

SCIENCE FICTION AND THE ECOLOGICAL CONSCIENCE

By

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This is for Tricia and Beatrice

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Central to early environmentalist Aldo Leopold's thinking, the ecological conscience leads individuals, institutions, and societies to understand human existence as a part of ecosystemic integrity—rather than apart from it—and to behave accordingly. An ecocritical literary study, this dissertation observes multiple expressions of this ecological conscience in several works of science fiction (SF). Various philosophical and theoretical insights into why modern culture lacks an ecological conscience emerged with Twentieth-Century environmentalism, including the science of ecology itself, deep ecology, ecofeminism, and ecosocialism. The chapters of this study locate narrative efforts in SF to perform the ecocritical, conscience-building work of environmental philosophy and theory. For example, George R. Stewart's *Earth Abides* (1949) asserts the essential animality of the human species, challenging the human/nature dichotomy so central to modern ideologies. Marge Piercy's *Woman on the Edge of Time* (1976)—a work of ecotopian fiction—speculates on many of the cultural changes advocated by deep ecology, an environmental philosophy critical of Western civilization's human-

centeredness. Joan Slonczewski's *A Door Into Ocean* (1986) relates the oppression of nature by humans to the oppression of women by men, but turns a critical eye toward ecofeminist understandings that are too essentialist. And Kim Stanley Robinson's *Mars* trilogy (1993, 1994, 1996) narrates the possibility of an eco-economy, an ecologically sustainable economic system that eschews destructive capitalist economic paradigms. Ultimately, this dissertation shows that science fiction is actively engaged in ecological work, in a "transformative politics" that operates on the conceptual level to encourage an ecological conscience that in the end will manifest itself in revised human actions.

## CHAPTER 1 INTRODUCTION

The science fiction (SF) scholar Carl Freedman writes in his book *Critical Theory and Science Fiction*, “I do believe that both critical theory and science fiction have the potential to play a role in the liberation of humanity from oppression” (xx). “[U]nswervingly oppositional,” critical theory invigorates liberatory consciousness because it challenges in so many ways hegemonic intellectual, social, and political constructs (8). Marxist theory opposes capitalist structures; psychoanalytic theory counters simplified models of knowledge; poststructuralism questions the totalizing impulses of theory itself; and feminist theory targets patriarchal social paradigms. To exercise critical theory is thus to intervene in dominant modes of thinking and being and to challenge what is inherently limiting, oppressive, or dangerous in these modes.

If theory “constantly shows that things are not what they seem to be and that things need not eternally be as they are,” as Freedman observes, then by its generic nature science fiction is the literature of critical interrogation (8). As Brooks Landon shows, science fiction resists concrete definitions; but, he admits, “we have a pretty good idea of the kinds of territory it covers and the kinds of experiences we can expect in those territories” (32). Science fiction territories include considering how science and technology affect humanity, focusing on affairs more significant than the fate of one individual or community, and speculating on conceptual innovations that challenge traditional constructs of knowledge and being (31-33). Most importantly, science fiction is about problems of the now and encourages critical reflection on these problems. As

such, SF performs in narrative critical theory's revisionary and oppositional speculations, ultimately contemplating the result of potential changes in the ideological status quo for a better human existence on the Earth.

This dissertation takes seriously Freedman's claim about the liberatory value of science fiction, only its focus is on the ecological dimensions of SF and the role *ecocritical* theory can play in freeing ecological systems from current forms of human domination. Ecocritic Cheryll Glotfelty asserts that the common motivation behind all ecocritical analysis is "the troubling awareness that we have reached the age of environmental limits, a time when the consequences of human actions are damaging the planet's basic life support systems" (xx). An ecocritical study sharing this awareness, this dissertation finds in a range of science fiction narratives an interest in energizing what Aldo Leopold has called "the ecological conscience," the intellectual, spiritual, and practical understanding that humans do not exist apart from natural systems and that all human actions must ensue accordingly to preserve ecosystemic integrity. Chapter 1 defines in more detail the ecological conscience as it also discusses why science fiction is an appropriate genre for ecological thought.

In the subsequent four chapters of this study I read a range of science fiction texts as informing and informed by various manifestations of the ecological conscience in ecocritical discourse. Chapter 2, "The Subversive Subject of Ecology," reviews the idea that the conceptual understandings of the science of ecology inherently subvert dominant epistemological and ontological paradigms and as a result challenge much of the modern world's social and political architecture. Early science fiction works—those published prior to the appearance of modern environmentalism in the late 1960s as well as prior to

the expansion of the SF genre around the same time—are unlikely to pose the types of ecocritical questions that more recent narratives have found the philosophical resources to ask. But if not aware of the rich theoretical future of environmentalism, Olaf Stapledon’s *Last and First Men* (1931), John W. Cambell’s “Twilight” (1934), George R. Stewart’s *Earth Abides* (1949), and Frank Herbert’s *Dune* (1965) do demonstrate an ecological literacy that leads to profound questions about the role and actions of humanity in the interconnected, ecological world.

Ecological awareness has, since the 1960s, inspired not one univocal expression of the ecological conscience but several perspectives on ecological crisis. Chapter 3, “Ecotopia, Dys(eco)topia, and the Visions of Deep Ecology,” examines deep ecology—one of these perspectives—and the ways utopian and dystopian science fiction advocate many of its tenets. Deep ecology argues for the full expression of existence for all species and notes that the modern trend toward human-centeredness, or anthropocentrism, prevents this from occurring. Utopian texts such as Ernest Callenbach’s *Ecotopia* (1975) and Marge Piercy’s *Woman on the Edge of Time* (1976) envision physical and intellectual spaces where anthropocentric reasoning gives way to ecologically-centered lifestyles. And in contrast, though still deep ecological in their interests, John Brunner’s dystopian *Stand on Zanzibar* (1968) and *The Sheep Look Up* (1972) extrapolate a future empty of the ecological conscience that deep ecology promotes.

Chapter 4 looks at another philosophical trend in modern environmentalism: ecofeminism. For ecofeminism, an ecological conscience cannot emerge in individuals or cultures without attending to the similarities between the domination of the nonhuman

world by humans and of women by men. The liberation of the natural world from human (male) dominance is one hope in a web of hopes for ecofeminism, which targets all forms of oppression. There is a tension within ecofeminism, however, between those who view women as innately closer to nature than men, and theorize liberation accordingly, and those who see the woman-nature connection as supporting a patriarchal construction of gender and overlooking the role of socialization in this construction. Sally Miller Gearhart's *The Wanderground: Stories of the Hill Women* (1979), Ursula K. Le Guin's *Always Coming Home* (1985), and Joan Slonczewski's *A Door Into Ocean* (1986) grapple with this tension in their narratives. And though their conclusions do not support the most recent forms of social constructionist ecofeminist theory, each novel to varying degrees challenges its own essentialist understandings, ultimately demonstrating that the feminist ecological conscience is the product of an ongoing dialectic.

Of the common threads that run throughout this dissertation, the most prevalent is an almost universal interrogation of capitalism, in both fiction and theory. Most of the texts referred to find capitalism to be an ecologically illiterate economic system that favors economic growth over the long-term sustainability of ecological systems and the species, including humans, that depend on these systems. Chapter 5, "Toward an Ecologically Conscious Economy: Ecosocialist Reflections," thus necessarily develops this interrogation by examining three works of SF that overtly critique capitalist ideology: Frederik Pohl and C.M. Kornbluth's *The Space Merchants* (1952), Le Guin's *The Word for World is Forest* (1972), and Kim Stanley Robinson's *Mars* trilogy (1993, 1994, 1996). Pohl and Kornbluth's book examines the capitalist advertising apparatus, which overwrites environmental and social conditions of production with mythologies of desire

and need. Le Guin's novella examines capitalist conditions of production on a planet where the natural world and the native population are sacrificed for profit. And finally, Robinson's trilogy speculates on an eco-economy and its component political processes. Here, sustainable economic methods and open socio-political discourse finally prevail over capitalist exploitation and closure.

Glotfelty writes, "An ecologically focused criticism is a worthy enterprise primarily because it directs our attention to matters about which we need to be thinking" (xxiv). But the texts analyzed in this study do not become ecocritical and important for environmental thought as a result of the "ecologically focused criticism" to which they are subjected. Rather, they are already ecocritical. If Freedman's analyses show that science fiction *is* critical theory, then the analyses below show that eco-science fiction *is* ecocritical theory. In every case, the SF narratives cited in this dissertation theorize in different and imperative ways the reasons why modern culture has failed to maintain an ecological conscience and the things we can do to move toward a new era of ecological thinking and being.

## CHAPTER 2

### SCIENCE FICTION AND THE ECOLOGICAL CONSCIENCE

In his posthumously published and now classic environmentalist text *A Sand County Almanac* (1949), Aldo Leopold writes about the day he saw a wolf die at the hands of his hunting party. Having chanced upon a “pile of wolves” while pursuing a doe, Leopold and the other hunters carelessly fire their guns (130). He admits, “In those days we had never heard of passing up a chance to kill a wolf. In a second we were pumping lead into the pack, but with more excitement than accuracy: how to aim a steep downhill shot is always confusing. When our rifles were empty, the old wolf was down, and a pup was dragging a leg into impassable slide-rocks” (130). Though a true incident in Leopold’s biography, this killing frenzy symbolizes a broader trend with which the science fiction texts and environmental philosophies examined in this study are also concerned: modern culture’s hasty and compulsory exploitation of the natural world. In so many ways, modern culture has imperiled human and nonhuman life and the ecosystems necessary to this life: by believing the human species is superior to other species, by poisoning the air and water with industrial chemicals, by hastening unprecedented increases in global temperature with the burning of fossil fuels, by consuming ever-higher amounts of resource-intensive foods such as beef and pork, by invading wilderness to build expanding suburban communities and the highways that connect them.

If Leopold’s hunt implies the thoughtless modern will to dominate nature, then what he learns from his hunt implies the possibility that this oppressive will can be

replaced with a respect for the natural world and a less exploitative relationship with it.

Leopold continues,

We reached the old wolf in time to watch a fierce green fire dying in her eyes. I realized then, and have known ever since, that there was something new to me in those eyes—something known only to her and to the mountain. I was young then, and full of trigger-itch; I thought that because fewer wolves meant more deer, that no wolves would mean hunters' paradise. But after seeing the green fire die, I sensed that neither the wolf nor the mountain agreed with such a view. (130)

In this very spiritual moment, Leopold learns two concepts that challenge his previous understanding of nature and inspire his call for “an intense consciousness of land” (223).<sup>1</sup> He realizes that the wolf, and by extension individual species, have meaning and purpose beyond their recreational and economic value; they are morally considerable. As the philosopher Karen J. Warren acknowledges, such a view of species “expresses a groundless attitude [ . . . ] [that] can be explained but not ultimately proven” and thus requires “a willingness on our part to see nonhuman animals and nature as subjects, as active participants in our worlds, as not mere things (mere resources, properties, or commodities), as deserving of our care and attention” (76). Second, Leopold learns that while species have intrinsic value, they also have ecological meaning that humans often overlook or are untrained to notice. Wolves, for example, do not threaten deer populations, as Leopold once believed; rather, because of the ecological principles behind predator-prey relationships, their presence is essential to deer

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<sup>1</sup> Discussing animal welfare ethics, Bron Taylor notes, “Not a few animal activists recall that their beliefs really began suddenly, or intensified greatly, upon the occasion of eye-to-eye contact with an animal” (“Environmental Ethics”). Though Leopold was not specifically an animal activist, his experience with the wolf speaks to the connectedness between human and nonhuman species that the ecological conscience recognizes, often an intuitive, spiritual connectedness that defines much animal and environmental activism.

populations.<sup>2</sup> Leopold lacked an ecological conscience before his hunting trip, but he finds both spiritual and scientific ecological understanding in his experience.

