Lisa Sideris's Consecrating Science

with Holmes Rolston, III, "Lame Science? Blind Religion?"; Sarah E. Fredericks, "Reacting to Consecrating Science: What Might Amateurs Do?"; Donovan O. Schaefer, "Mere Science: Mapping the Land Bridge between Emotion, Politics, and Ethics"; Courtney O'Dell-Chaib, "The Shape of This Wonder? Consecrated Science and New Cosmology Affects"; Colin McGuigan, "Wonder Opens the Heart: Pope Francis and Lisa Sideris on Nature, Encounter, and Wonder"; Mary Evelyn Tucker, "Journey of the Universe: *Weaving Science with the Humanities"; and Lisa H. Sideris, "Wonder Sustained: A Reply to Critics."*

THE SHAPE OF THIS WONDER? CONSECRATED SCIENCE AND NEW COSMOLOGY AFFECTS

by Courtney O'Dell-Chaib

Abstract. In response to Lisa Sideris's provocative new book *Consecrating Science: Wonder, Knowledge and the Natural World* and in conversation with voices from feminist technoscience, this article challenges the deracinated wonder of new cosmology encounters in two senses. First, by tracing how it is uprooted from critical perspectives on scientific knowledge production. And second, by contending deracinated wonder is ripped from cultural and historical contexts thus erasing embodied inequalities. Deracinated wonder attached to uncritical forms of science, I argue, solidifies new cosmology as an investment in white environmentalism by directing religion and ecology away from pluralities of encounter and the affective weight of environmental degradation and environmental racism.

Keywords: affect; consecrated science; embodiment; environmental racism; feminist science and technology studies; new cosmology; Lisa Sideris

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Prominent voices in religion and ecology, a collection of projects Lisa Sideris terms "the new cosmology," blend "human and cosmic history (as well as science and religion) into a comprehensive common story" that they hope will act as an ethical guide for ecological concerns (Sideris 2016, 92). This onto-ethical trajectory within religion and ecology seeks to relocate conceptions of what it means to be human within evolutionary history by characterizing humanity as but a small speck of the wonder

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that is our complex universe. Wary of Jewish and Christian cosmologies they regard as significantly devaluing the material world, these theorists advocate for reorienting our myths through teaching evolutionary sciences as sacred cosmologies. Rethinking the human within this universe story, these scholars contend, would generate an emotional shift in our theory and ethics toward humble respect and caring practices for nonhuman others. From this perspective, investment in the sciences could be the enchantment that leads humans to love nonhuman others as we begin to understand that the very matter of the universe, what some might call "nature," is sacred. "Science in this movement," Sideris writes, "offers a wondrous new revelation, an updated sacred scripture" and our responsive "awe at the unfolding story of the universe, it is hoped, will confer a shared sense of belonging and obligation for the natural world" (2017, 2). New cosmologists contend that humans will begin to treat nonhuman others with reverent care as our evolutionary kin, if we invest in this new narrative and feel the appropriate wonder toward the truths it reveals about the natural world.

However, as Sideris compellingly argues in *Consecrating Science*, the "forms of wonder" cultivated and taught by new cosmology are "profoundly impoverished" (2017, 3). This "distorted, deracinated wonder," she writes, is rooted in "hubristic, quasi-authoritarian, and intolerant attitudes toward the nonexpert, nonscientist, and members of other faith communities" (2017, 3). Consequently, these "diminished accounts of wonder" and their "elevation of abstract, expert knowledge above our lived experience of the world cuts us off from the strongest source of our felt connection to the more-than-human world," as they call "us away," she writes, "from much of what it is to be human: a living, breathing, bodily, earthbound—and ultimately death-bound creature, surrounded by and enmeshed with other living and dying beings" (2017, 8–12). Here, I expand on Sideris's framing of new cosmology's ontoethical project as one isolated from embodied, quotidian concerns, by thinking further on deracinated wonder in two senses. One, by tracing how it is uprooted from critical perspectives on scientific knowledge production. And two, by contending that deracinated wonder is ripped from cultural and historical contexts, thus erasing embodied inequalities and the narratives of those "who have no choice but to inhabit intimately," the "physical and environmental fallout" of social injustice (Nixon 2013, 53). Deracinated wonder attached to uncritical forms of science, I argue, solidifies new cosmology as an investment in white environmentalism by directing religion and ecology away from pluralities of encounter and the affective weight of environmental degradation and environmental racism.

