

The scales of measurement implied in the term “Anthropocene” are problematic and are not equal to meeting the increasing urgency about environmental impacts of human activities. The felt need for action requires an adjustment of global values and ethics and a deep analysis of the scale issues that the term “Anthropocene” itself poses.

## Hollow Ecology and Anthropocene Scales of Measurement<sup>1</sup>

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**O**ne of the inherent paradoxes of the notion of the Anthropocene concerns the scale of human influence on planetary systems. On the one hand, there is no question about humanity’s contribution to global warming, species loss, ocean acidification, extreme weather events, rising sea levels, decreasing ice, and retreating glaciers; on the other hand, the scale of possible action humanity can take to slow, stop, and reverse these and other effects of climate change (or, indeed, to stop climate change itself) is dubious at best. The simple reality is that we seem to be on an exponential trajectory, and every year things get much, much worse, despite the increasingly frenzied rhetoric. There are many reasons for this. To talk about climate change without talking about the meat industry, for instance, seems hollow, and green activism must involve detailed and consistent reference to critical animal studies.<sup>1</sup> Analyses that remain on the surface and avoid the guts and the biologies that sustain and feed “the Anthropocene” present a kind of “hollow ecology”<sup>2</sup> characteristic of mass media reports on and commercial appropriations of climate change issues.

Often critiqued for conveying a righteous tone, critical discussions of “the animal question” and vegetarianism are often simply dismissed or ignored, thus foreclosing on the possibility of generating an ethical scale appropriate for the enormity of the problems we face in the Anthropocene.<sup>3</sup>

There is increasing attention to the question of why things are getting so much worse at the very moment in history when so much media effort is raising consciousness about the increasing problems we face. Work in ecomedia studies, for instance, has directly undertaken complex and varied analyses of how to have an effect on climate change. Astrida Neimanis, Cecilia Åsberg, and Johan Hedrén suggest that “one of the stumbling blocks many scholars and citizens alike face in thinking through the environment is the issue of scale” (73). They argue that to organize “dominant imaginaries, practices, and politics around a human-scaled existence” makes “it difficult to relate to environmental issues that are predominantly sensible at other scales” and that “this intangibility—i.e., the difficult [sic] of literally grasping these phenomena and effects—leads to alienation, whereby human stakeholders do not feel invested in environmental issues” (73-74). For Neimanis, Åsberg, and Hedrén, scale-frames determine what we can and cannot see; the problem is that stakeholders (like most everyone else) cannot see enough to invest in things that will help solve environmental problems.

We have problems, and we understand that part of dealing with these problems involves expanding our senses of time and space, modifying the temporal and spatial scales we use to understand and apprehend what Rob Nixon has called “attritional catastrophes that overflow clear boundaries in time and space” (7). One of the results of our expanding senses of time and space has been to understand matter differently. In particular, work resulting from “the new materialism” has stressed the importance of understanding the mutual entanglements of agentic matter. As we have expanded our temporal and spatial scales, then, so too, I would like to suggest, have we begun to imagine *agentic capacity as a scale* that urgently needs attention. Yet, for all of its attention to the materiality of mutually entangled agentic bodies and the enmeshment of rocks and toads and bodies and hills, it seems something is missing in the often macro-scale focus of the new material turn: where, for instance, is the critique and theorization of the larger scale, the billions upon billions of bodies of non-human animals in this new material turn? Where is the analysis of the ethical scale that not only permits continuation of this environmental crime but actually encourages it?

In her discussion of performance theory and drama, Una Chaudhuri explains that “as pets, as performers, and as literary symbols, animals are forced to perform for us [. . .]. Refusing the animal its radical otherness by ceaselessly troping it and rendering it a metaphor for humanity, modernity erases the animal even as it makes it

discursively ubiquitous” (“Animal” 105, *emph. Chaudhuri’s*).<sup>4</sup> As the circle of ethics has expanded (Singer), and as discussions about varieties of contempt for otherness have been defined, laws have developed around the use of terms designating otherness (these laws govern some offenses that are termed “hate crimes”); yet the expansion of ethics, when it has moved beyond the category of personhood at all, has often privileged sentience, leaving aside the non-sentient biotic and non-biotic ecosystems of the world.