Metaphorically, Leopold argues that only in adopting an ecological conscience can modern culture question its flawed ideas and change to less environmentally exploitive ways.

Central to this study is the idea that many works of science fiction share with Leopold, and with environmentalism in general, the desire to instigate an intellectual, and often spiritual, movement toward ecological understanding, toward adopting the ecological conscience that Leopold believes is so important for modern culture. Central to this study, too, is the idea that critical attention to science fiction not only uncovers its desire to inform an individual and cultural ecological conscience but also has much pedagogical value in actually doing so. Thus, this chapter has two purposes: to define what exactly the ecological conscience is and to demonstrate why SF is ideally suited to argue in its favor.

### **The Ecological Conscience**

Defined in the *OED* as “The internal acknowledgment or recognition of the moral quality of one’s motives and actions,” *conscience* stems from a number of psychological and social factors that direct what is right and wrong (def. 4a). But whether inherent in the human unconscious as Freud’s superego or a necessary product of social evolution, the moral supervision of the conscience is driven most persistently by religious doctrine. However much institutional religious systems encourage moral law within strictly human

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<sup>2</sup> In *Desert Solitaire* (1968), the celebrated environmentalist Edward Abbey reiterates Leopold’s ecological observation, coloring the similar point, however, with his characteristically unabashed criticism of modern humanity: “the deer [...] had become victims of human meddling with the natural scheme of things—not enough coyotes around and the mountain lions close to extinction, the deer have multiplied like rabbits and are eating themselves out of house and home” (37).

communities, though, they do little to define right and wrong in ecological terms. Judeo-Christian thinking, in fact, draws a line between humans and the rest of nature, organizing morality and conscience accordingly. Thus, the concept of the *ecological* conscience begs an attention not to the moral principles of any organized religion but instead to the insights of spirituality, particularly of Earth-based spirituality and its ecological politics of interconnectedness. Fundamentally different from and existing prior to religion, which promotes codified law, Earth-based spirituality engages the inner self as a component of a greater totality. Citing religious studies by the scholars Peter van Ness and Anna King, the religionist and radical environmentalism scholar Bron Taylor points to some key terminologies that define spiritual understanding—“cosmic totality,” “wholeness,” and “interdependence,” to name a few (176). As such, spirituality and ecology go hand-in-hand, the former giving moral considerability to the latter, making the natural world—an interdependent, whole totality—mean something more to humans than a quantifiable repository of recreational or economic resources.

Although Aldo Leopold “rarely alluded to his personal religious beliefs,” as the Leopold biographer Curt Meine admits, essential to and defining the effect of the ecological conscience is what he terms “the land ethic,” a concept of moral interdependence made possible in part by a perception of the sacrality of ecosystems (“Leopold”). Referring to the Golden Rule and democracy as ethical ideals that in the former case “integrate the individual to society” and in the latter case “integrate social organization to the individual” (203), Leopold observes that ethics “has its origin in the tendency of interdependent individuals or groups to evolve modes of co-operation” (202). Perplexing Leopold, however, is the absence of the land in modern society’s ethical

paradigms. He notices that traditional ethical ideals have only a social basis in emphasizing the obligations humans have toward each other, but no ethic looks beyond social relationships to stress human obligations toward the natural world. By definition, then, “The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land” (204).

Leopold notes that a land ethic “reflects the existence of an ecological conscience, and this in turn reflects a conviction of individual responsibility for the health of the land” (221). The land ethic is thus born from an ecological conscience that understands that as a biological species humans have obligations as members of natural ecosystems, that “A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise” (224-225). To act on the ecological conscience is to behave in a way that maintains just relationships among people but also extends such moral considerability “from people to land” (209). This ethical development in conscience cannot be accomplished “without an internal change in our intellectual emphasis, loyalties, affections, and convictions,” and Leopold points out several of the ideological shifts inherent in a movement toward an intense consciousness of land: one economic, one educational, and one historical (210).

Leopold criticizes the tendency in the modern world to view the land through the lens of economic self-interest. He writes, “The farmer who clears the woods off a 75 per cent slope, turns his cows into the clearing, and dumps its rainfall, rocks, and soil into the community creek, is still (if otherwise decent) a respected member of society” (209). An ideological transformation in social priority from making profit to maintaining a healthy ecology, though, would bankrupt this farmer because the negative environmental effects

of his activities on human and nonhuman species would take precedence over their positive economic effects. But, Leopold laments while also referencing the similar economic logic of American slavery, “Land-use ethics are still governed wholly by economic self-interest, just as social ethics were a century ago” (209).

On educational change, Leopold advocates more widespread literacy about the dynamics of the natural world. He notes, “One of the requisites for an ecological comprehension of land is an understanding of ecology, and this is by no means co-extensive with ‘education’; in fact, much higher education seems deliberately to avoid ecological concepts” (224). Leopold’s central pedagogical image for a healthy environment is “a tangle of chains so complex as to seem disorderly, yet the stability of the system proves it to be a highly organized structure. Its functioning depends on the co-operation and competition of its diverse parts” (215). Lacking awareness of this natural complexity and of the fragility of natural systems that need their diverse parts to function has led modern culture to conduct itself unsustainably.

Finally, in addition to its economic and intellectual distance from the natural world, modern culture further manifests its disconnection from place through its historical narratives. Leopold envisions a more ecologically conscious culture as one that understands its history not just in terms of social interactions but also in terms of the nonhuman world. As an example of this revised historical understanding, he writes of the settlement of the Mississippi valley,

In the years following the Revolution, three groups were contending for its control: the native Indian, the French and English traders, and the American settlers. Historians wonder what would have happened if the English at Detroit had thrown a little more weight into the Indian side of those tipsy scales which decided the outcome of the colonial migration into the cane-lands of Kentucky. It is time now to ponder the fact that the cane-lands, when subjected to the particular mixture of

forces represented by the cow, plow, fire, and axe of the pioneer, became bluegrass. What if the plant succession inherent in this dark and bloody ground had, under the impact of those forces, given us some worthless sedge, shrub, or weed? Would Boone and Kenton have held out? Would there have been any overflow into Ohio, Indiana, Illinois, and Missouri? Any Louisiana Purchase? Any transcontinental union of new states? Any Civil War? (205-206)

About Leopold's ecological historicism, James I. McClintock notes, "History, whether in terms of losses or gains, is understood as humans acting within, not outside or above nature" (30).

The ecological conscience thus manifests reworked religio-ethical understandings as well as modified paradigms of economics, education, and history: the natural world is morally considerable; the natural world is valuable not as commodity but as community; the natural world possesses a complexity that quashes simple intuition and therefore requires deep levels of critical understanding prior to the initiation of any intrusive human project; and the natural world plays a profound part in all historical narratives. At the root of this conscience are fundamental interrogations of "basic paradoxes: man the conqueror *versus* man the biotic citizen; science the sharpener of his sword *versus* science the searchlight on his universe; land the slave and servant *versus* land the collective organism" (223). Such interrogations figure prominently into the ecological science fiction reviewed in the following chapters, thus connecting the interests of SF with the interests of Leopold and the host of environmental thinkers that precede and follow him.

### **Why Science Fiction?**

The ecological conscience pervades texts of many genres and many historical periods. It surfaces in William Wordsworth's "Nutting" (1799) shortly after the narrator violently strikes down the clusters of a hazelnut tree, deforming the natural integrity of

the woods. While making him “rich beyond the wealth of kings” (51), the narrator’s mutilation of natural order conjures “a sense of pain,” particularly after he witnesses the scene, now calmed, altered from its previous state as a result of his intrusion (52). In James Fenimore Cooper’s *The Pioneers* (1823), Natty Bumppo articulates the voice of the ecological conscience. Representing the characteristics of what Leopold calls “a distinctively American tradition of self-reliance, hardihood, woodcraft, and marksmanship,” Natty Bumppo speaks out against the villagers’ wasteful hunting customs (179). “[I]t’s wicked to be shooting into flocks in this wasty manner,” Natty says, extending moral judgments to those whose exploitation of nature goes beyond human necessity (236).

In other literature, Henry David Thoreau moved to Walden Pond to restore in himself the physical and spiritual connection between humans and nature severed by the industrial age. This restoration produced in Thoreau a self embedded in the land and educated by natural processes rather than by the artificial mechanics of civilization. For Walt Whitman, the fundamental interrelationships of nature—the diverse but intertwined life forms that roll in the tide in his “Sea-Drift” cluster (1881), for example—symbolize the democratic self he works to create in much of his poetry. And Mary Austin’s *The Land of Little Rain* (1903) overflows with the names of species that intermingle within the desert ecology about which she writes, representing not only the intricacies of ecological interrelations but also one writer’s understanding that all members of the ecological community have value in themselves. For Thoreau, Whitman, and Austin—as for Wordsworth and his British Romantic contemporaries as well as later writers like John Muir and Robinson Jeffers, who like Austin carried ecocentric values into the

expanding American west—the natural world provided a philosophical model for human civilization and a necessary counterpoint to the swelling industrial complex.<sup>3</sup>

Surely, a study of the ecological conscience in literature—that is to say, a study of the ways literature has highlighted the intrinsic significance of the nonhuman world, the fundamental connectedness of human and nonhuman species, and the damage that modern trends have brought to ecological systems and ecocentric ideas—could examine texts from “Nutting” to *The Land of Little Rain* or, to name some more contemporary texts, from Gary Snyder’s *Turtle Island* (1974) to Janisse Ray’s *Ecology of a Cracker Childhood* (1999). Spanning a range of fiction, poetry, and personal narrative, these texts all have in common a sense of the natural world contrary to the ideological thrust of the increasingly anti-ecological modern world. If the ecocritical movement in contemporary literary theory “Most of all [...] seeks to evaluate texts and ideas in terms of their coherence and usefulness as responses to environmental crisis,” then such texts as Wordsworth’s, Ray’s, Whitman’s, or Austin’s are ideally suited for the task (Kerridge 5).

But as Ursula K. Heise asserts, ecocritical analysis is not limited to “a narrow canon of nature writing,” to the Thoreaus, Leopolds, and Snyders (1096). She writes in a letter in *PMLA’s 1999 Forum on Literatures of the Environment*, “Ecocriticism analyzes the ways in which literature represents the human relation to nature at particular moments of history, what values are assigned to nature and why, and how perceptions of the

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<sup>3</sup> For George Sessions, the ecocentrism of Wordsworth, Thoreau, Austin, and others continue a nature-centered cultural trend that extends way back to primal cultures and that finds its philosophical manifestations in Baruch Spinoza’s pantheism, Thoreau’s “philosophy of the wild,” and George Santayana’s critiques of Western philosophy (“Ecocentrism” 165). In fact, Sessions argues that the anthropocentric philosophies of medieval Christianity, Renaissance humanism, and the Enlightenment mark a mere “anthropocentric detour” in the course of history—a detour that, despite its historical brevity, has informed a range of environmentally destructive cultural attitudes.

natural shape literary tropes and genres,” and “no genre is in principle exempt from this kind of analysis” (1097). Heise continues,

[O]ne of the contemporary genres in which questions about nature and environmental issues emerge most clearly is science fiction: from the novels and short stories of Brian Aldiss, John Brunner, and Ursula K. Le Guin in the 1960s and 1970s to those of Carl Amery, David Brin, Kim Stanley Robinson, and Scott Russell Sanders in the 1980s and 1990s, science fiction is one of the genres that have most persistently and most daringly engaged environmental questions and their challenge to our vision of the future. (1097)

Though Heise’s letter only briefly argues the value of science fiction for ecocritical inquiry, Patrick D. Murphy fleshes out the point a bit more. In his study of nature-oriented literature, Murphy writes, science fiction can (1) “provide factual information about nature and human-nature interactions” and (2) “provide thematically environmentalist extrapolations of conflict and crisis based on such information” (41). I will consider the latter point in a moment, but Murphy’s first point is demonstrated most visibly in subsequent chapters of this study in novels such as Stewart’s *Earth Abides*, Herbert’s *Dune*, and Slonczewski’s *A Door Into Ocean*, which spend significant time detailing the ecologies of their respective imagined spaces as well as the effects of these spaces on the humans who inhabit them.

