



Otto, Eric C. *Green Speculations: Science Fiction and Transformative Environmentalism*. Columbus: Ohio State University Press, 2012.

The material earth has undergone vast geologic transformations in its four-and-a-half billion year-old existence. Although the first mammals that appeared on planet Earth over two hundred million years ago escaped extinction from natural catastrophes like meteor impacts and volcanic eruptions, the advent of human industrialization has damaged Earth's ecosystem in a mere two hundred and fifty years. As an ecocritic working in literary studies, Eric C. Otto fashions the vital concept of "transformative environmentalism" that articulates a movement towards humanity's ethical relationship to non-human nature, a movement that, once actualized, may help reverse humanity's anthropocentric destruction of its host (21). In *Green Speculations: Science Fiction and Transformative Environmentalism*, Otto introduces "environmental science fiction"—a new subgenre he regards as a pedagogical catalyst for environmental change.

Otto's text seeks to situate twentieth-century British and American science fiction in the wider scope of environmental studies, and thus it has broad appeal for literary and environmental scholars, teachers and students. Throughout the book's four chapters, he utilizes various ecocritical, ecofeminist and ecosocialist methodologies to perform close readings of canonic science fiction texts that include future histories, utopian and dystopian narratives, and postapocalyptic stories/imaginings. The rationale for the merger of science fiction and environmental studies resides in his introduction where he notes environmental scholars like Gough, Heise, Murphy, Yanarella, and Buell who have marked science fiction as an undertheorized field in environmentalism. Otto's introduction and first chapter build his theoretical foundation by analyzing humanity's relationship to non-human nature; he labels the field of ecology as subversive, starting with Carson's destabilization of cultural and industrial practices and following it with Plumwood's *Illusion of Disembeddedness*. He claims these early foundational attempts expose the modern human sentiment of "exemptionalism" from nature. Seeking to reverse humans' cognitive dissociation from the natural world, he points to the unique literary strategies that environmental science fiction offers, such as estrangement and extrapolation (7), that make humanity's embeddedness within the larger biodiversity of nature visible. He performs excellent analytical readings of Stapledon's *Last and First Men* (1931) and Stewart's *Earth Abides* (1949), texts that develop the concept of earthly embeddedness. Otto's analysis of the future history text *Last and First Men* demonstrates the embeddedness metaphor, where the first men's overconsumption of coal resources leads to ecocide and the demise of humanity. Otto sees the first-men's disembeddedness from nature as highlighting "ideological trends" that sever humanity's association to nature. He elaborates on this theme with his analysis of Frank Herbert's *Dune* (1965), where he points to the competing ideological-ecological water trends of Arrakis' Fremen against those of Caladan's Atreides, trends that simultaneously embed and disembed humans with nature, akin to the global tendencies of water consumption and conservation seen today. Subsequent chapters examine the value of ecotopian and dystopian science fiction as catalysts for change, ecofeminism's value to both gender and non-human relations, and the damage of growth economies on ecosystems.

In chapter two, Otto surveys the utopian fiction of Callenbach's *Ecotopia* (1975) and Piercy's *Woman on the Edge of Time* (1976). Using Naess' concept of deep ecology, Otto argues that these novels reflect deep ecology's ideals in which "readers can compare their world with that proposed in fiction and as a result better perceive the inadequacies of current world-views and practices" (49). Then, he moves to John Brunner's ecodystopian texts *Stand on Zanzibar* (1968) and *The Sheep Look Up* (1972), where he argues that ecological consequences function as instructives for environmental change. In *Stand on Zanzibar*, Otto focuses on Mr. and Mrs. Everywhere's life in a growth economy where humans no longer experience material nature, but instead have the ability to deny reality via simulation technologies that whisk humans to "capitalist utopian experiences" such as the moon and Martinique (63). Otto questions if this simulated nature is the *third* nature, beyond that of non-human and human nature. He follows this question with an incisive analysis of *The Sheep Look Up*, describing how a man is hunted by "cougars, jaguars, cobras" and finally killed by a stingray. The entire scene takes place, not in a forest, but on the California freeway, where animals have mechanomorphized into simulated automobiles. (67). Otto keenly asserts that this ecocritical evaluation reverses our usual conception of predators, holding industrialization responsible for loss of human life. This type of evaluation serves to resituate our somewhat unconscious disembodiedness to nature within a new ecological awareness that could prompt behavioral change.