More than a century and a half ago, William E.H. Lecky urged the expansion of the ethical circle: “At one time the benevolent affections embrace merely the family, soon the circle expanding includes first a class, then nation, then a coalition of nations, then all humanity and finally, its influence is felt in the dealings of man with the animal world [. . .]. It is abundantly evident, both from history and from present experience, that the instinctive shock, or natural feelings of disgust, caused by the sight of the sufferings of men, is not generically different from that which is caused by the sight of the suffering of animals” (102). In the twentieth century, Lecky’s call to expand our scale of ethical inclusion was taken up in earnest by advocates for animal rights. Indeed, there is an expanding circle of work on and attention to the importance of theorizing about animals within the environmental humanities; yet the magnitude of animal abuse in the world—already dizzying—is also expanding, requiring a scale of different measurement than what we currently use in order to appreciate the enormity of the problem. Much of the problem of scale here is a problem of ethics.

It is intellectually interesting to devise hot new ways to frame the problem, to produce complex new paradigms and elaborate explanations, and, especially, to try not to be repetitious; yet, there is a need for and a real virtue in repeating what needs to be heard when it hasn’t been heard.<sup>5</sup> It is precisely this kind of insistence that, with any hope, will “eat away at society’s complacency toward the food industry’s objectification and mining of animal bodies” (May 104). If, therefore, it seems embarrassingly passé to talk about animal rights, we might do well to wonder along with Marc Bekoff “what will future generations say when they look back and see how, despite what we knew, we still tortured animals and decimated pristine habitats for our own gain? How could we miss the obvious connection?” (178). How could our understandings of the problems have been so hollow?

David Abram has discussed the “strange inability to perceive other animals—a real inability to clearly see, or focus upon, anything outside the realm of human technology or to hear as meaningful anything other than human speech” (27). It is reasonable for Abram to try to figure out precisely what kinds of things keep our notions of scale fixed: “Our obliviousness to nonhuman nature is today held in place by ways

of speaking that simply deny intelligence to other species and to nature in general, as well as by the very structures of our civilized existence—by the incessant drone of motors that shut out the voices of birds and of the winds; by electric lights that eclipse not only the stars but the night itself; by air ‘conditioners’ that hide the seasons; by offices, automobiles, and shopping malls that finally obviate any need to step outside the purely human world at all” (28).

The echoes resound with what others have said, notably, perhaps, Paul Shepard. As far back as 1969, Shepard, in his provocative and important “Ecology and Man—A Viewpoint,” expressed clearly what I would years later define as “ecophobia”:

The anti-nature position today is often associated with the focusing of general fears and hostilities on the natural world. It can be seen in the behavior of control-obsessed engineers, corporation people selling consumption itself, academic superhumanists and media professionals fixated on political and economic crisis; neurotics working out psychic problems in the realm of power over men or nature, artistic symbol-manipulators disgusted by anything organic. It includes many normal, earnest people who are unconsciously defending themselves or their families against a vaguely threatening universe. The dangerous eruption of humanity in a deteriorating environment does not show itself as such in the daily experience of most people, but is felt as general tension and anxiety. We feel the pressure of events not as direct causes but more like omens. A kind of madness arises from the prevailing nature-conquering, nature-hating and self- and world-denial. (8)

What Shepard describes cannot be what Harvard biologist Edward O. Wilson has called “biophilia,” a concept that clearly does not account for our environmental problems.

