with a critical, anticolonial ecofeminist perspective may be both more descriptive and more effective in mobilizing wider cross-sections of activists.

ANTICOLONIAL ECOFEMINISM

Taking a short view of history (rather than the long view advised by our rock ancestors), western culture "forgets" its conquest of indigenous communities and nations, its occupation of Mestizo lands, and its enslavement of African-Americans. This amnesia prevents white middle-class and wealthy citizens of first world nations from recognizing oil colonialism, and from recognizing themselves as categorized on the other side of the nature/culture dualism, along with the colonized "natives." Building on centuries of colonialist explorations and conquest that began with the fifteenth-century "voyages of discovery," global corporations have accumulated the power of colonial empires, aided by post-World War II international trade agreements such as the General Agreement on Tariffs and Trade (GATT), the North American Free Trade Agreement (NAFTA), the Trans-Pacific Partnership (TPP), and international organizations such as the World Bank, the International Monetary Fund and the World Trade Organization (Klein 2014). When a Canadian tar sands oil pipeline company uses another nation's "eminent domain" laws—originally crafted to declare, claim, and compensate landowners for sites deemed as necessary for their own community's "public good"—and seizes that nation's lands for multinational corporate profits, oil colonialism is at work, advancing the theft of land and life from indigenous communities that began with the European invasions of North and South America, Africa, Asia, and the Pacific and Caribbean Islands.

As Marti Kheel has argued extensively in illuminating the interstructuring of sexism, speciesism, racism, and classism through terms like "sacrifice"— historically used to legitimate ritualized killing of nonhuman animals, young girls, and slaves[22] in order to propitiate an allegedly angry god and save the larger community—elite citizens rationalize environmental injustices enacted against animals and indigenous, third world, and/or impoverished communities of color in the first world as "sacrifice zones" (Kheel 2008). "Behind the sacrifice of animals at the altar of science" and environmental injustice, writes Kheel, "lies the ancient and tragic belief that somehow, if animals [and subordinate earthothers] are killed, [elite] human beings will be allowed to live" (Kheel 1989, 104). Sacrifice is effectively a nonreciprocal, imbalanced and

instrumentalized relationship between privileged and subordinated groups, a relation that many elites have accepted as "unavoidable" in extracting resources and labor from other species, environments, and people of third world countries (as well as from the third world within the first world). But "sacrifice" reinforces illusions of safety even in the presence of material danger. To keep these illusions in place, distance is created between the sacrificed and the saved: Val Plumwood calls this operation "remoteness."

According to Plumwood, "remoteness disturbs feedback and disrupts connections and balances between decisions and their consequences" and thus an important corrective in ecological decision-making would be to "minimize the remoteness of agents from the ecological consequences of their decisions" (2002, 72). As in Plumwood's Master Model, remoteness is described along five linked operations: *Spatial remoteness* involves living somewhere remote from the places and people affected by the ecological consequences of decisions; *consequential remoteness* means the consequences of decisions fall systematically on some other person or group, leaving the decision-maker unaffected; *communicative* and *epistemic remoteness* refers to the poor or blocked communication with those affected, thus weakening knowledge and motivation for repairing ecological relationships; *temporal remoteness* involves being remote from the effect of decisions on the future; and *technological remoteness* produces well-being in places of prominence and privilege, while disregarding "waste" places conceived as "externalities" (2002, 72–73). Specifically, communicative and epistemic remoteness appears in "a society's incapacity to heed speech—warning or distress signals—from below in human society and ecological warning signals from non-human nature" (73). Plumwood argues for "minimizing remoteness" in decision-making, so that "those who bear consequences . . . have a proportionate share in the decision-making . . . sharing consequences and risks" (73). These transcorporeal and interspecies inflections for concepts of *sacrifice* and *remoteness* helpfully augment environmental justice analyses, bringing forward views that are compatible with the environmental justice framework (Pellow 2014). For the environmental justice vision to become more descriptive of current environmental injustices, its focus on race and class needs to be augmented to address the already-present elements of gender, sexuality, and species (Pellow 2016); its focus on economics can more explicitly address the ways that economic structures are gendered, and the ways that corporations enact colonialism.