Environmental justice advocates contend that white environmentalism is whiteness as a way of knowing becoming "*the* way of understanding our environment" through habitual investment, via "representation and

rhetoric," "educational systems," "institutions," and "personal beliefs," in the normativity of white encounters with nature (Finney 2014, 3). Carolyn Finney argues that "stories, or narratives, about our 'natural environment'" work to inform "our environmental interactions" and shape the institutions "concerned with environmental issues (thereby shaping how we represent, perceive, and construct the identities of racial 'others' within our society)" (Finney 2014, 3). Because the "dominant environmental narrative in the United States is primarily constructed and informed by white, Western European, or Euro-American, voices," whiteness "shapes the way the natural environment is represented, constructed, and perceived in our everyday lives" (Finney 2014, 3). Missing from this narrative are African American perspectives, a "nonessentialized black environmental identity that is grounded in the legacy of African American experiences" in the United States and mediated by intellectual and material privileges "that can determine one's ability to access spaces of power and decision making" (2014, 3). Scholarship from Finney, Paul Outka, and Rob Nixon resists accepting this dominant narrative by carefully articulating how "environmentalism and the meanings we attribute to the environment" are always "grounded in history, race, gender, and culture" even when the narrative claims universality (Finney 2014, 3). I argue new cosmology's affective project that cultivates deracinated wonder traces the habitual paths of white environmentalism first, by shaping uncritical scientific narratives that do not recognize relationships with nonhuman others as grounded in history, race, gender, and culture; and second, by refusing to acknowledge that bodies carrying alternative environmental histories (black, brown, female, queer, and disabled bodies) have not inherited the type of nature and its intimacies that new cosmologists assume is universal.

The focus on "expert" knowledge about the material world over the quotidian realities that continually shape our worlds allows new cosmology to avoid addressing multiplicities of experience and to be very selective, as Sideris demonstrates, about who does or does not count as an "expert." The "scientific mythmakers" of new cosmology, she writes, "frequently deploy generic and uncritical categories of science" by insisting that "modern discoveries in cosmology or evolutionary biology point to some particular or objective meaning, purpose, or value in the universe or for human life generally" (2017, 6). To encourage objective or universal values, new cosmology ignores work on scientific knowledge production coming from material feminisms and feminist science and technology studies (STS). Since the early eighties, work in feminist STS (and other philosophies of science) from theorists such as Evelyn Fox Keller, Donna Haraway, Sandra Harding, Helen Longino, and Karen Barad offers three general critiques about the production of scientific knowledge that new cosmology authors habitually ignore in their embrace of scientific wonder. First is the "reminder that science and technology are importantly social," that what

humans claim is *true* or *real* about our material world is only "contingently real" and open to resistance from other scholars and the power politics of funding that carry their own gendered and raced implications (Sismondo 2010, 60–62). "Claims do not just spring from the subject matter into acceptance, via passive scientists, reviews, and editors. Rather, it takes work for them to become important," funneled through political, social, legal, ethical, and bureaucratic interests (Sismondo 2010, 61–67). Which bodies are allowed to produce this knowledge, which material, communities, ideas, and theories are worthy of study, how these "objects" of study should be ethically procured or treated, all continue to be political struggles. Furthermore, as Helen Longino's work on the role of values in science makes clear, "what a fact is evidence for depends on what background assumptions" we hold socially allowing "people to agree on facts and yet disagree about the conclusion to be drawn from them. At the same time, which background assumptions people choose, and which ones they choose to question, will be strongly informed by social values" and suspicions of perspectives from groups already marginally represented in the sciences remain prevalent (Sismondo 2010, 76). The science narratives that new cosmologists choose to embrace are not recognized as choices because they rarely locate their embrace of science within a contested field with numerous voices, perspectives, and desires wrestling with each other for financial, political, and intellectual recognition. Sideris contends that new cosmology's "almost hagiographic devotion" to particular scholars like E. O. Wilson "discourages and deflects critique and critical exchange" and fashions a "vision" of science that makes "selective use of particular scientific claims and discoveries, carefully arranged and narrated so as to support meanings and messages desired by some" (Sideris 2017, 7–9). However, new cosmology's engagement with these claims and discoveries does not include any sincere critiques of these scholars. Consequently, there is no interrogation of which communities, bodies, and habitats this new narrative represents, serves, or benefits.