The viability of the notion of biophilia is questionable,<sup>6</sup> even to some of the contributors to the acclaimed *Biophilia Hypothesis*. Aaron Katcher and Gregory Wilkins in their chapter in this collection note that “our willingness to exterminate animals and destroy habitat are reflections of [. . .] [a] universal tendency to reduce the complex roles played by animals to simple images defined by human interest or need” (190).<sup>7</sup> This reduced scale of understanding is a problem. When the scale of our understanding of the world, as well as the scale of our ethical relationship with that world, is determined by the parameters of utility that we imagine in that world for us, the environment will not fare well. I share the distrust of Katcher and Wilkins regarding the capacity of the concept “biophilia” to explain the mess we are in. My dissatisfaction with the capacity of what came to be termed “the biophilia hypothesis” to adequately account for the kinds of things that are going on in the world, has, over the past 20 years, only grown, as has my conviction that we need to address in full the implications of what Wilson proposed if we are to come to any kind of understanding about why we are so bad for nature.

For Erich Fromm, from whom the term originates, “biophilia is the passionate love of life and all that is alive” (365). It is a resolutely utilitarian ethics, where the object of consideration is valued for its isomorphic similarities with “the human” (its life, in other words), notwithstanding its scale. “Biophilia” does not refer to feelings about non-biotic nature except to the degree that it serves biotic nature. This seems a liability in scale-framing for an age experiencing profound environmental crises, biotic and non-biotic. In a wide-ranging discussion of what motivates human cruelty and aggression, Fromm argues that “biophilic ethics have their own principle of good and evil. Good is all that serves life; evil is all that serves death. Good is reverence for life, all that enhances life, growth, unfolding. Evil is all that stifles life, narrows it down, cuts it into pieces” (365-66). The value of a waterfall here resides in its ability to sustain life.

Wilson further developed the term “biophilia” in 1984 and defined it as “the innate tendency to focus on life and lifelike processes” (*Biophilia* 1), “the urge to affiliate with other forms of life” (85), “the connections that human beings subconsciously seek with the rest of life” (*Diversity* 350). What has come to be termed “the biophilia hypothesis” posits that biophilia is inherent (biologically-based), part of human evolutionary heritage, and associated with survival advantages. In addition to being unproven (and perhaps unprovable), “the biophilia hypothesis” cannot account for the realities of the world, for the kinds of things that are going on in the world—the factory farms, the rainforest destruction, the biodiversity holocaust. It cannot make the connections with theories about exploitation, about people who gain while others (human and non-human) lose, and it cannot show intersections among ecophobia, homophobia, speciesism, and sexism (Estok, “Theorizing”).

Our distance from the materiality of the natural world deepens as we go further into virtual realities and away from actual ones—the waters that run down mountainsides; the animals that sweat and bleed and scream in agony so that some people can eat them; the dangers and the pleasures of outside, of life outside of cities, and of nature; and the smells, tastes, winds, rains, chills, bugs, birds, hail, and so on that are absent from our computer screens and smart phones. Indeed, as Richard Louv notes, “nature is more abstraction than reality. Increasingly, nature is something to watch, to consume, to wear—to ignore.” He calls our increasing distance from the materiality of the natural world a “nature deficit disorder” and argues that “our institutions, urban/suburban design, and cultural attitudes unconsciously associate nature with doom” (2). It is a growing trend that deepens ecophobia and lessens our capacity to understand and appreciate the scope and scale of nature. As the scale of our perception shrinks, the potential for the expansion of the scale of our ethical circle is compromised. Not only is the natural world implicitly excluded from this ethical scale,

humanity itself is at risk of exclusion—and evidencing this is all of the recent dystopian sci-fi about what happens to humanity when computers take over. It finds ugly expression, for instance, in the 2004 blockbuster movie *I, Robot*, in which V.I.K.I. (Virtual Interactive Kinetic Intelligence), a gendered mother-figure robot, explains thus: “You charge us with your safe keeping, yet, despite our best efforts, your countries wage wars, you toxify your earth, and pursue ever more imaginative means to self-destruction. You cannot be trusted with your own survival [. . .]. To protect humanity, some humans must be sacrificed. To insure your future, some freedoms must be surrendered.” The question for people in the real world is about what freedoms must be surrendered without producing a dystopian nightmare.