Efforts toward this reframing have been underway for two decades. In 2009, Noël Sturgeon shifted her analytical framework from ecofeminism to "global feminist environmental justice," developing a theory that brings forward the feminism implicit in environmental justice, as environmental justice movements are largely originated and powered by women; however, Sturgeon's conceptual framework does not address species justice

(Sturgeon 2009). Graham Huggan and Helen Tiffin's *Postcolonial Ecocriticism: Literature, Animals, Environment* (2010) advances a strong analysis of colonialism as it has affected animals, environments, and third world communities, but lacks the feminist perspective on colonialism offered by works such as Andrea Smith's *Conquest: Sexual Violence and American Indian Genocide* (2005). Notably, David Pellow's *Total Liberation: The Power and Promise of Animal Rights and the Radical Earth Movement* (2014) brings the dimension of species justice into dialogue with environmental justice, interstructured along with the antiracism of many white radical environmental activists. But the fact that animal agriculture is one of the top three emitters of greenhouse gases (GHGs), and thus must be brought forward into definitions of sustainability and divestment, has not been addressed or linked with ecofeminism—until recently.

In 2016, critical animal studies scholar-activists met in Australia to compose "The Sydney Declaration on Interspecies Sustainability," arguing that "a key source for an enriched understanding of sustainability is ecofeminism and its suggestion that sustainability should not be discretely boxed as only a concern for the 'environment.' A sustainable relationship to the environment is linked to care and justice for other animals, women, people of colour, queers, and other 'others'" (Probyn-Rapsey et al. 2016, 113–114). As evidence of human justice concerns, the Declaration cites the "millions of Indigenous peoples and peasant farmers whose land has been stolen in processes of 'agricultural dispossession' through 'land-grabbing,'" along with "the appalling psychological and physical costs to workers in CAFOS (Concentrated Agricultural Feeding Operations) and slaughterhouses" and "the associated increases in sexual and domestic violence inflicted on their families and neighbors" (121). The Declaration authors enumerate the health benefits of plant-based diets, including "increased longevity and a reduced risk of obesity and chronic diseases including cardiovascular disease, type 2 diabetes and some types of cancer" (123). In sum, they argue that interspecies ethics are not a "private matter" of "choice" but rather a public matter of social justice (125), and propose a definition of interspecies sustainability that updates the Talloires Declaration (1990) signed by over 350 university presidents and chancellors in over 40 countries, thus providing an enhanced definition of campus sustainability: "When we focus on animal agriculture, not only in terms of GHG emissions, but comprehensively in relation to failures of social justice, including interspecies ethics, it becomes clear that socially responsible sustainability begins where animal exploitation ends" (137).

To achieve their implicit and professed goals, the environmental justice and sustainability movements must be brought into dialogue with the insights of critical ecofeminism, by interrogating the terms on which a *just sustainability* rests: ecology, economy, social justice.

IT'S CRITICAL: A JUST, ECOFEMINIST SUSTAINABILITY

In the northern hemisphere's summer of 2015, Shell's oil rigs were moving to the Arctic Sea in preparation for expanded oil drilling. Despite overwhelming evidence of climate change accelerations brought about by the burning of fossil fuels; despite calls from international panels of scientists (including Nobel Laureates) for a moratorium on oil drilling and developments; despite massive protests in the ports of Seattle and Portland, where activists in kayaks or dangling from ropes on bridges have attempted to block Shell's oil rigs from passage; despite the fragility of the Arctic ecosystem, and the documented history of "spills" which have cost millions in still-unfinished cleanup efforts, and continue to have death-dealing impacts on wildlife, water, and native communities; despite the 75% likelihood of another accident from this new drilling operation; despite widespread citizen opposition, voiced through the communicative channels of letter-writing, phone calls, and visits to elected representatives—Shell had already invested millions to expand its Arctic drilling operations, and needed only the approval from U.S. President Obama to proceed. Ignoring the rationality of all the preceding arguments, Shell's rationale was simply market-driven: the Arctic contains oil "resources" that Shell can extract and sell for billions in economic profits. The costs to the Arctic ecosystem, the local multispecies community, and the global planet are *backgrounded* in these profits.