Such a characteristic attention to space, in which, as Fredric Jameson notes, “the collective adventure accordingly becomes less that of a character (individual or collective) than that of a planet, a climate, a weather and a system of landscapes,” gives science fiction an ecocritical potential (313). Jameson observes in Vonda McIntyre’s *The Exile Waiting* (1975), and as a generic quality of SF in general, “a significant displacement of our reading interest from narrative [. . .], with its linear causality, toward spatial experience as such” (312). To point out Jameson’s observation is not to say that causality is not an interest of science fiction or one of our interests in reading it,

particularly in reading a nature-oriented SF in which pressing ecocritical speculations about the past, the present, and the ecological future come to the fore—Murphy’s second point. But Jameson’s underlining of science fiction’s spatial tendencies demonstrates the special significance of place—of planets, of climates, of weathers, and of landscapes<sup>4</sup>—in the genre, a magnitude on par with the realist novel’s central and detailed attention to character development. As a genre highlighting the exterior world as the elemental source of interior human meaning—of human narrative, so to speak—SF performs precisely the cultural work of green movements, which against modern inclination underscore the role of the outer world, of ecological space, in human meaning-making.

Murphy’s second and related point highlights science fiction’s extrapolative tendencies as essential to its crucial position as environmentalist literature. A defining concept in science fiction studies, extrapolation in literature is the act of drawing conclusions about the future based on the circumstances of the present. As Murphy notes, “extrapolation emphasizes that the present and the future are interconnected—what we do now will be reflected in the future” (“The Non-Alibi” 263). Extrapolation happens in the near-future sections of Stapledon’s *Last and First Men* when our human generation bankrupts itself of fossil fuels as a result of its maintaining high consumption levels of oil and coal. Extrapolation happens, too, in Pohl and Kornbluth’s *The Space Merchants* when the authors envision a future dominated by the ubiquitous advertising complex that was starting to emerge in the 1950s and has since helped drive the postindustrial world’s excessive consumption habits. In speculating on the consequences of present human actions and extending current trends to their potential conclusions, extrapolative science

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<sup>4</sup> Of the Earth, namely, no matter what its fictional manifestation might be in any story.

fiction is perfectly situated to demonstrate how these actions and trends threaten the future. As such, extrapolative *ecological* SF can do much in the environmentalist call for an individual and cultural ecological conscience.

The ecocritical potential of science fiction does not only emerge from its spatial and futurological tendencies. As the SF scholar Joseph Marchesani notes, extrapolation “provides science fiction with a quality that Darko Suvin has called ‘cognitive estrangement,’ the recognition that what we are reading is not the world as we know it, but a world whose change forces us to reconsider our own with an outsider’s perspective” (par. 8). About estrangement, the SF theorist Suvin quotes Bertolt Brecht: “‘A representation which estranges is one which allows us to recognize its subject, but at the same time makes it seem unfamiliar’” (60). In this regard, the subjects of science fiction stories—their socio-political settings, their technologies, their utopian or dystopian visions, their ecologies, or in short, their spaces—are more about the now than about the future or an alternative present.

But unlike other genres such as myth, fairy tale, and fantasy, which also deviate from realistic representation in estranging ways, science fiction “sees the norms of any age, including emphatically its own, as unique, changeable, and therefore subject to a *cognitive glance*” (Suvin 61). Suvin argues that myth, fairy tale, and fantasy are not “cognitive” because the intention of their estrangement is to portray absolutes about their represented other worlds rather than changeable conditions that readers can recognize as mirroring or germinating from their empirical present. Science fiction often shows that current or future discord or harmony is born from something unique in the now; its narratives are thus cognitive investigations, as SF historian Edward James remarks, “of

possible social systems or new forms of science”—or broadly, new or different or particular ideas—that create this discord or harmony (108).

Marchesani’s queer readings of science fiction acknowledge the importance of the genre’s tendency toward cognitive estrangement for gender theory and progressive social praxis. But as the literature of cognitive estrangement, SF is also important for ecology because readers understand the unfamiliar spaces and ideas it presents as in fact mirroring and commenting critically on their historical moment in addition to seeing or foreseeing an extrapolated future based either on the evidence of this moment or on its speculated alternative. As analyzed in this study, Le Guin’s *The Word for World is Forest* considers capital’s insatiable desire for resources; Callenbach’s and Piercy’s ecotopian novels and Brunner’s dystopian novels deal with the modern world’s ecological future given either the continuance of certain trends or the movement of modern culture in a more sustainable direction; John Christopher’s *No Blade of Grass* (1956) glances at the chemical manipulation of nature so prevalent then and now. In every case, the glance is cognitive, never seeing the presents or futures they speculate on as fixed or inevitable, but as possible given the mutability of human cognition and behavior.

Finally, if science fiction’s spaces, extrapolations, and cognitive estrangements are ecologically revolutionary, they are so because, as Jameson has recently noted, SF is totalizing. In *Archaeologies of the Future*, Jameson sets out to recuperate the concept of totality from its stigmatization in postmodern theory. A “combination of closure and system, in the name of autonomy and self-sufficiency and which is ultimately the source of that otherness or radical, even alien, difference,” totality admits more than an “enclave”—Jameson’s term, too—of revolutionary hope (5). Rather, its utopian

realization is, as Jameson scholar Phillip E. Wegner argues, the “transformation of the world, or totality, that already exists” (“Here”). With their reclamations of totality, Jameson and Wegner are indeed responding to our current historical moment, that of *total* world dominance by capital and, post-September 11<sup>th</sup>, by the “Bush Doctrine of unilateralism and preemptive military violence” (“Here”). The nature of this dominance requires a return to the concept of totality in theoretical discourse, an invigoration of “The Desire Called Utopia” (Jameson’s subtitle) that would “produce another world altogether,” as science fiction hopes to do (“Here”).

The all-out production of other worlds, of other totalities, is indeed SF’s most subversive act. How scandalous it is to imagine autonomous and self-sufficient systems that are explicitly not the structure in place—that, for example, do not represent a political economy of “capitalist common sense,” which perpetuates at every moment and in every space the myth “that the market as the location of capitalist productivity is the only game in town” (Watkins 20).<sup>5</sup> Such imagining is also the critical work of environmentalism, particularly of the ecological philosophies examined below: Paul B. Sears’ “subversive science,” deep ecology, ecofeminism, and ecosocialism. Each one of these radical ecological movements engages a discourse that is always and fundamentally attentive to ecology, to “*a whole defined by internal relations*” (Kovel 17) that is Jameson’s “closure and system,” and thus to total change rather than a piecemeal change amenable to capitalist totality. The ecosocialist and former US Green Party senate and

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<sup>5</sup> Not all of the science fiction texts considered in this study envision new totalities against the hegemony. However, those that do not demonstrate the utopian impulse of socio-political SF—*Last and First Men*, “Twilight,” *Stand on Zanzibar*, *The Sheep Look Up*, *The Space Merchants*, and *The Word for World is Forest*—do indeed display a related *dystopian* impulse, which in presenting an ecodestructive hegemony implicitly call for such envisionings, even if some of these texts holler this call from utopian enclaves (Brunner’s “wats” or Pohl and Kornbluth’s “Consie” underground).

presidential candidate Joel Kovel contributes much to this point: “capital is a whole way of being, and not merely a set of institutions. It is therefore this way of being that has to be radically transformed if the ecological crisis is to be overcome” (9). Green revolution calls for nothing less than wholesale change, the realization of an indeed utopian ecological conscience, or “the transition from one totality to another” that is, to be sure, the definition of revolution itself (Wegner, “Jameson’s”).<sup>6</sup>

### **Conclusion**

It is important to note that one of the most revolutionary works of environmentalism, Rachel Carson’s *Silent Spring* (1962), turns to science fiction to set the stage for its groundbreaking investigation into the pesticide industry. The book’s first chapter, “A Fable for Tomorrow,” pictures a bleak, sterile future of Anytown, USA resulting from the indiscriminate use of chemicals in the country’s fight against insects. Beginning her chapter with “There was once a town in the heart of America where all life seemed to live in harmony with its surroundings,” Carson’s attention to space and literary estrangement is obvious; she hands readers an empirical moment that if they do not really know as their present, then they do at least understand to be a present that does or did exist somewhere or at some historical point (1). Carson continues the estrangement by introducing the unfamiliar, in this case “a strange blight,” “Some evil spell” that stills the life of the town, killing everything in its path (2). But the apocalyptic blight of the future is not the inescapable final battleground, and the evil spell is not the treachery of mythological imps, both narrative situations that would discourage the cognitive glance

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<sup>6</sup> I play with the term “green revolution” to recontextualize it within an ecologically conscious totality that would oppose what it originally signifies—the US chemical industry’s global “market expansion program”—and give it the critical meaning it deserves (Khor 50).

that buttresses science fiction's cultural and ecological work. Instead, in Carson's imagined future, as in most science fiction, that which threatens humanity and the whole of the Earth's ecology is humanity itself. "No witchcraft, no enemy action had silenced the rebirth of new life in this stricken world," Carson writes. "The people had done it themselves" (3).

Science fiction's success as the literature of the ecological conscience comes not simply from scare tactics, from being a literature of "apocalyptic ecologism," as R. J. Ellis deems it. Ellis finds in *Silent Spring*'s opening chapter—which he agrees is dystopian SF, though not particularly effective—the proposition of "imminent disaster and a dystopic future if no action is forthcoming" (115). Too entrenched in a historical rhetoric of "'the ravages of the axe,'" Ellis argues, this apocalyptic ecologism fails "to articulate comprehensibly a political programme for such action" (115). Ellis extends the analysis to Herbert's *Dune*, claiming in the end, and almost derisively, that "extensive discursive engagement with ecological issues in fiction are characteristically encountered not in realist writing, but in the imagined futures of the science fiction genre" (121). For Ellis, SF simply provides the narrative space for a politically unproductive environmentalism.

But Ellis errs when he deems Carson's and Herbert's science fictions as apocalyptic rather than extrapolative and cognitively estranging presentations of plausible spaces. Framing ecological SF as apocalyptic only condemns it to being politically weak and unable to take on the current totality by virtue of its participation again and again and again in the same redundancies of environmentalist soothsayers: If humanity does not change its ways, tragedy will occur. Indeed, there is a whole subgenre of apocalyptic

science fiction; but the challenges of the modern world's ecological future demands new readings that understand SF not as a literature to promote green revolution through fear but through deeper understandings of the natural world, of humanity's essential connectedness to the natural world, of the philosophies, spiritualities, and social movements that embrace the ecological conscience, and of systems and actions that jeopardize the future of ecology. Such is the focus of the following chapters.

## CHAPTER 3

### THE SUBVERSIVE SUBJECT OF ECOLOGY

This chapter begins the close readings of science fiction that comprise the majority of this study. Later chapters explore the parallels between more contemporary SF and specific trends in modern ecocritical thought, but this chapter examines several works of early science fiction that engaged in ecological critique before the full-scale emergence and diversification of environmentalism in the years following the 1960s.<sup>1</sup> Science fiction narratives such as Olaf Stapledon’s *Last and First Men* (1931), John W. Campbell’s “Twilight” (1934), and especially George R. Stewart’s *Earth Abides* (1949) and Frank Herbert’s *Dune* (1965) are not only foundational pieces in science fiction but also key works in the broader evolution of modern culture’s critical awareness of the effects of human ideas and practices on ecological systems.