In confronting future challenges, humanity faces truly frightening possibilities. The prospect of repressive regimes and right-wing fanaticism seems ever-present and humanity faces the daunting challenges of changing everything about the scales it uses to understand and live in the world and of balancing individual liberty with environmental responsibility. Naomi Klein compellingly explains that the capitalist model itself is responsible for many of our global problems. Facing this means “changing everything about how we think about the economy so that our pollution doesn’t change everything about our physical world” (95). It also means “that responses to climate change that continue to put the entire burden on individual consumers are doomed to fail” (117). This is not to downplay the importance of the individual but rather to expand the scale of responses in order to address systemic problems of capitalism. For Timothy Clark, on the other hand, any sense of individual responsibility is an engagement with “deranged jumps in scale and fantasies of agency” (“Scale” 151). Clark takes environmental slogans literally and seems to sincerely believe that slogans about “saving the planet” are meant to be literal. It seems to me more reasonable to recognize that most people understand that changing a light bulb or driving a hybrid will not “save” the planet and that the phrase “saving the planet” is a metaphor. The very issues of “cultural representations, ideas, ideals, and prejudices” that Clark subordinates to what he calls “long-term relations of physical cause and effect” (164) are in dire need of analysis and action. There will be no other way to effect change, and it is surely a mistake to believe otherwise.

Nevertheless, the tension between the individual and the larger social body will be pivotal in how humanity deals with the environmental crises that it will increasingly face, and it seems valid for Clark to argue that “the most controversial political effect of climate change may be its challenge to the basic dominant assumptions about the nature and seeming self-evident value of ‘democracy’” (“Scale” 152). A question that must arise is about the degree to which perceived personal liberties will be legislated

away. Ominously, Klein cites a comment from Gus Speth, former Dean of the Yale School of Forestry and Environmental Studies, which is relevant here: “A reliably green company is one that is required to be green by law” (120). The implications of this are controversial. Since our scale of ethics is inconsonant with our values regarding sustainability, and since a vegetarian diet is much better for the environment<sup>8</sup> than a meat-based diet, should we therefore expect the kind of laws Speth foresees for industry applying also to individuals? Laws have been made for the public good against smoking in public places in many parts of the world: will laws against eating certain foods be next? And then what? Should there be laws limiting flying? Driving? Running? Is this the end, really? In a *New York Times* op-ed entitled “Learning How to Die in the Anthropocene,” Roy Scranton suggests that it is and argues that “civilization is already dead,” that “there’s nothing we can do to save ourselves,” and that “if we want to learn to live in the Anthropocene, we must first learn how to die.” Scranton works on the assumption that the Anthropocene is something new, that humanity has only recently begun to change the planet, the climate, the biosphere, and so on, and that these monumental changes are fatal blows. The case is mounting against such a position.

Elizabeth Kolbert has noted that “one argument against the idea that a new human-dominated epoch has recently begun is that humans have been changing the planet for a long time already, indeed practically since the start of the Holocene.” She is not alone. William F. Ruddiman, for instance, argues “that the Anthropocene actually began thousands of years ago as a result of the discovery of agriculture and subsequent technological innovations in the practice of farming” (261)—and it is not just hot air: Ruddiman offers extensive data verifying beyond any doubt that the volume of two of the most powerful gases influencing climate change—CH<sub>4</sub> (methane) and CO<sub>2</sub> (carbon dioxide)—has, for thousands of years, been deeply regulated by human activities such as agriculture and the wide-spread removal of forests. Bruce D. Smith and Melinda A. Zeder similarly place “the onset of the Anthropocene almost ten thousand years earlier, at the Pleistocene-Holocene boundary” (8), claiming that “the beginning of the Anthropocene can be usefully defined in terms of *when evidence of significant human capacity for ecosystem engineering or niche construction behaviors first appear in the archeological record on a global scale*” (8-9, *emph.* Smith and Zeder’s). The scale of human influence is increasing, to be sure, and on what seems an exponential trajectory, but the dynamic itself is not new. I would like to suggest here that one reason why most scholars (and most media) have viewed the term “Anthropocene” in reference to post-Industrial Revolution anthropogenic effects on the world might have to do with the sheer scale of changes currently underway. Things are bad enough to threaten our own existence now. The human species is at risk.