Both Arctic drilling and industrial animal agriculture exemplify Plumwood's *remoteness* concept, and her explanations of its related failures of reason and ecological self-awareness, as well as the participatory and economic democracy that Schlosberg (2007) argues is foundational to enact environmental justice. The corporate executives and elected decision-makers who approve this drilling or factory farming, like the consumers for whom the oil and meats are marketed, are spatially and temporally remote from the violent consequences of their actions, now and in the future. Their homelands and livelihoods are not destroyed; their health is viewed as separable from the production of commodities they consume. They are also communicatively remote from the citizens and stakeholders they allegedly represent, and their failure of *listening* produces a failure of knowledge, an *epistemic remoteness* in Plumwood's terms: "The close connection between remoteness and bad decision-making . . . [illuminates] the political patterns that make some places better at the price of making other more distant places ecologically worse" (Plumwood 2002, 73). Exemplifying a national deficit in sustainability, the United States (like other western industrial-capitalist nations) is "a civilization which lacks or underdevelops ecological rationality, which sets in motion massive processes of biospheric and ecological degradations which it cannot respond to or correct, [and which] *does not match its actions to the survival*

aims it may be assumed to have" (Plumwood 2002, 68, italics mine). These actions are also a failure of self-awareness, forgetting our ecological interidentity and transcorporeality. Under Plumwood's "rubric of rationality," to achieve sustainability, political agents should demonstrate a "match between means and ends" (69).

Despite their professed aims of interdisciplinarity and intersectionality, both environmental justice and sustainability are disciplines and movements that have tended to take a microanalytical—and thus, mechanistic—approach to problem-solving, operating on a neighborhood-by-neighborhood, industry-by-industry, institution-by-institution or project-by-project level. Asking different questions on a both a micro- and macro-level has long been a hallmark of feminist methodology, positioning a critical ecofeminism to make significant contributions to ongoing sustainability discussions that do more than "add and stir" considerations of gender, sexuality, and species. Critical ecofeminism is rooted in a relational standpoint that illuminates inequalities from the personal to the political—ecological, economic, sociopolitical—promoting just and equitable relations by raising questions such as, who benefits, and who pays? Do the means and actions match the professed goals? Who and what is missing from this story (Kheel 1993)? Where does this material come from, and where does it end up—who handles the "waste" (Smith 1997; Nhanenge 2011)? Does this activity promote the flourishing of all those involved, from production to consumption and waste disposal (Cuomo 1998)? And, what model of selfhood lies at the root of this action? Plumwood's critique of "economic man" as a manifestation of western culture's Master Model and the many operations constructing this self-identity—hyperseparation, backgrounding (denied dependency), radical exclusion, incorporation, instrumentalism, homogenization—illuminate and revise the heteronormative and humanist arguments of even a "just sustainability."