In “Ecology—A Subversive Subject” the ecologist Paul B. Sears asks, “Is ecology a phase of science of limited interest and utility? Or, if taken seriously as an instrument for the long-run welfare of mankind, would it endanger the assumptions and practices accepted by modern societies, whatever their doctrinal commitments?” (11). Responding to the question, Sears concludes that ecology does jeopardize modern assumptions and practices. Whereas findings in other sciences can and often do remain unseen by the general public, ecological findings “must become a matter of wide public understanding

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<sup>1</sup> Most scholars agree that while environmentalism has roots in various philosophies and movements predating Rachel Carson’s 1962 text *Silent Spring* as well as the first Earth Day in 1970, the institutionalization of modern environmentalism in the United States occurred in the late 1960s and early 1970s. See Sale, and Dunlap and Mertig.

to be effective” (12). Sears believes that ecology’s “continuing critique of man’s operations within the ecosystem” is important on a broad scale, “as an instrument for the long-run welfare of mankind” (12). Perceiving ecological interconnections challenges modern, ecologically unsustainable lifeways. To be ecologically literate is to question the profit motive of free-market economics, to doubt the viability of monoculture agriculture—essentially, to question many of modern society’s foundational values and methods, as Sears does in his postscript.<sup>2</sup>

Academically, the science of ecology subverts disciplinary compartmentalization. Traditional academic efforts “to intensify teaching of the individual sciences [rather] than to integrate them” deny scholars the “unifying philosophical point of view” that ecology offers (12). And while the study of ecology shifts the academic convention of disciplinary specialization to more interdisciplinary breadth and an avant-garde pedagogy of integration, it also undermines the mind/matter dualism so fundamental to modern scientific study. Referencing F. Fraser Darling, Sears notes, “ecology [. . .] is a study of the entire ecosystem. Of this system, man is not just an observer and irresponsible exploiter but an integral part, now the world’s dominant organism” (12). Speaking with a Leopoldian ecological conscience, Sears here insists that humans are always a part of ecological systems, not apart from them, and that the modern academy must take note.

Expanding on Sears in his seminal essay “Ecology and Man—A Viewpoint,” the ecologist Paul Shepard writes, “The ideological status of ecology is that of a resistance

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<sup>2</sup> Such questions include, “What conclusion would you draw if you observed a population curve, similar to that of man, in any other organism?” “What are the effects upon the ecosystem where profit to the developer is the sole check upon urban expansion?” and “What is known of the long-range effects of monoculture and heavy machinery upon fertile agricultural land?” (13).

movement. Its Rachel Carsons and Aldo Leopolds are subversive (as Sears recently called ecology itself)" (9). Shepard details a range of ecocritical concerns:

[The Carsons and Leopolds] challenge the public or private right to pollute the environment, to systematically destroy predatory animals, to spread chemical pesticides indiscriminately, to meddle chemically with food and water, to appropriate without hindrance space and surface for technological and military ends; they oppose the uninhibited growth of human populations, some forms of "aid" to "underdeveloped" peoples, the needless addition of radioactivity to the landscape, the extinction of species of plants and animals, the domestication of all wild places, large-scale manipulation of the atmosphere or the sea, and most other purely engineering solutions to problems of and intrusions into the organic world. (9)

Ecology enables this compendium of disputes, highlighting for example the importance of all species within an ecosystem, or the facts that—as Barry Commoner suggests—everything is connected to everything else, everything must go somewhere, nature knows best, and there is no such thing as a free lunch (33-48).

Aldo Leopold's resistance to well-established values was reviewed in the previous chapter, but as A.L. Herman reminds us, Leopold's most developed ecological stance was a subversion of the utilitarian principles that the science of ecology was adopting as the nineteenth century turned into the twentieth. Leopold began his forestry career in the first decade of the twentieth century as an ecosystemist, one who views "the whole of nature as an *eco-system* composed of physical, isolatable, mechanical parts, all reducible to talk about atoms, energy, and economics expressed as quantifiable and measurable units" (Herman 47-48). Such a model of ecological thinking differs greatly from the radical models discussed throughout this study, and from the model Leopold would later embrace, but it is a legitimate model with which subversive ecology has traditionally

competed.<sup>3</sup> It was an act of the ecosystemist, game-managing Leopold—the spiritual incident with the dying wolf—that transformed him from an ecological manager to what Herman calls an “ecoholist” and invigorated in his conscience the ecological worldviews of Thoreau, John Muir, and other foundational voices (56). In fact, Donald Worster sees Leopold’s land ethic as “the single most concise expression of the new environmental philosophy,” “a biocentric, communitarian ethic that challenged the dominant economic attitude toward land use” (284).

While Leopold’s *A Sand County Almanac* marked the bolstering of an ecological worldview that worked more to halt modern humanity’s intrusions into wilderness than to make those intrusions more seamless, the subversive stance of Carson’s *Silent Spring* stimulated the critical developments that since 1962 have collectively been deemed the environmental movement. In his introduction to a current edition of *Silent Spring*, Al Gore develops a useful framework for discussing Carson’s study of the pesticide industry as broadly subversive ecology, noting the ways the book worked “against the grain” of several well-established orthodoxies (xvi). First, Gore writes, “both the book and its author [ . . . ] met with considerable resistance from those who were profiting from pollution” (xv). As a text that called for tough regulations on the pesticide industry and for eliminating several of that industry’s staple products, *Silent Spring* dealt a controversial blow to the barons of industry and to the anti-regulatory atmosphere they were creating.

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<sup>3</sup> In perhaps the most well-documented case of the competition between the ecosystemist point-of-view and the point-of-view of a more critical, conscientious ecology, in 1913 Woodrow Wilson approved the damming of Hetch Hetchy Valley in the Sierra Nevada Mountains, the culmination of a long battle between Gifford Pinchot and other advocates of the utilitarian, managerial ecology that informed the reservoir plan and John Muir, a fervent defender of the spiritual and aesthetic value of the Hetch Hetchy wilderness.

Second, Gore notes that much of the propaganda produced to discredit Carson and her work “played on stereotypes of her sex”: she was “hysterical” and used “emotion-fanning words” (xvi). Given the cultural climate of a United States only recently emerged from the patriarchal 1950s and still a few years from the feminist fervor of the late 1960s, Carson had to write against a social paradigm that considered female thought, especially in the male-dominated sciences, as inferior.

Third, Carson “was also writing against the grain of an orthodoxy rooted in the earliest days of the scientific revolution: that man (and of course this meant the male of our species) was properly the center and the master of all things, and that scientific history was primarily the story of his dominion” (Gore xvi-xvii). As with many previous figures in subversive ecology, Carson did not accept a worldview that promoted a strict hierarchy of humans over other species. In fact, as Rachel Carson scholar Mary A. McCay notes, Carson’s 1951 book *The Sea Around Us* directly challenges hierarchical and anthropocentric conceptions of the place of humans and nonhumans in the world, promoting “a religious reverence for the sea” and asserting that “The life of the sea controls the life of the land and thus human life” (“Carson”). Carson’s ecocentric assertions in *Silent Spring* and in her other works undermined the Enlightenment will-to-dominate, and though Gore does not admit it—perhaps because of his position as a public figure in a heavily Christianized America—Carson’s texts implicitly challenged claims of human dominion common among most devotees of Abrahamic religion.

Ultimately, the holistic logic of ecology opposes the narrow logic of the modern world: against human-centered dogma, ecology recognizes the necessity of all plants, animals, and natural processes; against industrialist assertions to the contrary, ecology

recognizes the hazards of agricultural chemicals; against the capitalist lust for economic growth, ecology recognizes the limits of the systems needed to sustain such growth; against the pressures of suburban development, ecology recognizes the intrinsic value of wild spaces. Indeed, ecology is subversive because it finds the principles of the modern world to be incompatible with the ground rules of biospherical life, and it seeks to overturn those principles and their related practices.

### **Subversive Ecology in Early Science Fiction: Some Considerations**

The alien pod people of Jack Finney's *Invasion of the Body Snatchers* (1954) justify their creeping attack on the human race using humanity's own history of ecological domination:

“what has the human race done except spread over this planet till it swarms the globe several billion strong? What have you done with this very continent but expand till you fill it? And where are the buffalo who roamed this land before you? Gone. Where is the passenger pigeon, which literally darkened the skies of America in flocks of billions? The last one died in a Philadelphia zoo in 1913. Doctor, the function of life is to live if it can, and no other motive can ever be allowed to interfere with that. There is no malice involved; did you hate the buffalo? We must continue because we must; can't you understand that? [...] It's the nature of the beast.” (185)

Here, Bernard Budlong of the alien race reasons to Doctor Miles Bennell, the narrator of the novel, that the spread of his extraterrestrial species on the Earth only parallels the historical tendencies of modern, exploitative humanity. Certainly, Budlong's reasoning is tautological—“We must continue because we must”—but so is much of the logic that guides the ideas and practices that threaten ecological systems. As Sears and Shepard maintain, subversive ecology questions many of the logics of modern society, such as capitalism and anthropocentrism. These logics perpetuate themselves using their own inside reasoning to circumvent any threatening interrogations, but they do not stand up to the critical probing of ecology. In a way, Budlong's reasoning is a version of

ecocritical probing, a rhetorical tactic—available to Finney as a writer of speculative narrative—to provoke the type of critical questioning-of-the-unquestionable that ecology performs. It is a move that asks readers to think about their own resemblance to a self-interested, colonizing species, and to ascertain from this thought a sort of environmentalist version of Pogo’s “We have met the enemy, and he is us.”

Broadly speaking, the enemy of nature in Finney’s novel and in another mid-century work of science fiction, John Christopher’s *No Blade of Grass* (1956)—indeed, in all of the environmentalist SF analyzed in this study—is ecological illiteracy, the absence of ecological knowledge and of an ecological conscience in modern worldviews. Prescient of Rachel Carson’s *Silent Spring*, Christopher’s novel highlights the limits of a science uninformed about the dynamics of ecological systems. With rice crops in China threatened by a virus, authorities in *No Blade of Grass* forego developing sustainable means to control the virus and instead rush into action a chemical to kill it. This chemical, however, strengthens a particular phase of the virus that not only attacks rice but also devastates all grasses—wheat, oats, barley, and rye included. Four of its phases keep its ruinous fifth phase inactive; but the chemical, called Isotope 717, effectively eradicates those four phases, leaving the worst to thrive. The lack of foresight, of ecological literacy, on the part of the inventors and users of Isotope 717 sets up the conflict that drives Christopher’s narrative—a frightening story of hunger, human displacement, and the resulting violence.

I reference these two novels briefly as instances of the idea, discussed in my first chapter, that the genre of science fiction has within it ecocritical tendencies.<sup>4</sup> What

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<sup>4</sup> In addition to *Invasion of the Body Snatchers*, *No Blade of Grass*, *Last and First Men*, “Twilight,” *Earth Abides*, and *Dune*—the latter four being texts I discuss below—other examples of early environmentalist

follows are more extensive readings of early SF stories intended to demonstrate the ecological illiteracies that the genre perceives in modern culture. These elucidations span a range of criticisms and ideas, including Stapledon's questioning of religion and science, Campbell's speculations on the end of nature as the end of humanity, Stewart's argument for humanity's essential animality, and Herbert's critique of a political power structure too dependent on subduing ecologically sustainable cultures.