The very term “Anthropocene,” moreover, embodies some genuinely problematic issues. Andreas Malm and Alf Hornborg, for instance, “find it deeply paradoxical and disturbing that the growing acknowledgement of the impact of societal forces on the biosphere should be couched in terms of a narrative so completely dominated by natural science” (63) because such a narrative forces a position that will produce a scale that is dishonest, one that works to efface, occlude, and “abandon the fundamental concerns of social science, which importantly include the theorization of culture and power” (62). Not only does it efface causes, it also trivializes the matter by presenting growing environmental crises as apocalyptic entertainment. The term “Anthropocene” thus starts to seem like yet another affirmation of the heroic (or anti-heroic) human subject and of our obsession with ourselves. Indeed, we have to wonder about the hubris perhaps implied in the very term “Anthropocene”: as Neimanis, Åsberg, and Hedrén suggest, “calling an epoch after ourselves does not necessarily demonstrate the humility we may need to espouse” (68). They go on to argue that “the rising discourse of the Anthropocene [. . .] discourages a critical view of precisely how, where, and by whom human effects on climate, ecosystems and biodiversity are specifically caused” (79) and of “the need to adopt a cautious attitude toward the idea of Anthropocene [. . .], in which Man is again placed in the center of the world as a prime mover, in favor of an openness toward alterity and unknowability” (84). As Serpil Oppermann describes it in her contribution to this special issue, then, there is a very real danger that the term “Anthropocene” itself “fuels narcissism, propagates anthropocentric arrogance, and occasions quite a dysfunctional relationship to planetary ecosystems” (3). So, how do we move forward in “openness toward alterity and unknowability”?

One way to move beyond the perceived dangers of hubris and narcissism that could lurk in the term “Anthropocene” is to try to better understand the *subject* of the Anthropocene. Derek Woods makes the lucid and compelling argument that “scale critique shows that the subject of the Anthropocene is not the human species but modern terraforming assemblages” (138). As such, scale critique stresses the importance of non-human agency—what Jane Bennett terms “the agency of the assemblage” (23)—in the ongoing environmental developments that humanity will need to face.

Scale is central to dealing with such questions. In a summary to their wide-ranging collection of essays entitled *Ecologies of Affect*, Tonya K. Davidson, Ondine Park, and Rob Shields suggest that “scale is spatial, social, and political, encompassing scales of interactions, scales of meaning, and scales of engagement. One might ask: at what scale should life be lived?” (322). What limits must there be? Under a capitalist scheme that knows no limits, what is to be done? Obviously, as many have noted, capitalism and environmentalism are incompatible. Klein has comprehensively shown

that not much will change without a fundamental shift in our global economic system. Jared Diamond, in a complex book that analyzes the history of civilizational collapses, has stressed the importance of dealing with big business: “if environmentalists aren’t willing to engage with big businesses, which are among the most powerful forces in the modern world, it won’t be possible to solve the world’s environmental problems” (17). I, too, have argued that “capitalism and environmental ethics seem in many ways incommensurable” (“Narrativizing” 149). Jason W. Moore has even suggested that the term “Capitalocene” might be more apt than “Anthropocene.” Neimanis, Åsberg, and Hedrén rightly note that “many scholars regard [neoliberalism and freewheeling capitalism] as the origin of current environmental degradation” (76). Certainly this is all true, but capitalism is surely not the cause of our ongoing environmental problems; rather, it is the latest in a long history of models that rely on ecophobia, that exploit sexism, that bank on inequitable structures, and that depend on obfuscation and lies about real costs and about who foots these bills. It is an efficient model, well-refined and frightening, true, and capitalism is indeed a contributor to “the Anthropocene,” but to envision it as the cause is to accept a scale of origins that is simply inaccurate. Human disrespect for the natural environment has much deeper origins. Indeed, ecophobia (like other spectrum conditions such as sexism, racism, and speciesism) far predates the emergence of capitalism.