In his chapter "Ecofeminist Theories of Liberation," Otto references an array of ecofeminist scholars to tease out the theoretical discontinuities of cultural, rational, and dialectical ecofeminism. He first grounds his conceptualization of ecofeminism in Karen J. Warren's "logic of domination," a concept that privileges androcentric logic, and is built on the following premises: there are two genders: males and females; males are more valuable, therefore males dominate culture. When applying the logic of domination theory to environmentalism, the premise is slightly altered: there is culture and nature; culture (which is male-dominated) is more valuable, so culture dominates nature, which is then feminized. Referencing Armbruster's, Ortner's, and Gruen's works, Otto dissects the tenets of cultural feminism that privileges respect for all life forms, and points to its major flaw of idealism. His sustained analysis of Gearheart's *The Wanderground: Stories of the Hill Women* (1979), describes a single-sex society living in the wilderness that possesses special telepathic powers with other women and with nature, as well as the ability to fly, both of which Otto sees as the return to non-human animal nature. Free from patriarchal constraints, Otto describes the Hill Women's separate space in which a female, essentialist ecological consciousness thrives, albeit at the expense of male exclusion. In contrast to *The Wanderground*, Otto sees Le Guin's future history text *Always Coming Home* (1985) as one that breaks down the culture and nature binary to locate embeddedness in nature. However, in describing how the militaristic City of Man's phallic weapons of violence figuratively rape the natural world, Otto describes the androcentric logic that devalues both females and nature. Finally, his analysis of Slonczewski's *A Door Into Ocean* (1986), Otto demonstrates how the text moves away from gender essentialism. The novel depicts male characters socialized to embody traditional female traits and the female character, Jade, socialized to embody "the worst of masculine aggressiveness," (98) a woman who degrades the Sharer characters as non-human, vermin-like catfish. In his succinct survey of these three texts, Otto provides a strong analysis of the diverse and liberatory ecofeminist narratives in environmental science fiction that narrate freedom for both women and non-human nature.

Otto's last chapter offers one of the most captivating summaries of how the historic capitalist mode of production engages with transformative environmentalism and environmental science fiction. He surveys Pohl and Kornbluth's *The Space Merchants* (1952), Le Guin's *The Word for World is Forest* (1972), and Robinson's *Mars* trilogy (1993, 1994, 1996), reading them through the lens of ecosocialism. According to Otto, the ecosocialist class movement "assures social justice and maintains ecological integrity" (101) by critically analyzing the production of commodities and their use values in capitalistic systems. Otto sees unrestricted growth economies that do not prioritize or value origin-of-production as colliding with the integrity of Earth's ecosystems (104). His analysis of the advertising theme in *The Space Merchants* underscores the lack of environmental ethics inherent in capitalistic production of goods as well as overconsumption tendencies. Citing the wasteful space elevator in *Red Mars*, Otto underscores the value of economically critical environmentalist texts in prompting social change. Significantly, Otto notes that, of the three works, only the Mars trilogy proposes an alternative economic scheme—that of "eco-economics," which "places value on individuals and institutions according to their material affects on ecosystems" (117). Through his reading of these texts, Otto pushes readers to recognize capitalism's debt to Earth's ecological bank.

Green Speculations' analysis of the emerging subgenre of environmental science fiction is a valuable addition to the growing ecocritical canon and is most useful to scholars, students, and teachers working in the Anglophone field of literary studies, ecocriticism, and environmentalism. Otto's text is tightly written, with excellent introductions to environmental philosophies and anthropocentric ideologies, wide references to a comprehensive array of ecocritical scholarship, and succinct close readings that provide analyses of how environmental science fiction can operate as a transformative force. One area that could be developed more fully in this discourse is how the *theory* of transformative environmentalism translates into everyday *ecocentric practice*. In order to prove that these texts possess transformational agency, evidence from the social science discipline of applied behavior analyses would be useful evidence in demonstrating how humans have successfully reversed destructive behaviors while developing healthy new ones. Although the text adds a critical new conversation to the environmental discourse, Otto does not theorize how environmental science fiction's transformative power can be measured. He falls short in querying how teaching and reading environmental science fiction positions humans to develop environmentally-sensitive behavior change targets. Perhaps the best measure of environmental science fiction's transformative power to protect Earth's heritage and its future will occur when we ecocritics considering the material earth *reconsider* before transforming our arguments into *material* books.

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