At present, mainstream sustainability discourse defines its key terms of *ecology*, *economy*, and *society* from a humanist and mechanistic perspective—if these terms are defined at all. On matters of *ecology* and sustainability, there is little discussion of the intrinsic and ecological values of a climax forest and its multispecies relations, apart from its functions as a carbon sink for offsetting human industrial practices, or its associated instrumental values as a place of beauty, recreation, and source of future pharmaceuticals: that the forest may also be home for indigenous humans practicing subsistence lifestyles is not part of the definition. *Ecology* is defined as distinctly separate from human identity, and discussed as a "resource" or as a set of nonhuman systems to be sustained or depleted based on human "needs." Discussions of *economic* sustainability tend to look at traditional cost/benefit analyses, frequently invoking slogans like "going green makes green too!" and suggesting that business practices are sustainable if they are not merely ecological but also more profitable than

business-as-usual. *Society* is seldom differentiated in terms of sexuality, ethnicity, gender, or gendered class; rather, it is used as a mass term that variously refers to stakeholders, investors, consumers, or the community where a business operates. "Sustainability" seldom includes the workers at the business site, or those workers and environments farther removed, who either supply the "sustainable" business with materials or who dispose of the wastes after consumption. In short, without analytic tools from the environmental humanities and critical ecofeminism, sustainability discussions still rely on neoclassical economics and the autonomous individual of liberal political theory.

As feminist economists have argued, "the model of 'economic man' as a separate, autonomous, detached, competitive and primarily self-interested individual is antifeminist, anti-ecological, and oppressive of those who are 'other' than economic man" (McMahon 1997; Nelson 2007; Perkins and Kuiper 2005; Waring 1988). Moreover, it is no accident that "economic man came to maturity in the heyday of colonization" to describe the "white, privileged male whose 'autonomy' was predicated on the oppression of women, nature, and non-white persons, and the destructive colonization of indigenous peoples' lands" (McMahon 167). There are limits to an ecological economics that remains rooted in autonomous individualism; it will have 'trouble with relationships" whether those of ecological justice or social justice, gender justice or interspecies justice. In sum, neoclassical economics "disguises the ways in which the market and economic man are dependent on hidden transfers from nature and unpaid work" (McMahon 172).

Feminists have long observed the ways that western culture defines ecology as separate from culture and humanity, yet locates women, people of color, children, and nondominant others together, as "closer to nature" (Gray 1979; Griffin 1978; Kolodny1975; Warren 1990). The dualisms of Cartesian thought also align gender and economics along the ecology/culture binary, mapping economically visible labor and production in the public sphere, and economically invisible labor, materials, and reproduction in the private sphere. As feminist economists have observed, women, nature, and colonial entities share similar treatment in neoclassical economics; they are backgrounded and treated as a resource for meeting "human" needs: "the bearing and raising of children, and the care of the aged and sick—traditionally women's responsibilities—are, like nature, too unimportant to mention" in national and global accounting systems (156).[23] Perhaps part of the problem is that, until rather recently, white women and children in Western culture have been classified as property of the Master, albeit with greater status than the other "property"—slaves, colonized others, and nature. Fundamental to neoclassical economics is the human relationship to the earth as "property" to be bought, sold, and owned, rather than as a living agent of *vibrant matter* (Bennett 2010), or a "community to which we belong" (Leopold 1946).[24] Plumwood argues that the "Lockean account of the incorporative self upon

which capitalism is based" is integral with the Lockean theory of property that embodies assumptions about the "emptiness and nullity of nature itself" and erases "those human others counted as nature" (2002, 214–17). Plumwood's critical ecofeminism envisions a relational self, dynamically interconnected with an agential nature that is far from the inert, lifeless, and mechanistic conception of property—rather it is a nature that actively coconstitutes earthothers. In her materialist spirituality of place, Plumwood describes land ownership as "two-way" practice "in which you belong to the land as the land belongs to you," and where remoteness is dissolved in recognizing "the communicativity and intentionality of more-than-human others" which is "key to the power of place" (230).