### ***Last and First Men***

A future history, Olaf Stapledon's *Last and First Men* is narrated by one of the Last Men, a member of a civilization existing two billion years in the future. This narrator traces the rise and fall of each evolutionary stage of humanity, from the First Men—" [our] epoch of history"—through the telepathic Fifth Men and the Ninth Men of Neptune, and ultimately to the Eighteenth Men, doomed to be the Last Men when a nearby star threatens to destroy their planet (17). In his foreword to the American edition of *Last and First Men*, Stapledon outlines the motivation behind his novel:

Man seems to be entering one of the major crises of his career. His whole future, nay the possibility of his having any future at all, depends on the turn which events may take in the next half-century. It is a commonplace that he is coming into possession of new and dangerous instruments for controlling his environment and his own nature. [...] Nothing can save him but a new vision, and a consequent new order of sanity, or common sense. (3)

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SF include Karel Capek's *War With the Newts* (1936) and J.G. Ballard's *The Drowned World* (1962). In *The Encyclopedia of Science Fiction*, Brian Stableford's entry on ecology lists several other titles as early ecological science fiction, including J.D. Beresford's "The Man who Hated Flies" (1929), William Tenn's "The Ionian Cycle" (1948), Clifford Simak's "You'll Never Go Home Again" (1951), and Brian Aldiss's *PEST* series (1958-1962) (365). Also, Stableford's "Science Fiction and Ecology" in David Seed's *A Companion to Science Fiction* comprehensively explores ecological themes in SF's history. Admittedly, I am limiting my scope, largely as a result of my focus on the ecological conscience.

Stapledon's science fictional project shares with subversive ecology both the understanding that modern humanity has moved in hazardous directions and the desire to find new modes of being that will mitigate the damage humans have brought about and that will reduce future human impact, assuring Sears' "long-run welfare of mankind."

The most compelling expressions of subversive ecology in *Last and First Men* are in its future history of the fall of the First Men, the speculative fall of our civilization. In this history, Stapledon effectively challenges ideological hierarchies that declare human biological and intellectual supremacy over the natural world. The civilization of the First Men begins its collapse as a result of the exhaustion of coal brought about by "the extravagances of their culture," the main extravagance being a religious devotion to coal-intensive flying machines in the global World State (71). As the narrator notes, "The sane policy would have been to abolish the huge expense of power on ritual flying, which used more of the community's resources than the whole of productive industry" (70). But the First Men are unwilling to question their "deeply rooted" rituals, despite the raggedness and starvation affecting people worldwide (71). When those in authority do suggest a reduction in ritual flying, war breaks out and the lingering population is left to "scrape a living from the soil" in whatever fertile land is left (73).

Later in the chronicle of the First Men's fall, a new Patagonian civilization modernizes in a direction just as unsustainable. Had they sacrificed developing an energy-intensive luxury culture like that of the recently decimated World State and instead pursued wind and water power, which the narrator of Stapledon's history admits they could have done, the Patagonians "might well have achieved something like Utopia" (86). But trusting their "superior sanity," this civilization opts to acquire atomic power

(86). Even with the possibilities of using such a “limitless source of energy” in relatively harmless ways, the Patagonians use it as an extractive tool for mining materials previously exhausted by earlier cultures and as a weapon for policing the working class (89). Proletariat anger leads to the seizing of a “power unit” and ultimately to global atomic destruction (89).

In blaming the devastation on working-class “mischief-makers,” Stapledon is no Marxist; however, his ecological conscience remains relatively sturdy (89). When the World State crashes, its few survivors struggle on with disease while nature takes hold and “the jungle [comes] back into its own” (73). Similarly, after the Patagonians’ atomic ruin, the natural world recovers, though many species of mammals become extinct:

[. . .] vegetation had soon revived, from roots and seeds, buried or wind-borne. The countryside was now green with those plants that had been able to adjust themselves to the new climate. Animals had suffered far more seriously. Save for the Arctic fox, a few small rodents, and one herd of reindeer, none were left but the dwellers in the actual Arctic seas, the Polar bear, various cetaceans, and seals. Of fish there were plenty. Birds in great numbers had crowded out of the south, and had died off in thousands through lack of food, but certain species were already adjusting themselves to the new environment. (92)

This passage and its surrounding contexts serve several critical purposes, all of which revolve around the novel’s critique of human-centeredness. First, because much of the nonhuman biological life reemerges in a harsh, post-holocaust environment, this life is bestowed with a number of positive, value-laden terminologies: it is persistent and determined to carry on, it is healthy and strong, it “forge[s] ahead” despite obstacles, and it readjusts itself to shifting circumstances (92). Second, despite nature’s persistence and health, many of its component species do die out; but more than just signifying weakness in these species, these deaths indicate the scope of violence done to the enduring natural world by humans. Finally, the global environmental change to which other species adjust

is one that humans cannot tolerate, even though they caused it: “the atmosphere had become seriously impure, and the human organism had not yet succeeded in adapting itself” (92). Unlike the natural world, humans are feeble and irresolute, unwell and weak, and unable to make necessary changes for basic survival.

With the situations of the World State and Patagonia, Stapledon challenges the culturally ingrained myth of the centrality of the human in the world. He participates in ecology’s “continuing critique of man’s operations within the ecosystem,” as Sears puts it, by dismantling the idea that because of human biological and intellectual supremacy the interests of humankind are separate from and of greater importance than the welfare of flora, fauna, and ecological systems. Stapledon’s attention to humanity’s physical limitations renders erroneous the anthropocentric worldview, at least in terms of biological fitness. Humans are weak and nature is strong. But other species besides humans die out in the Patagonian disaster of *Last and First Men*. Does this mean they are weak, too? Or is Stapledon perhaps arguing something more critical, more subversive? Viewed ecocritically, the species extinctions following the Patagonian incident not only suggest the misfortunes of ill-advised human projects but also imply a biological equality between humans and so-called weaker species. Like the extinct species, the “human organism” cannot adjust to drastic ecological change. Thus, humans are no higher on a biological ladder than the species they subordinate.

That the First Men continue to operate their civilizations based on ways of life that are historically proven to set in motion social and ecological collapse attests also to their intellectual frailty. The World State unlocked the secrets of flight and the Patagonian civilization unlocked the secrets of the atom; but despite these intellectual

accomplishments, neither civilization managed itself in a sustainable manner. Each, in fact, ended violently. What *Last and First Men* seems to argue, then, parallels the implicit critical argument that ecologists like Leopold and Carson stressed and that ecological thinkers continue to stress today: modern humanity must rethink the ideologies that guide its trajectories. Stapledon's account of the First Men challenges blinding religious dogma (the World State's devotion to resource-intensive flight) and undisciplined scientific progress (the Patagonian's atomic energy initiative), marking them as fallible human achievements. *Last and First Men* does not overtly call for a culture of ecological literacy and conscience; however, its contemplation of future histories that emerge from unquestioned ideologies and practices aligns the book strongly with the subversive, critical motives of ecological thinking.

### **“Twilight”**

As *Last and First Men* suggests, the reluctance of modern humans to adjust their religious and scientific convictions to better accommodate their status as a biological species living within an ecological web has serious consequences for humanity and for the biosphere as a whole. This reluctance emerges out of the mythology that humans are biologically and intellectually superior to animals and thus have the capacity to live against the pressures of the natural world, a mythology Stapledon challenges. John W. Campbell's “Twilight” offers another future history in which such a mythology has led humanity to adapt the natural world to human initiative—to sterilize it, to neutralize it, and to erase its tendencies—ultimately resulting in the loss of humanity itself.

A *Science Fiction Hall of Fame* story published in 1934, “Twilight” narrates the experiences of a time traveler named Ares Sen Kenlin who has seen a distant future where millions of years of technological progress have culminated in a world so

mechanized that humans are intellectually dying. As the hero of a story in a Golden Age SF genre which is generally technocentric, Kenlin responds to humanity's resulting intellectual blight by programming a machine to build a "curious machine" that will replace human intellect, just as other machines in the future world have replaced human labor (76). Brooks Landon sees in this plot a faith that in the future machines will continue "the upward spiral of progress" when humans can no longer do so (23). Similarly, John Huntington sees the story's technological optimism: despite the fact that technology has caused the future decline of the human race, Huntington notes, "Campbell's story never questions its faith in technology" (161). Both Landon and Huntington read Campbell's tale through the lens of technological optimism that most works of Golden Age science fiction encourage. Interpreted this way, "Twilight" does celebrate the machines that will persevere long after humans are extinct, machines whose continuing existence ultimately attests to the triumph of the human intellect that created the machines in the first place.

However, an ecocritical analysis of Campbell's story looks not at its technological optimism but at the reasons future humans are in their twilight. Read this way, "Twilight" no longer champions humanity's technological efforts but rather reflects on the role of modern culture's mythological faith in human supremacy in the ultimate death of the species.

In *The End of Nature*, Bill McKibben argues that "we live in a postnatural world," a world once governed by wild processes to which humans—indeed, all species—adjusted but that humans now adjust to their demands (60). "Twilight" is a story of such a world. "[A]s man strode toward maturity," Kenlin recalls of the future world, "he

destroyed all forms of life that menaced him. Disease. Insects. Then the last of the insects, and finally the last of the man-eating animals” (67). This initial destruction of so-called menace species instigates a neverending trend of further destructions: “The balance of nature was destroyed then, so they had to go on. [ . . . ] They started destroying life—and now it wouldn’t stop. So they had to destroy weeds of all sorts. Then many formerly harmless plants. Then the herbivora, too, the deer and the antelope and the rabbit and the horse. They were a menace, they attacked man’s machine-tended crops” (67-68). And in its final acts of securing the illusory comfort of the postnatural, humanity “killed off the denizens of the sea [ . . . ] in self-defense” and by purifying the ocean of its microscopic life initiated the death of the sea (68).

Beyond being a story about humanity subjugating the wild and creating a postnatural world, “Twilight” is also about the effect that this end of nature has on the human species. The end of nature for McKibben is tantamount to the beginning, rise, and dominance of physical and ideological technologies that permit humanity, however falsely, to evade its responsibilities as members of the biosphere. So if it is mechanized society that has prompted the twilight of the human race in Campbell’s story, then humanity’s death is likewise the effect of the loss of the nonhuman world permitted by this mechanization. This concept is nothing less than what has since become a key philosophical underpinning of deep ecology, ecofeminism, and other critical ecological worldviews: the vitality of the human self, indeed of humanity’s collective self, is a function of the vitality of the biospherical whole. An influential voice in much contemporary environmentalist thought, Edward Abbey speaks to this point in *Desert Solitaire*: “If industrial man continues to [ . . . ] expand his operations he will succeed in

his apparent intention, to seal himself off from the natural and isolate himself within a synthetic prison of his own making. He will make himself an exile from the earth and then will know at last, if he is still capable of feeling anything, the pain and agony of final loss” (211). Long before McKibben and Abbey, though, Campbell makes this ecologically conscious argument in his narrative. In “Twilight,” Kenlin says of the future, “The human race was growing sterile [. . .] Their loneliness was beyond hope” (67). Certainly, sterility and loneliness do not have to result from the end of nature, but in the story they do. Kenlin suggests the direct connection: “*For, you see*, as man strode toward maturity, he destroyed all forms of life that menaced him” (emphasis added) (67). The account of the extermination of nonhuman species and purification of the sea is connected to humanity’s loneliness and sterility as a cause-and-effect relationship.

While Campbell associates the death of the human race with anthropogenic, or human-caused, deterioration of ecological systems, his attentions go further. In particular, the author seems to know ecology, to know that the world is in a constant state of change; and with this knowledge he makes a claim similar to Stapledon’s charge against human intellectual progress. Kenlin states, “When Earth is cold, and the Sun has died out, those machines will go on. When Earth begins to crack and break; those perfect, ceaseless machines will try to repair her—” (55). Like the story itself, this passage invites differing interpretations. Kenlin may well be celebrating the “ceaseless machines,” but such an interpretation does not explain the ecocritical stance of the text—particularly the relationship between ecological decline and human extinction that “Twilight” acknowledges. Instead, this passage shows the culmination of the modern vision to impose a particular order on a natural world that is constantly changing and thus

inherently resists such order. The human race is in its twilight because it moved toward constructing a simplified, sanitized, and mechanical order rather than toward developing an understanding of natural complexity and the necessity to adapt to natural change.