Second, despite new cosmology's assumptions that science reveals the realities of nature, feminist technoscience counters that not only are representations and social realities constructed but many of the materials scientists work with are decidedly not "natural." Sociologist Karin Knorr Cetina reminds us that "nature is not to be found in the laboratory" (1981, 4), with the laboratory as a "site of action from which 'nature' is as much as possible excluded rather than included" (1983, 119). For the most part, Sergio Sismondo points out, "the materials used in scientific laboratories are already partly prepared for that use before they are subjected to laboratory manipulations. Substances are purified, and objects are standardized and even enhanced. Chemical laboratories buy pure reagents, geneticists might use established libraries of DNA, and engineered animal models can be invaluable. Once these objects are in a laboratory, they are manipulated. They are placed in artificial situations, to see how they react" and frequently

"the result of these various manipulations is that knowledge derived from laboratories is knowledge about things that are distinctly nonnatural. These things are constructed, by hands-on fully material work" (Sismondo 2010, 61). Again, new cosmology does not wrestle with nature as a social construction, so it pays little attention to the vast divide between "nature" as a lab-created or theoretical ideal and the material realities of human and nonhuman others struggling for survival in habitats impacted by humans in so many ways. Thus, they see no need to reshape wonder as an environmental ethic they claim draws from scientific fact to address a rapidly and unpredictably changing planet and the uneven impacts of toxicity.

Third, critiques of scientific knowledge production argue that "science and social order are 'co-produced'" (Sismondo 2010, 64). Networks and genealogies that are assumed to be orderly and stable are what Sismondo terms a "*heterogeneous construction*" of "isolated parts of the material and social worlds: laboratory equipment, established knowledge, patrons, money, institutions" and where "no one piece of a network can determine the shape of the whole" and "not all of whom may be immediately compatible" (2010, 65). However, because the scientific and the social are coproduced, where "good" science is shaped by policy concerns and the criteria for good policy are shaped by what is determined to be "good science" in a "process of 'mutual construction'," feminist technoscience questions perspectives that separate the two or fail to question the underlying desires and motivations of either (Sismondo 2010, 67). These realities are not intended to deflect from the agentic capacity of our material world, implying that nature is purely a social construct; rather, they serve as reminders that "science and technology are social, that they are active, and that they do not take nature as it comes" (Sismondo 2010, 71). New cosmology does not question the desires, values, and ways of being that consecrated science validates, celebrates, and rewards. Working within such idealized frames, it does not need to consider the gendered or raced implications of any of the scientific material it embraces, the complexities of catastrophic events or crisis conditions, or any of the voices marginalized by these ethics.

Ignoring the cautions of critical science studies and carrying its numerous assumptions about the scientific and the social into work that conflates "science and religion," or makes "science *into* a religion" as Sideris argues, the "consecrated science" of new cosmology "is not science that is obviously in the service *of* nature and its goods" (2017, 7). New cosmologists' use of deracinated wonder functions similarly—as support for their ideals about humanity, religion, and science, but less helpful for contemporary environmental ethical concerns. Furthermore, new cosmologists habitually orient their affinities toward ideal environments with particular affective payoffs, making it difficult to map deracinated wonder onto a planet increasingly shaped by environmental degradation and its disproportionate impacts on the poor. The commitment of new cosmologists to the "universality of

human nature" (Sideris 2016, 94) as well as their promotion of a normative affective relationship with the natural world, assumes that humans have equal access to and similar encounters with natural environments and nonhuman others. Without any specifics on location, encounter, history, difference, and so on, which communities are expected to resonate with this narrative? Sideris persuasively locates humans at the center of these narratives, despite new cosmologist claims to resist anthropocentrism. I want to push a bit further, however: to inquire—who is this human? Ripped from any cultural–historical context, new cosmology's deracinated wonder is less an intimate and becoming relationship with radical difference and more a disposition one appropriately takes on or electively chooses. New cosmology's wonder is affect without body, a wonder that does not wonder about the encounters of any others, a normative affective investment without recognition of any of the diverse bodies that might, or might not, be feeling these emotions. However, as affect scholars such as Sara Ahmed, Kathryn Yusoff, and Donovan Schaefer contend, affects are not painted onto a blank slate but are vibrant in and through the bodies that encounter them and affect others. Bodies may or may not feel these expected forms of wonder for the nonhuman world due to sedimented histories of violence and the continual encroachments of environmental injustice.