In her discussion of "shadow places," Plumwood (2008) brings forward the backgrounded, multiple, and complex network of places that support human lives. She proposes a "critical bioregionalism" that helps "make visible north/south place relationships" and clarifies "relationships of domination metaphorised as place, especially sacrificial and shadow or denied places." As Plumwood explains, the

> dissociation of the affective place (the place of and in mind, attachment and identification, political effectiveness, family history, ancestral place) from the economic place that is such a feature of the global market is yet another manifestation of the mind/body dualism. (Plumwood 2008)

As an alternative and more accurate view, she argues for place as "an active agent in and co-constituter of our lives," and "a process in which the energy of others is actively invested." In one of her last published essays, Plumwood proposed "a place principle of environmental justice":

> an injunction to cherish and care for your places, but without in the process destroying or degrading any other places, where 'other places' includes other human places, but also other species' places. (Plumwood 2008)

As a foundation for ecological citizenship, Plumwood's "place principle" grounds human identities in ecological relationships, reminding us of the moment-to-moment flows of energy and matter required for sustaining all life on earth. Her work radically reconceives sustainability.

REIMAGINING SUSTAINABILITY

Ecofeminists and environmental justice scholars alike have voiced skepticism about sustainability paradigms, raising questions such as "*what* is to be sustained?" and "for *whom*?" and "for how long?" As Sherilyn MacGregor (2009) observes, for the past fifty years both feminism and ecofeminism have

proposed *transformative* processes that are about moving "toward an egalitarian and non-oppressive world rather than about keeping things the way they are forever" (2009, 469). Comparing our current ecological situation to the *Titanic* for its "technological hubris and decision-making disaster in the face of risk," Val Plumwood argues that the term "sustainability" has tended to "obscure the seriousness of the situation" with the hope that we could sustain anything without enacting significant system transformation (2002, 1). As she wryly notes,

> The *Titanic* myth is liberal-democratic, maintaining a story of equality of consequences, of elite heroism and self-sacrifice, of millionaires and other men standing back while women and children were saved. But in the real ecological world on which we are passengers, unlike the *Titanic*, the millionaires don't go down with the ship, and it's certainly not women and children [who are saved] first. (Plumwood 2002, 2)

Sustainability discussions tend to imply that "it is in the interests of *humanity in general* to work toward sustainability," when ecofeminists have rightly pointed out that "we are most certainly not all in this together" (MacGregor 2009). In fact, it's possible that some societies, environments, and species would be better off if the high-consumption lifestyles of industrialized western cultures were *not* sustained any longer.

Make no mistake: Reimagining sustainability is critical for our collective survival. But how shall we undertake that visioning process if it relies on excluding the majority of earth's inhabitants, and over half of humanity's collective wisdom heritage?

In place of neoclassical economics, what sustainability—a just ecofeminist sustainability—requires is a *transcorporeal economic accounting* of the ways that our social, economic, and political practices are racialized and gendered, and can be used to either promote the *flourishing* or the languishing of all earthothers. Recognizing the agency and transcorporeality of earthothers, a reinvigorated sustainability will reject concepts of "environment" that reify self-other dualisms, replacing them with relational earth identities. The public/private environmental, economic, and gendered dualisms noted by ecofeminists must be replaced with environmental justice concepts of a continuity of relations among "where we live, work, play and pray"; the focus of "sustainable management" must shift to sustainable *dialogues*, using ecologically, economically, and socially democratic participatory decision-making to enhance listening, awareness, and consideration of transcorporeal eco-socio-economic relations. Just, sustainable, and ecofeminist economics will reject the linear model of neoliberal economics and replace it with the indigenous and ecological model of the circle, where "waste" is no longer a concept, and

sustainability is enacted through transformations of repurposing, composting, and reusing former "waste" in new materials beneficial to an ecological community.[25] This new sustainability will prohibit economic "profits" based on theft: whether it is oil from the Arctic and Nigeria, Alberta's tar sands and North Dakota's Bakken fields; the prison labor extracted from an incarcerated population that is disproportionately dominated by Black men,[26] or the sweatshop labor of poor and third world women that results in a century of disasters, from the 1911 Triangle Shirtwaist Factory fire in New York to the 2013 Rana Plaza collapse in Bangladesh; or the theft of self-determination, freedom of movement, the ability to nurture offspring to maturity, and life itself from billions of farmed animals. It will count as loss the formerly lucrative practices of sex trafficking and organ trafficking, the enslavement of animals in zoos and scientific labs and agriculture, and the "free" labor of prisoners in cleaning up tar sands "spills." Defining *society* as referencing a transspecies diversity of citizen identities, this just sustainability will require an inclusive, ecological, economical, and participatory democracy.[27]