Finally, contrary to Huntington's claim that "Campbell's story never questions its faith in technology," "Twilight" does display an uncertainty toward technology, an uncertainty that emerges when Kenlin reflects on the contrast between machines and nature. He states, "Seven or even seventy million years don't mean much to old Mother Earth. She may even succeed in wearing down those marvelous machine cities. She can wait a hundred million or a thousand million years before she is beaten" (59). At least, this passage injects ambiguity into Campbell's story: Does "Twilight" pay tribute to human technological triumph, or mock this triumph as futile when compared to the magnitude of "old Mother Earth"? At most, this passage disables the claim that Campbell's story is a celebration of the mechanized world that human ingenuity has allowed. In it, Kenlin observes the permanence of Mother Earth against fleeting human initiative, the initiative to mechanize that, in ending nature, has brought about humanity's twilight.

### ***Earth Abides***

George R. Stewart's ecological focus in his novel *Earth Abides* has prompted the horror writer Stephen King to call the second half of the novel "an uphill push—too much ecology, not enough story" (398). John Caldwell has noticed something similar, though not as a fault: "The relationship of men to the land—i.e., the effect of the land upon the people that live on it—is the theme of much of [Stewart's] writing" (5). *Earth Abides* is a post-apocalyptic tale set into motion when "a kind of super-measles" wipes out a majority of the world's human population (13). This event triggers the ensuing

narrative, but although the spread of the virus is “aided by airplane travel,” Stewart’s novel is not a warning against transcontinental flight (13). Instead, the calamity in *Earth Abides* allows Stewart to explore ecological dynamics.

Stewart’s main character is Isherwood Williams, a survivor of the virus and former graduate student whose thesis, “*The Ecology of the Black Creek Area*,” explores “the relationships, past and present, of men and plants and animals” in a region near San Francisco (4-5). For a student of ecology, a world without humans as the dominant species provides an interesting opportunity for research, and Stewart’s omniscient narrator realizes this:

Even though the curtain had been rung down on man, here was the opening of the greatest of all dramas for a student such as he. During thousands of years man had impressed himself upon the world. Now man was gone, certainly for a while, perhaps forever. Even if some survivors were left, they would be a long time in again obtaining supremacy. What would happen to the world and its creatures? That he was left to see! (24-25)

While *Earth Abides* is also about Ish’s project to survive his existential dilemma and, as critic David G. Byrd notes, “to keep the light of civilization burning,” Stewart’s ecological literacy furnishes the book with its subversive, ecocritical perspective (par. 5). This perspective emerges as the novel promotes the realization, also present to a lesser degree in *Last and First Men* and “Twilight,” that humans and animals are subject to the same biological laws and that in their most sustainable state humans do not live outside of natural dictates. And similar to *Last and First Men*, *Earth Abides* prefigures recent radical environmentalist positions by staging the regeneration of the nonhuman world as dependent upon a reduction in human population.

A central idea of Paul Shepard and Daniel McKinley’s *The Subversive Science* is that humans are animals and understanding this is a first step in reversing modern, anti-

ecological trends. For example, Charles F. Hockett and Robert Ascher's essay in the volume asserts not only that humans are descendants of apes but that we evolved from the weakest apes who could not compete in the trees with "the more powerful" (24). "Our own ancestors," they write, "were the failures. We did not abandon the trees because we wanted to, but because we were pushed out" (24). The authors deny humans intellectual agency in our own biological development and instead credit competitive biology—the course toward species differentiation in all animals—for that development. In a case of "Nature knows best," which "contradict[s] a deeply held idea about the unique competence of human beings," Hockett and Ascher's claim recognizes Darwinian ecological dynamics—not something unique to humans, but the dynamics that apply to all life—for enabling human life (Commoner 41).

Paul L. Errington's entry in *The Subversive Science* also helps set up a context for reading Stewart's ecological literacy in *Earth Abides*. In "Of Man and the Lower Animals," Errington argues the pedagogical value of understanding animal populations for humanity's continued survival. Arguing against any notion that humans are "exempt from natural laws or well on the way toward becoming so," he notes, "If twentieth-century society really values the things that it proclaims essential—peace, human dignity, intellectual activity, a reasonable degree of freedom and security, and a reasonable standard of living—it cannot afford to ignore the natural laws by which life continues to be bound" (180). Like many of the essays in Shepard and McKinley's book, Errington's focuses on overpopulation, specifically highlighting the trend of bobwhite quail and muskrats to develop "social evils" as their populations skyrocket (188). For Errington,

these animal communities are not simply metaphors for human communities. Instead, they provide us with a mirror image of the dynamics of our human society.

In *Earth Abides*, speculating on the fate of humanity given the biological law “*that the number of individuals in a species never remains constant, but always rises and falls,*” Stewart’s narrator concludes,

*there is little reason to think that [man] can in the long run escape the fate of other creatures, and if there is a biological law of flux and reflux, his situation is now a highly perilous one. During ten thousand years his numbers have been on the upgrade in spite of wars, pestilences, and famines. This increase in population has become more and more rapid. Biologically, man has for too long a time been rolling an uninterrupted run of sevens. (8)*

Here, Stewart anticipates Hockett, Ascher, and Errington by connecting “*man*” to “*other creatures*” and by drawing on this connection to make a point about human population dynamics.

With the connection between animals and humans made early in the narrative, throughout the novel Stewart continues to draw such informative parallels, making the point a central argument of his book. He references Captain Maclear’s rat of Christmas Island, a species whose universal susceptibility to disease developed as a result of the ease with which it lived and its high population. When disease came to the island, the rats became extinct. In parallel, Stewart’s narrative of Ish’s emerging Californian community is largely an exploration of the ease with which humans lived prior to the super-measles outbreak and the difficulty the survivors have adjusting to life without electricity, plumbing, and the like. The community’s disconnection from their essential animality, in fact, manifests itself when later one character asks, ““Where did all this water come from anyway?”” about the San Francisco water supply, prompting the narrator to reflect,

It was curious. Here they had been for twenty-one years merely using water that continued to flow, and yet they had never given any real consideration to where the water came from. It had been a gift from the past, as free as air, like the cans of beans and bottles of catsup that could be had just by walking into a store and taking them from the shelves. (171)

For Stewart, modern convenience has instigated a kind of psychosocial end of nature, to borrow again from McKibben, where the faucet and grocery store have cancelled out the imperative to know the biosphere, to be ecologically literate.

Stewart works to reestablish this imperative, though, as he continues to challenge the idea that humans exist above the animal world. Ish theorizes why ants have nearly disappeared in the desolate San Francisco area after a brief population boom: “When any creature reached such climactic numbers and attained such high concentration, a nemesis was likely to fall upon it. Possibly the ants had exhausted the supplies of food which had led to this tremendous increase of numbers. More likely, some disease had fallen upon them, and wiped them out” (88). And to make the correspondence between animals and humans more obvious for readers, Stewart has Ish say, ““When anything gets too numerous it’s likely to get hit by some plague,”” and adds “(Something had suddenly exploded in [Ish’s] mind at the word.) He coughed to cover up his hesitation, and then went on, without making a point of it. ‘Yes, some plague is likely to hit them’” (114). Ish’s hesitation is his, and the reader’s, moment of insight: as the ants became extinct, so did the humans—nearly.

Stewart’s apocalyptic fear for humanity’s fate seems less a Malthusian fear of the inability to reconcile geometric growth rates in population with much smaller linear growth rates in food supply and more a fear of what disease might do to an overpopulated, unprepared human society. What is most important and subversive about his thinking is that it realizes that humans are subject to the same determining influences

that direct all life and that breaking the rules of these influences leads to fates similar to those of the rats or the ants. Ecological literacy would indeed deflect humans from these fates, as Stewart ultimately argues as his book provides an after-the-fact analysis of the errors humans made while populous. The comforts we enjoy as modern humans weaken us as a species, and the high populations we generate for ideological, social, or economic purposes threaten catastrophe. As Errington would argue thirteen years after Stewart implicitly argued in his fiction, humans “could learn from consideration of the basic biology and sociology of animal populations,” deconstructing the artificial human/nature binary and learning from other species how to live in ways that are not so threatening to the ecological interactions of which we are a part (180).

If humans are animals, subject to the same laws of ecology that dictate species population, then what about our rhetorical categories and our symbolic meanings? Some argue that the human capacity for symbolic thought distinguishes us from “lower” species. In *Earth Abides*, Stewart does not attempt to refute this notion; however, he does suggest that the ecological dynamics that shape humans socially and physically also shape the direction of our abstract meanings, attributing what is human to the natural world—again, making us animals. The arguments made in his narrative anticipate recent theories linking biosphere and discourse. As the ecocompositionists Sidney I. Dobrin and Christian R. Weisser note, “While discourse does indeed shape our human conceptions of the world around us, discourse itself arises from a biosphere that sustains life. That is, while discourse ‘creates’ the world in the human mind, the biospheric physical environment is the origin of life (and consequently, the human mind) itself” (12). Ecological literacy is not only knowledge of how the biological trends of the material

world shape human beings but also understanding the connections between ecology, or physical place, and symbolic meaning.

Dobrin and Weisser illustrate their contention that “Language reflects place” by citing the numerous terms for *rainbow* in the Hawaiian language and for *snow* in the Inuit language (13). Stewart performs a similar move in his novel, not specifically addressing the biospherical origins of words but instead of concepts and ideas, the partners to language. In several of his italicized commentaries, Stewart draws attention to the collapse of certain human symbolic constructs initiated by the reemerging primacy of wilderness. Regarding domesticated dogs, in the post-apocalyptic world “*no longer would Best-of-Breed go for stance, and shape of head, and markings,*” all arbitrary conditions for enforcing hierarchies of aesthetics and vitality upon animals (27). Instead, “*The prize, which was life itself, would go to the one of keenest brain, staunchest limb, and strongest jaw, who could best shape himself to meet the new ways and who in the old competition of the wilderness could win the means of life*” (27). Further, those species of flora previously known as *weeds* for their undesirable presence in cultivated lawns and gardens “*pressed in to destroy the pampered nurslings of man*” in both a very real and symbolic undermining of artificially constructed meanings (43). And finally, automobiles—“*the pride and symbol of civilization*”—deteriorate as natural entropic processes break down their batteries and tires while they sit neglected (107).

In *Earth Abides*, as pre-modern conditions of wilderness end modern conceptual usages, which embody the human/nature disconnect characteristic of modern humanity, so too do they bring about the return of nature-based, ecology-centered symbols and meanings. In her discussion of ritual, environmental philosopher Dolores LaChapelle

notes, “Most native societies around the world [...] had an intimate, conscious relationship with their place,” a relationship out of which their symbolisms grew (247). Ish’s new native society regains this relationship as wilderness returns as the governing force. For example, with the four-figured dating system deemed illogical for their current situation, Ish and his female partner, Em, start over with a new dating system that better reflects the conditions of their newly primitive world. As in Christian mythology, Year One in their society is marked by the birth of a baby; however, the parallels end there. Ish’s community perceives its dependence on the land and essential obedience to natural forces, thus its symbolic tendencies develop away from the type of human/nature binaries that Christianity encourages. Instead, one year becomes “Year of the Fires,” another becomes “Year of the Bulls,” another becomes “Year of the Lions,” and still another becomes “Year of the Earthquake” (129, 132, 134, 143). In these cases and in several others, Ish and Em’s emerging society names its social history for events in natural history, using its symbolic capacities to recognize the role of the natural world in human social existence.