Moving forward, then, means understanding history and our place in the scheme of things. It means understanding species, our own and others. It means understanding that we are not the only species that is indifferent to the natural environment, that we are not the only species that pollutes, that we are not the only species that kills members of other species for our own benefit and self-interest, and that we are not the only species that radically refashions the biosphere. And to think that no other species has radically refashioned the biosphere is to be misled, notwithstanding comments in a February 2011 *New York Times* editorial on “The Anthropocene,” which state that “We are the only species to have defined a geological period by our activity—something usually performed by major glaciations, mass extinction and the colossal impact of objects from outer space.” We know that what has come to be known as the Great Oxygenation Event (Torres, Saucedo-Vázquez, and Kroneck) resulted in a radical refashioning of the biosphere, one that produced mass extinctions. As Phil Plait explains, “most of the bacteria thriving on Earth were anaerobic, literally metabolizing their food without oxygen. [. . .] To the other bacteria living in the ocean—anaerobic bacteria, remember—oxygen was toxic. [. . .] A die-off began, a mass extinction killing countless species of bacteria.” It is no exaggeration for Plait to say that “this event was monumental, an apocalypse that was literally global in

scale, and one of the most deadly disasters in Earth's history." But what we also need to remember is that we are doing these biosphere-altering things on a scale that threatens our own existence, that we are the only species currently doing these things with knowledge of their effects, and that we have the ability to change our behaviours as a result of such knowledge.

Moving forward means understanding history and our place in the scheme of things and our connectedness to the rest of the material world, biotic and non-biotic. We shouldn't flatter ourselves because we are smart. Shepard explains that "human intelligence is bound to the presence of animals. They are the means by which cognition takes its first shape and they are the instruments for imagining abstract ideas and qualities, therefore giving us consciousness [. . .]. They are the means to self-identity and self-consciousness as our most human possession, for they enable us to objectify human qualities and traits. By presenting us with related-otherness—that diversity of non-self with which we have various things in common—they further, throughout our lives, a refining and maturing knowledge of personal and human being" (*Thinking* 249). So, there needs to be a very fundamental shift in how we see nature, "a transvaluation so profound as to be nearly unimaginable at present," to borrow Chaudhuri's words ("There" 25). Looking at the skin and not the guts will not do. A hollow understanding of scale-frames simply will not be strong enough to solve the problems. The transvaluation must involve expanding the circle of moral and ethical considerability. It is a position that ethicist Peter Singer has made in much of his work on animal rights but perhaps most forcefully in his exhaustive study aptly entitled *The Expanding Circle: Ethics, Evolution, and Moral Progress*. It is a position that I also argue here and am certainly not alone among ecocritics in doing so. Stacy Alaimo, to mention just one example, recently commented (citing Andrew Light and Holmes Rolston III) on the "circle that has expanded in such a way as to grant 'moral consideration to animals, to plants, to [non-human] species, even to ecosystems and the Earth' [Light and Rolston 7]" (16) and about decentring the human subject and seeing a different scale.

One of the requirements for moving toward the transvaluation of which Chaudhuri writes is the need to encourage the expansion of ethics about which so many scholars speak, a task that will require enormous efforts of cooperation among groups that use very different scales of measurement. It will require cooperation among people in the social and natural sciences in their work toward developing different scales of measurement through which to deal with our current problems. Yet "the marriage between the physical sciences and the social sciences" seems not a marriage of equal partners. There is, according to Clark C. Gibson, Elinor Ostrom, and T.K. Ahn, a deficiency of scale-framing in the social sciences, and they suggest that "under-

standing of the importance of scale tends to be underdeveloped” among social scientists, in contrast with the physical scientists, for whom “some of the fundamental issues related to scale in the physical sciences were resolved with the development of a unified theory of mechanics” (236). Similarly, Malm and Hornborg voice serious concerns about the dangers of the marriage of the physical and social sciences—particularly of the domination of the social by the physical sciences (66). There is no question that there is a long way to go before “consilience” between the natural and social sciences is a reality. Simply saying that there is a necessity to bring the arts and sciences together isn’t enough. One has to be qualified to do it, and Wilson for one isn’t.