Current discussions of sustainability among elite white professionals have the untapped potential to function as a stealth operation, transmitting the small winged seeds of a more critical, just and ecofeminist social transformation. Given the immediacy of climate change, it's high time to open up these conversations.

NOTES

1. According to David Orr, ecological literacy is a transformational approach to sustainability, honoring the "connections between people of all ages, races, nationalities, and generations, and between people and the natural world"; it comprehends "the interrelatedness of life" and "the ways in which people and whole societies have become destructive"; it recognizes "the speed of the crisis that is upon us" and "implies a radical change in the institutions and patterns that we have come to accept as normal" (1992, 93–95). Preceding Orr's work by almost fifty years, Aldo Leopold's (1949) land ethic transforms both the human-environment relation and the human practitioner: "a land ethic changes the role of *Homo sapiens* from conqueror of the land community to plain member and citizen of it. It implies respect for his fellow members, and also respect for the community as such." While revolutionary for its era, Leopold's analysis ignores issues of race, gender, sexuality, species, and nation that are central to a just feminist sustainability; yet the potential for interrogating these issues in relation to a land ethic is latent in his writings, as educators at The Leopold Foundation in Baraboo, WI, have recently developed the land ethic in terms of environmental justice.

2. See Hamline University's "What is Sustainability?" at https://sites.google.com/a/hamline.edu/committee-sustainability/what-is-sustainability. There are at least

282 visual models of sustainability compiled in Samuel Mann, *Sustainability: A Visual Guide* (NewSplash, 2011), available at http://computingforsustainability. com/2009/03/15/visualising-sustainability/. There are no "approved" sustainability diagrams on the AASHE website; I chose the Hamline University diagram because it is both descriptive and simple, unlike many others.

3. See http://www.aashe.org/files/aashe_annualreport2013.pdf .

4. This information is current as of June 2015, available at http://www.aashe.org/resources/academic-programs/.

5. Agyeman's innovative work bridging environmental justice and sustainability perspectives still backgrounds feminist considerations of gender, sexuality, and species, giving these occasional references that are add-ons rather than centralizing these as crucial elements of a just sustainability.

6. See "Annual Report: 2013," Association for the Advancement of Sustainability in Higher Education, accessed at http://www.aashe.org/files/aashe_annualreport2013. pdf on 1/5/2017.

7. See *Friends of the Earth: Tar Sands*, at http://www.foe.org/projects/climate-and-energy/tar-sands, and WorldWatch Institute: Tar Sands Fever, at http://www.worldwatch.org/node/5287.

8. See also the Indigenous Environmental Network on tar sands at http://www.ienearth.org/what-we-do/tar-sands/ and http://www.theglobeandmail.com/news/national/oil-sands-pollutants-affect-first-nations-diets-according-to-study/article19484551/.

9. See also "Tar Sands Solutions Network: Climate Impacts" at http://tarsandssolutions.org/tar-sands/climate-impacts.

10. See also Minnesota House of Representatives Information Brief, *Minnesota's Petroleum Infrastructure: Pipelines, Refineries, Terminals* (June 2013) at http://www.house.leg.state.mn.us/hrd/pubs/petinfra.pdf.

11. See Kayne, Eric. "Defending Fenceline Communities from Oil Refinery Pollution." *Earthjustice* (2014). Case 2180, 3065. Accessed at http://earthjustice.org/our_work/cases/2014/defending-fenceline-communities-from-oil-refinery-pollution# on 6/23/2016.