This recognition also appears in the new society’s holidays. As LaChapelle comments, “*all* traditional cultures, even our own long-ago Western European cultural ancestors, had seasonal festivals and rituals. The true origin of most of our modern major holidays dates back to these seasonal festivals” (248). Ish’s society abandons patriotic holidays like the Fourth of July, as well as other holidays not originating in seasonal festivities, but continues those holidays with roots in natural cycles: “Curiously,” the narrator writes, “or perhaps rather it was natural enough, the old folk-holidays survived better than those established by law” (295). So April Fool’s Day and Halloween—

celebrations of the vernal equinox and autumnal cross-quarter day, respectively—are carried on. Continued, too, is the celebration of winter’s cross-quarter day, Groundhog Day, modified to Ground-squirrel day in an area with no groundhogs. And the “great holiday” for the group is what was “Christmas and New Years of the Old Times”: the winter solstice (295). On this day, when for those in the northern hemisphere the sun is the furthest south, Ish’s community gets together to name the passing year and to begin anew.

Quoting from Richard B. Lee and Irven DeVore’s *Man the Hunter*, Wayland Drew speculates that if humans do meet an apocalyptic end,

“interplanetary archeologists of the future will classify our planet as one in which a very long and stable period of small-scale hunting and gathering was followed by an apparently instantaneous efflorescence of technology and society leading rapidly to extinction. ‘Stratigraphically,’ the origin of agriculture and thermonuclear destruction will appear as essentially simultaneous.” (118)

Though not a story of nuclear catastrophe, nor one of total human extinction, *Earth Abides* does much to stage Lee and DeVore’s and Drew’s speculation. The extended period of cultural stability referenced here is one made possible by pre-modern societies that lived with nature, both physically and symbolically, and that like animals did little to spoil their place. Ish’s new San Francisco represents this stability reemerging after what deep ecologist George Sessions optimistically calls human culture’s “anthropocentric detour,” the ten-thousand years out of nearly four million that humanity has strayed from its traditionally sustainable course, inventing monoculture agriculture, anti-ecological spiritualities, growth-centered economies, and other constructs that require and encourage a human/nature disconnect (156).

Stewart’s book puts humanity back on track, so to speak—the ecocentric track. In its conclusion, Stewart writes, “In the times of civilization men had really felt themselves

as the masters of creation. Everything had been good or bad in relation to man. So you killed rattlesnakes. But now nature had become so overwhelming that any attempt at its control was merely outside anyone's circle of thought. You lived as part of it, not as its dominating power" (281). With regard to human material and symbolic lifeways, Stewart demonstrates the crucial differences between a modern human society that behaves according to an ideology of human-centeredness and an ecologically literate pre-modern society. The former is out of touch with its fundamental animality and lives as if it can overcome natural, ecological pressures, despite evidence to the contrary. The latter—the society to which Ish's has returned—is one with an ecological conscience, one that sees its connection to the biosphere and lives not to subdue natural processes but to integrate itself physically and symbolically into the landscape.

### ***Dune***

Physical and symbolic sense of place is also a central issue in Frank Herbert's *Dune*, a novel that stages the collision of two cultural paradigms: one ecocentric and one ecologically and politically exploitative. Lamenting that modern culture has not preserved native ecological wisdom, the environmental education theorist C.A. Bowers writes, "Native American cultures [...] had evolved in ecologically responsive ways; but what could have been learned from their thousands of years of experience in adapting to the unique characteristics of their habitat was ignored because they were perceived as unenlightened and pre-modern" (10-11). Bowers supports Native American indigenous knowledge in his effort to invigorate a pedagogical shift toward ecological literacy. Looking back on *Dune*, we see Herbert's similar effort to revalue indigenous ways of life.

Interestingly, scholars have compared the aboriginal culture of *Dune*, the Fremen, to the Apache and to other natives of the North American Southwest. The Fremen

possess a “superb knowledge of their environment” (O'Reilly 41) and “a kind of earth-wisdom” that allows them to live with the dry climate and carnivorous sandworms of their planet Arrakis, or Dune (O'Reilly 42). As ecologically aware inhabitants of an arid ecosystem, the Fremen have developed “the ability to sense even the slightest change in the air’s moisture” (Herbert, *Dune* 301). In school, Fremen children chant the names of plant and animal species as well as geological and seasonal concepts such as “‘erosion’” and “‘summer,’” demonstrating their burgeoning ecological conscience (336). Indeed, the Fremen are “dwellers”; they live well in their place. Unlike the transient regimes that the Emperor places as colonial administrators of Arrakis and that merely need to know how to mine the spice produced by the sandworms, the Fremen inhabit Arrakis.

Environmental thinkers distinguish dwellers, or inhabitants, from “residents,” providing an ideal framework for discussing the disparity between *Dune*'s Fremen and its politically and economically powerful entities. Another environmental education specialist, David W. Orr, notes, “The inhabitant and a particular habitat cannot be separated without doing violence to both. [...] The inhabitant and place mutually shape each other” (102). To dwell, as Ivan Illich defines it, is “to inhabit one’s own traces, to let daily life write the webs and knots of one’s biography into the landscape” (22). By contrast, “the resident is a temporary and rootless occupant who mostly needs to know where the banks and stores are in order to plug in. [...] To reside is to live as a transient and as a stranger to one’s place” (Orr 102).

Resembling Ish’s new society in *Earth Abides*, the Fremen are dwellers. Arrakis’s desertscape has shaped their symbolisms and technologies. To make the point clear, Herbert contrasts the cultural assumptions of Arrakis’s most recently appointed

administrators—the Atreides regime that has moved from the water-rich Caladan—with those of the Fremen. In one tense scene, Stilgar, a Fremen leader, spits on Duke Leto Atreides’ table:

The Fremen stared at the Duke, then slowly pulled aside his veil, revealing a thin nose and full-lipped mouth in a glistening black beard. Deliberately he bent over the end of the table, spat on its polished surface.

As the men around the table started to surge to their feet, Idaho’s voice boomed across the room: “Hold!”

Into the sudden charged stillness, Idaho said: “We thank you, Stilgar, for the gift of your body’s moisture. We accept it in the spirit with which it is given.” And Idaho spat on the table in front of the Duke. (92)

Duncan Idaho, one of the Duke’s men, must then remind the Duke of the value of water, and thus of saliva, on Arrakis: ““Remember how precious water is here, Sire. That was a token of respect”” (92). The Fremen also see crying differently than the foreign Atreides, so when the Duke’s son and heir to the Atreides throne, Paul, cries over the death of a Fremen man he killed in a ritual battle, the Fremen appreciate his gift of “moisture to the dead” rather than despise him in his victory (306).

Technologically, the Fremen also possess a consciousness of place, a consciousness exhibited in the suits they wear to conserve water. Explaining these “stillsuits,” Liet-Kynes, *Dune*’s important planetary ecologist, states, ““It’s basically a micro-sandwich—a high-efficiency filter and heat-exchange system. [ . . . ] The skin-contact layer’s porous. Perspiration passes through it, having cooled the body . . . near-normal evaporation process. The next two layers [ . . . ] include heat exchange filaments and salt precipitators. Salt’s reclaimed”” (109). The stillsuits process urine and feces and reclaim most of the body’s water for its Fremen wearer to drink again, all with the energy provided by body movement. ““With a Fremen suit in good working order,”” Kynes insists, ““you won’t

lose more than a thimbleful of moisture a day”” (109). Viewed from the perspective of a modern culture whose technological conventions flaunt human supremacy, Fremen stillsuits “emphasize appropriate and environmentally sensitive technology rather than high-tech gadgetry for its own sake” (Gough 409). As such, stillsuits threaten a status quo, supported in modern ecocolonial trajectories, in which cultural and technological progress is measured in terms of the degree to which human supremacy is accentuated.

The antipathy toward dwelling that emerges out of the hegemony’s fear of contrary ideologies is represented in *Dune* by the opposition toward the Fremen shown by those in power. The colonial powers demonstrate such contempt for Fremen, in fact, that we can discern Herbert’s subtext: to live well in a place—to be indigenous—disrupts the mechanisms of the residing powerful who see place through an economic lens, in this case, through the promise of spice profits. The Fremen are “marked down on no census of the Imperial Regate”; the Imperium does not recognize their existence (Herbert, *Dune* 5). In fact, the Emperor’s thought about the Fremen demonstrates this erasure of identity and being, while it also shows how the hegemony views place not in terms of natural ecology but of economic class: ““but what else is one to expect of barbarians whose dearest dream is to live outside the ordered security of the faufreluches?”” (the Imperial system of place based on class distinctions) (78).

Paul Atreides takes an early interest in Arrakis as a place and in the Fremen as the planet’s dwelling culture, but the resident attitudes of the power structure prevent him from forming such a divergent consciousness. Before the Atreides leave for Arrakis one of Paul’s mentors, Thufir Hawat, insists to Paul, ““A place is only a place. [ . . . ] And Arrakis is just another place,”” thereby instilling in him the values of a transient resident

(28). When Paul admits he has been studying the great storms of Arrakis, Hawat again prevents him from developing an ecological connection to the planet, this time scaring him:

“Those storms build up across six or seven thousand kilometers of flatlands, feed on anything that can give them a push—coriolis force, other storms, anything that has an ounce of energy in it. They can blow up to seven hundred kilometers an hour, loaded with everything loose that’s in their way—sand, dust, everything. They can eat flesh off bones and etch the bones to slivers.” (28)

And like the Emperor, Hawat scorns Fremen, stating, ““There’s little to tell them from the folk of the graben and sink. They all wear those great flowing robes. And they stink to heaven in any closed space. It’s from those suits they wear—call them ‘stillsuits’—that reclaim the body’s own water”” (29). Hawat discourages Paul from acquiring a bond with Arrakis as a place to dwell and with the planet’s ecologically literate people. He teaches Paul to fear the planet, and he admits to himself the reason for doing so: *“Perhaps I’m doing it, getting across to him the importance of this planet as an enemy. It’s madness to go in there without that caution in our minds”* (29).

While Hawat instills in Paul the resident posture necessary for a future colonial leader, the Reverend Mother of the Bene Gesserit—a religious group that has its own political motives—makes Paul very aware of Arrakis’s natural ecology in order to make him a good ruler who, presumably, can feign dwelling while exploiting the Fremen (30). She tells him ““a good ruler has to learn his world’s language, [. . .] the language of the rocks and growing things, the language you don’t just hear with your ears”” (30). As the critic Susan Stratton notes, Paul “solve[s] the mysteries of Arrakis ecology and learn[s] to fit into the corresponding culture of its indigenous people,” though he does so not to become an inhabitant of the planet but to “accomplish his goal, which is to reclaim the planet for the Atreides” after the rival House Harkonnen wrests power from Paul’s father

(307). Paul's teachers, Hawat and the Reverend Mother, thus condition him to be a resident before he even steps onto Arrakis.

That the Fremen are dwellers and the Emperor, House Atreides, the Bene Gesserit, and all others involved in the exploitation of Arrakis are residents is an important distinction to make, for it gives more credence to *Dune* as “an important first step for a generation of SF readers who needed to learn the fundamentals of ecology” (Stratton 313). But contrary to Stratton’s observation that “*Dune* does nothing to show us a way out of the environmental crisis we face,” Herbert’s novel does take an active role in examining alternatives to the anti-ecological status quo (314). In particular, if we look at *Dune* within the context of the inhabitant/resident dichotomy that it sets up with its contrasting cultures, we find that the novel subversively favors the sense of place and community maintained by the indigenous Fremen while it criticizes the resident attitudes of power held by those involved in Arrakis’s exploitation, attitudes that ultimately infiltrate even the Fremen ways.