Although Wilson offers the term “consilience” to describe “literally a ‘jumping together’ of knowledge by the linking of facts and fact-based theory across disciplines to create a common groundwork for explanation” (*Consilience* 8), his notions of literature are foolishly reductive and simplistic. He promotes and seems genuinely to believe that “science explains feeling, while art transmits it” (127); that postmodernists are “a rebel crew milling beneath the black flag of anarchy” and “believe we can know nothing” (44); and that “outside our heads there is freestanding reality. Only madmen and a scattering of constructivist philosophers doubt its existence” (66). One has to wonder how sentiments such as these can possibly encourage greater dialogue between the arts and sciences. To me, it seems unlikely indeed to expect a plausible methodology for sustaining consilience from a person who misapprehends what literary people (and others who compose narratives) actually *do*. I offered a “cautionary warning,” a few years ago, “that literary studies must not become a minion of the sciences, a slave to methodologies both foreign and ineffective for a discipline that requires its own tools and interpretive strategies, a servile bondservant to analytical models designed for other purposes and effects. It is, after all, precisely this servile relationship to the sciences that Wilson imagines” (“Tracking” 31-32).<sup>9</sup>

Even so, the core idea of a consilience between the arts and the sciences is good because it promises to lead us toward better ways of imagining scale, of addressing questions Adam Trexler raises in his compelling book about Anthropocene fictions: “What tropes are necessary to comprehend climate change or to articulate the possible futures faced by humanity? How can a global process, spanning millennia, be made comprehensible to human imagination, with its limited sense of place and time? What longer, historical forms aid this imagination, and what are the implications and limits of their use?” (5). To address these questions means having a sufficiently broad scale—one that includes matters of gender, species, class, sexuality, and race (matters long central to feminist scholarship)—as they relate with green concerns. Ignoring the work of feminists and ecofeminists and their work on animals, for instance, simply will not lead

anywhere. One has to wonder about (and, indeed, challenge) the work of a person such as Clark, to take but one recent example, who seems to have a solidly right-wing axe to grind when he mocks “the latest developments of a left-liberal humanist programme of ever-expanding social inclusiveness” and when he attempts to downplay the importance of gender in ecocriticism (*Ecocriticism* 110). Clark makes no analysis of gender and ignores the volumes of feminist analyses that might serve his musings on “various modes of scale framing” (78). Clark complains that “scale effects [. . .] defy sensuous representation or any plot confined, say, to human-to-human dramas and intentions, demanding new, innovative modes of writing that have yet convincingly to emerge” (80), but the absence of references to the work of Carol J. Adams, Greta Gaard, Marti Kheel, Lori Gruen, and Karen Warren (among others) on animals suggests major failings in the depth of Clark’s research and in the validity of his musings.

A solid study of various modes of scale-framing must be feminist and must work from feminist principles of inclusion, principles that stress the importance of valuing animals. Gaard has argued that a great deal of feminist criticism forms the roots of ecocriticism, that these roots have become buried, and that “the first task for feminist ecocritics involves recuperating the large history of feminist ecocriticism, and the contributions of ecofeminist literary criticism within ecocritical thinking” (644). Compelling and exhaustive, her article unearths the feminist roots of ecocriticism and clearly shows that “our failure to accurately and inclusively describe the past will surely limit our capacity to envision potential maps for viable futures” (660). The introduction to *International Perspectives in Feminist Ecocriticism* that I co-authored with Gaard and Oppermann extensively tracks the origins of feminist ecocriticism, arguing that a feminist approach has always advocated “an ethics based on situated values, on the gender significance of embodiment both human and nonhuman” (1). In this introduction, we argue for “a continuation and expansion of feminist environmental conversations that began long ago and have survived, despite being variously muffled, muted, marginalized, appropriated without acknowledgement or, conversely, wholly ignored” (15). Central to these conversations has been the principle of inclusion, of valuing the human and more-than-human, and of making big efforts. Indeed, “if one thing has become clear from a century of ecological thought and effort, it is that the earth cannot now be saved by half-measures [. . .] whether we like it or not, the ecological crisis is a crisis of values” (Chaudhuri, ““There”” 25). Half-measures will produce nothing more than hollow analyses.