12. See http://www.democracynow.org/topics/flint_water_crisis for the full report on Flint's water crisis (accessed 6/23/2016).

13. EarthJustice, *Community Impact Report Addendum A: The Toll of Refineries on Fenceline Communities*, October 28, 2014, accessed at http://earthjustice.org/sites/default/files/files/10.28.14%20EPA%20Refinery%20Risk%20Review%2003_Addendum%20A%20-%20Community%20Impact%20Report.pdf on 6/23/2016.

14. See "Environmental Justice," EPA: US Environmental Protection Agency, accessed at https://www.epa.gov/environmentaljustice on 6/23/2016. For a wealth of documentation on the Environmental Protection Agency's failures to provide Civil Rights protection for communities of color, see Vallianatos' (2014), as well as "Environmental Justice / Environmental Racism" at *EJnet.org: Web Resources for Environmental Justice Activists*, accessed at http://www.ejnet.org/ej on 6/23/2016.

15. See "Environmental Justice / Environmental Racism" at http://www.ejnet.org/ej.

16. Four years after Oliei's resignation, in 2010, the state of Minnesota filed a lawsuit against 3M for polluting four aquifers, a 139-mile stretch of the Mississippi River, and over a dozen lakes, contaminating the water supply for more than 125,000 people in the Twin Cities area; by 2014, the lawsuit stalled in legalities and was disqualified (Anderson 2014).

17. The thirty-page legal complaint filed by Minnesota State Attorney Lori Swanson can be found at http://minnesota.publicradio.org/features/2010/12/documents/3m-swanson-lawsuit.pdf

18. For Cottage Grove demographics, see U.S. Census Bureau report, at http://quickfacts.census.gov/qfd/states/27/2713456.html.

19. I am grateful to Corrie Ellis for sending me Molotch's essay.

20. See also the *Canada History Project: Effects of the Fur Trade* at http://www.canadahistoryproject.ca/1500/1500-13-effects-fur-trade.html

21. Plumwood often used the term "anticolonial" rather than "postcolonial," possibly because the latter term was less familiar. I use both terms, preferring anticolonial for the way it reminds us that colonialism is in no way "post"—it continues in the western industrial capitalist treatment of earthothers. In "Androcentrism and Anthropocentrism: Parallels and Politics" (1996), Plumwood uses the five operations of the Master Model to illustrate the linkages operating in the "otherization" of colonialism based on gender, race, class, and indigeneity.

22. For the association of animals with slaves, see the Willie Lynch letter, "The Making of a Slave," delivered in the colony of Virginia in 1712. Lynch uses the slaveowners' familiarity with "breaking" horses to explain how to "break" slaves—starting with the women—to ensure their complete submission.

23. See also Julie A. Nelson (1997). The accounting failures of neoliberal economics in valuing the reproduction of nature and of women are addressed throughout feminist and ecofeminist economics (Waring 1988; Mies and Shiva 1993; Salleh 1997).

24. The insights or new materialists are novel primarily to western culture, as the interconnectedness of all life is integral to most indigenous cultures.

25. See Michael Braungart and William McDonough, *Cradle to Cradle: Remaking the Way We Make Things* (2002) and Janine M. Benyus, *Biomimicry: Innovation Inspired by Nature* (2002) for perspectives that transform our linear economic and production models into a circular economy advocated by many indigenous cultures and environmentalists alike.

26. See Michelle Alexander, *The New Jim Crow: Mass Incarceration in the Age of Colorblindness* (2012), Ava Duvernay's documentary film, "13th" (2016), and Bryan Stevenson, *Just Mercy: A Story of Justice and Redemption* (2015) for the history of institutionalized racism in the United States as enacted through slavery, Jim Crow segregation, and mass incarceration, respectively.

27. Ecofeminists have discussed this tripartite development of citizenship in depth (Plumwood 1993; Gaard 1998; Sandilands 1999).