Dorceta Taylor, Carolyn Merchant, and Kevin DeLuca remind us about all the ways nature is violently reinforced as a "'white' space and a white concern" by illuminating how "African Americans have historically undergone repeated cultural interrogations regarding their status as humans within the larger society. The legacy of these cultural constructions reveals a thinly veiled contempt for black people that continues to be expressed in intellectual, political, and cultural sites" (Finney 2014, 16–17). There are "many complexities involved in African American attitudes toward the natural world" including ambiguous feelings connected to the denial of "comparable access to those locations celebrated by nature writers," and negotiations with "oppressive poverty and the threat of physical violence" that "historically worked in tandem to create the sense that nature is off-limits and the purview of a distant culture in a distant landscape" (Beilfuss 2015, 485–86). Kimberly N. Ruffin writes that often "the force of oppression in the social world has left African Americans so limited as ecological agents that relationships with nonhuman nature becomes unfathomable, undesirable, or impossible" (2010, 18) when these normative relationships are shaped solely around ideal visions of love, kinship, and wonder like those framed by new cosmology. In truth, "representations and racialization inform the way we approach the 'business,' the 'science,' and the 'conservation' of the natural world," Finney argues, and they "affect the way these spaces and places are constructed and the institutions that maintain these constructions" (2014, 4–5). By excluding black environmental experiences and black environmental imaginaries, either implicitly

or explicitly, academic and environmental institutions like new cosmology legitimate the invisibility of African Americans "in all spaces that inform, shape, and control the way we know and interact with the environment in the United States" (Finney 2014, 4–5). If to be human is to be intimate with nature in only these frames, to feel the appropriate awe, wonder, and reverence, then new cosmology's affective prescriptions dangerously weave into environmental histories that dehumanize black Americans.

Resisting these exclusions is compelling scholarship that challenges shaping nature in these ways, growing work in ecocriticism and environmental justice that recognizes the ambiguous affects that remain for black bodies within nature encounters and insists upon developing a historical sense of American land that defies both the removal of "human history from so-called natural habitats" and "nature from cultural spheres" (Beilfuss 2015, 486–87). Aligning with Finney's task to "challenge the universality that denies the differences in our collective experiences of nature" in the United States, I insist religion and ecology must respond similarly to figure out ways to creatively address, politically and representationally, the slow erosions of environmental injustice and a "nature that seems innocent of *black* history" by unsettling fidelity to these forms of wonder (Finney 2014, 9–10, 34). We must move past reliance on deracinated wonder as normative affective encounter and toward recognizing the complex, often deeply painful, environmental concerns of populations habitually positioned as disposable in order to understand that marginalized communities "can seldom afford to be single-issue activists" (Nixon 2013, 4) or single-narrative proponents. Through deracinated wonder, new cosmologists cultivate an ideal conception of nature, one they argue is the really-real revealed to us through scientific marvels, which is set apart from the material complexities of daily life in environmentally precarious locations like the encroaching complications of pollution, degradation, disaster, and loss. Hence, new cosmology can encourage wonder and kin-care for environments that many may never experience in their daily lives. New cosmology cultivates wonder for a nature they claim is true but remains a construction that reflects the needs, interests, desires, and hopes of particular populations at the expense of others. Since it explores wonder solely within a nature of its own making, ignoring other encounters and imaginaries, the shape of wonder in new cosmology is difficult to map onto intimacies and attachments with and to many bodies and environments in their current conditions.

Furthermore, resisting new cosmology's insistence that one must follow a grand cosmic story with an orienting wonder in order to further green sentiment, I remind religion and ecology that potent counterpublics often form so-called "negative" affects such as anger, anguish, and melancholy. The turn to "bad" feelings in contemporary social–political theory, notably the work of Sara Ahmed (2004; 2010), Lauren Berlant (2011), and the embrace of the feminist killjoy figure in feminist theory and the work

of Judith Jack Halberstam (2011), Lee Edelman (2005), Ann Cvetkovich (2003; 2012), and antisocial trajectories in queer theory, provide models for environmental theory to think about the creative possibilities in embracing refusal, disruption, dissatisfaction, indifference, and rage. This scholarship disturbs the normative affective orientations that become ideal for privileged cultural positions by illuminating the communities and bodies that are out of step with these acceptable affects. Attention to negativity demands recognizing "how the internal experience of affect is mediated by different bodies and subject positions" (Stephens 2015, 278), revealing that claims to normative emotions "make certain forms of personhood valuable" (Ahmed 2010, 22) by rewarding "compliance with, or conformity to" these affective norms (Stephens 2015, 287). It is not only sensorial connection that new cosmology denies. They also primarily absolve themselves of reckoning with bad feelings—all the encounters with nonhuman nature that do not fit into the tidier intimacies new cosmology celebrates and the responsibilities we may have to these communities when ambiguous, fearful, or melancholic feelings are embraced. Ignoring "bad" feelings further stigmatizes these emotions and the communities attached to them, but it also closes us off from the wealth of connections "bad" feelings can unfold.

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