There is great urgency to do something about the exponentially increasing problems that have come to be called “the Anthropocene,” a term that in the moment of seeking to offer scales of understanding poses substantial scale problems of its own.

The anthropo-narcissism it encourages feeds into a long history of speciesism and ecophobia, both of which have contributed immeasurably to getting us into the mess we are in, the valley of ecocide in which we seem stuck, with our as-yet ineffective chatter as constant company. Kate Rigby nails it when she says that “the challenge for writing in the anthropocene, in the shadow of ecocide, then, is to find new ways of raising our voices from the level of ‘idle chatter’ to that of biting and stinging ecoprophetic witness” (184). We know—or should know—by now that the source of our problems “lies in violence needlessly perpetrated by our civilization on the ecology of the planet; only by alleviating the latter will we be able to heal the former” (Abram 22). The greatest scale of violence by far that we do on this planet is to animals, and there is no voice too biting or stinging to express this and to force us to expand our ethical circle, rethink our scale of values, and buy more time. If we stick with our hollow ecology, then we’re doomed, and the world will just have to go on without us.

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#### NOTES

1/ This article was supported by the Sichuan University Discipline Group, “Chinese Language and Literature & the Global Communication of Chinese Culture.”

2/ Dawne McCance offers a comprehensive survey of contributions to this area and concludes her book on the topic powerfully with a suggestion of seven issues important in the future work in critical animal studies. Out of any of these topics (ethics, anthropomorphism, dualism, rights, machine, passivity, and sacrifice) “might come critical *turning* points” (138, *emph.* McCance’s). See also pages 137-49.

3/ As I explain in “Material Ecocriticism,” by “hollow ecology” I mean to describe approaches to environmental crises that are surface endeavours in the sense that they—in the plainest of terms—avoid the internalities of, among other things, the human body. I argue specifically for the increasing necessity to address material agency, evolutionary biology, and evolutionary processes (genetic and cultural) from the perspectives of material ecocriticism.

4/ The very term “Anthropocene” poses its own special scale issues in that it reaffirms the scale limitations that “species-thinking” imposes. Andreas Malm and Alf Hornborg argue that “species-thinking on climate change is conducive to mystification and political paralysis. It cannot serve as a basis for challenging the vested interests of business-as-usual. [...] It is [...] not only analytically defective, but also inimical to action” (67).

5/ Timothy Morton has noted, in a similar vein, that “animals bring up the ways in which humans develop intolerances to strangeness and to the stranger” (99).

6/ When, for instance, centuries of patriarchies have refused to listen to women’s claims for rights, there is clearly a need and a virtue in being repetitious.

7/ I have argued elsewhere that “ecophobia is winning out over biophilia [...]. The ‘rapid disappearance’ of species of which Wilson speaks so eloquently and persuasively has many causes, but among these ecophobia is dominant” (“Narrativizing” 146).

8/ Katcher and Wilkins go on to ask the following: “If animals are so woven into the history, and perhaps the neural structure, of our social dialogue, why has the living environment suffered so from unrestrained destructive human behavior? If we have a predisposition to treat at least some animals as kin, why have we exterminated so many of them and why are we so indifferent to their loss? Why is biophilia, if it exists, so weak a determinant of human behavior?” (189).

9/ According to Bijal Trivedi's article published in *New Scientist*, "Switching from the average American diet to a vegetarian one could cut emissions by 1.5 tonnes of CO<sub>2</sub> per person." PETA, meanwhile, citing a Worldwatch Institute report, claims that "A staggering 51 percent *or more* of global greenhouse-gas emissions are caused by animal agriculture" ("Fight," *emph.* PETA's). Countless reports argue that eating less meat is essential to curbing climate change—see, for instance, David Suzuki; Damian Carrington; and Roger Harrabin.

10/ This paragraph appears in slightly different form in my "Tracking Ecophobia."

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