One of the ironies of the Fremen’s existence as an ecologically conscious civilization is that their quest for political independence involves major intervention in Arrakis’s desert ecology, creating seas and thereby exterminating the sandworms, ending economic interest in the planet. Indeed, the anthropocentric desire to reshape Arrakis to “fit it to man’s needs” is a case of adapting the place to the people rather than the people to the place—a direct contradiction of subversive ecology’s motives (477). While this irony complicates *Dune*’s position as an ecocritical science fiction text, it becomes less of a problem if we consider that the terraforming effort involves three to five centuries of collecting water and educating generations of Fremen about the ecological system being

created. Describing the effort, Stilgar says, “‘We change [Arrakis] . . . slowly but with certainty . . . to make it fit for human life. Our generation will not see it, nor our children nor our children’s children nor the grandchildren of their children . . . but it will come’” (283).

Besides being deliberate in its goals, the Fremen terraforming project is ecologically conscious and constructive, offering instruction for Fremen children on the dynamics of a healthy ecosystem and in effect acting as a lesson in ecology for readers of Herbert’s novel. “Ephemerals [. . .], then scotch broom, low lupine, vine eucalyptus [. . .], dwarf tamarisk, shore pine” all work together in the new Dune ecosystem, as do “candelilla, saguaro, and bis-naga, the barrel cactus [. . .] camel sage, onion grass, gobi feather grass, wild alfalfa, burrow bush, sand verbena, evening primrose, incense bush, smoke tree, creosote bush” (482). The animals needed in the system include “burrowing creatures to open the soil and aerate it,” “predators to keep them in check,” “insects to fill the niches these couldn’t reach,” and “the desert bat to keep watch on these” (482). While the human-centered “specter of terra (terror)forming,” as the SF scholar Ernest J. Yanarella calls it, may still haunt *Dune*, the Fremen’s managerial ecology—their ecosystemist stance—can be read less as a narrative of the Enlightenment will-to-dominate nature and more as a way of setting up the Fremen as an intentional, ecologically aware society whose respect for the dynamics of place works hand-in-hand with their political needs as a colonized people (225).

Unfortunately, Fremen ecological literacy succumbs to political expediency, marking the defeat of ecocentric lifeways and the spread of the less sustainable modes of being necessitated by colonialist pressures and supported by newfound power. Paul

Atreides plays into the legend of the “Mahdi”—the messiah who will lead the Fremen to paradise—instilled in the Fremen culture by the Bene Gesserit’s Missionaria Protectiva, “the arm of the Bene Gesserit order charged with sowing infectious superstitions on primitive worlds, thus opening those regions to exploitation by the Bene Gesserit” (507). He promises the Fremen a more rapid path to independence, looking past their deliberate terraforming effort and instead instigating a jihad. As Paul’s mother, Jessica, reflects, “*Gathering water, planting the dunes, changing their world slowly but surely—these are no longer enough [ . . . ]. The little raids, the certain raids—these are no longer enough now that Paul and I have trained them. They feel their power. They want to fight*” (388). But the fight is less political revolution by the Fremen than it is social and religious manipulation by the Atreides. Earlier in the novel, Jessica thinks, “*These Fremen are beautifully prepared to believe in us,*” crediting the Missionaria Protectiva’s “sowing” (277). The Fremen “could be wielded like a sword to win back Paul’s place for him” after the Atreides’ rival house has taken over (311).

Central to Paul’s politically revolutionary rhetoric is his instigation of faith in an accelerated Fremen terraforming project. As Leonard M. Scigaj observes of *Dune Messiah*, the second book in the *Dune* series, the Fremen Farok’s “only personal motive for enlisting in the war [ . . . ] is to realize his fantasy of immersing himself in a real sea” (342). Perhaps the reason Farok believes he will see Arrakian seas in his lifetime, as opposed to expecting the change to come in three to five generations, is Paul’s rousing speech in *Dune*: ““What’s our goal’ Paul asked. ‘To unseat Rabban, the Harkonnen beast, and remake our world into a place where we may raise our families in happiness amidst an abundance of water”” (414). That Paul convinces the living Fremen—“we”

rather than “our future generations”—that they will raise their families in such a paradise demonstrates the power of the ideology of expediency that Herbert makes a key issue in his novel. In fact, when historicizing the terraforming scheme in *Dune*’s appendix, *Dune*’s narrator writes of the original plan, “the Ecological-Fremen were aimed along their way. Liet-Kynes had only to watch and nudge and spy upon the Harkonnens . . . until the day his planet was afflicted by a Hero” (483).

In the end, Paul Atreides is an affliction, both politically and ecologically. He pulls the Fremen from their dwelling roots, from their deliberate ways as an indigenous culture fighting political oppression in a way compatible with their long-established, sustainable ways of life. Paul’s jihad does not free the Fremen from colonial subjugation. Instead, it places them under the power of another hegemony, denying them the total independence that the terraforming plan would have permitted and forcing them into the hands of the ruling class. In *Dune Messiah*, Paul’s complete control over the terraforming effort provokes some resistance. Fremen resent the jihad, which Farok admits in retrospect was fueled by a desire for “experiences, adventure, wealth,” and indeed the seas (58). And as Paul observes, the Fremen had “become a civilization of [ . . . ] people who solved all problems with power . . . and more power . . . and still more power” (225). Paul’s revolution acts as a social trap for the Fremen, where “players,” in this case the Fremen, “are lured into behavior that eventually undermines the health and stability of the system” (Orr 5). The Fremen followed Paul into a jihad that only freed them from being overpowered rather than from power itself, a power that finally undermines their sustainable existence.

The critique of the dynamics of power in *Dune* is, in the end, its subversive act. The power Paul brings to the Fremen is a misfortune because it only inserts them into an already established and violent system of power exchange without permitting them a space for independence outside this system, independence they were attempting to gain with their terraforming project. As a dwelling culture, the Fremen can exist outside this system of globalized, or rather universalized, hegemony, just as native cultures of the North American continent existed independently of European power before colonization. But to exist as a sovereign social body—something dependent upon a culture's ecological self-sustainability—endangers the political systems of empire, which needs the resources of those independent entities. Thus, the Fremen must be integrated and made compatible with the residing powerful. To suggest that such integration can only result in more struggle, as Herbert does, is indeed a politically subversive proclamation against the viability of empire. Further, to call out imperial processes as traps against the cultures that these processes subjugate is also a subversive move. Herbert's critical ecology emerges when the removal of Fremen ecological lifeways becomes the means of integrating them into the hegemony. Getting the dwellers to reside is the method of the empire, and this is the method of which Herbert is most critical.

### **Conclusion**

Kynes' father, the designer of the Fremen terraforming project, insists, ““the highest function of ecology is the understanding of consequences”” (482). O'Reilly notes that this statement is taken almost directly from Sears (55). The definition of ecology as the understanding of consequences is also supported by the biologist Garrett Hardin, who sees ecological literacy or “ecolacy” as the ability to ask “*And then what?*” (25). And Orr notes, “[ecological literacy] implies the ability to think broadly, to know something of

what is hitched to what” (87). Not only *Dune*, but also *Last and First Men*, “Twilight,” and *Earth Abides* are all concerned with consequences, with the question “And then what?” and with “what is hitched to what.” These are narratives that address the effects of human ideas and actions on natural systems and ask, “And then what happens when our doctrinal commitments have led to the exhaustion of resources and the resulting ecological and social poverties?” They ask: What happens to our own humanity when wilderness no longer exists? What happens when we sever ourselves from our essential animality? And what happens when modern institutions co-opt those cultures yet to travel down the path of the anthropocentric detour?

The collective portrait sketched in these early SF stories is not only one of forward-looking ecological concerns. It also addresses what is hitched to what and finds many of the fundamentals of modern lifeways to be hitched to the despoilment of a healthy biosphere and of the cultural systems that support such a biosphere. In this regard, *Last and First Men*, “Twilight,” *Earth Abides*, and *Dune* express their ecological consciences in their radical questioning of the status-quo systems that bring about ecological harm. Such questioning would continue in science fiction as the genre grew with the post-Rachel Carson environmental movement, aligning itself with the more specific critiques of human-centeredness, male-centeredness, and capitalism that developed out of the general subversive attitudes of ecology.

## CHAPTER 4

### ECOTOPIA, DYS(ECO)TOPIA, AND THE VISIONS OF DEEP ECOLOGY

As the physicist Fritjof Capra writes, the modern customs instigating ecological degradation result from a “crisis of perception [ . . . ] derive[d] from the fact that most of us and especially our large social institutions subscribe to the concepts and values of an outdated worldview, which is inadequate for dealing with the problems of our overpopulated, globally interconnected world” (19). Capra’s specific interest is in challenging the human-centered and mechanistic ideas of Galileo, Bacon, Newton, and Descartes that still pervade modern thinking and inform modern practices, as well as confronting the insidious assumption that all economic growth “is good and that more growth is always better” (23). To his delight, Capra observes the emergence of a paradigm that effectively contests such ideas: deep ecology. Deep ecology is “a holistic worldview,” “an ecological worldview,” a worldview that “recognizes the intrinsic values of all living beings and views humans as just one particular strand in the web of life” (20). In such recognition, deep ecology encourages profound moral and ethical changes, changes that can be described as components of an ecological conscience.

As demonstrated so far in this study, a crucial step for inspiring ecological consciousness is to break down worldviews that divide humans from nonhuman nature and to locate new ecocentric paradigms that assert the intrinsic value of the natural world and understand humans as actors within, not against, ecosystems. In this chapter, I show how two utopian science fiction novels of the 1970s—Ernest Callenbach’s *Ecotopia* (1975) and Marge Piercy’s *Woman on the Edge of Time* (1976)—reflect the ideological

and practical changes that deep ecology advocates, while John Brunner's dystopian novels envision worlds where the ecotopian, deep ecological impulse is suppressed and even annihilated. Although I do not aim to show that Callenbach, Piercy, and Brunner are deep ecologists or were directly influenced by deep ecology's major thinkers, I do hope to illustrate that their novels are important theoretical excursions into deep ecology's philosophical territories. Regarding the ecotopian fiction—the subject of the first section of this chapter—I support Bill Devall and George Sessions' vision of ecotopian possibility: "Creating ecotopian futures has practical value. It helps us articulate our goals and presents an ideal which may never be completely realized but which keeps us focused on the ideal. We can also compare our personal actions and collective public decisions on specific issues with this goal" (162).

Though not students of utopia, Devall and Sessions echo scholars whose works assert the value of the utopian imagination in modern culture. They do for ecotopian fiction what utopian literary scholars do for utopian fiction—that is, declare the importance of what Lyman Tower Sargent calls "social dreaming" for the formation of an alternative society (1). As Tom Moylan writes in *Demand the Impossible*, in producing utopian images "that radically break with prevailing social systems [...] utopian discourse articulates the possibility of other ways of living in the world" (26). Wegner takes Moylan a step further, demonstrating the ways that the imaginary communities of Thomas More's *Utopia*, Edward Bellamy's *Looking Backward*, Ursula Le Guin's *The Dispossessed*, and other texts have transcended the status of being books about possibility and have figured into modern nation building. Referencing Antonio Gramsci, Wegner notes,

in the narrative utopia, the presentation of an “ideal world” operates as a kind of lure, a play on deep desires, both immediately historical and otherwise, to draw its readers in and thereby enable the form’s educational machinery to go to work—a machinery that enables its readers to perceive the world they occupy in a new way, providing them with some of the skills and dispositions necessary to inhabit an emerging social, political, and cultural environment. (2)

Thus, utopian fiction is fiction of possibility and praxis; its social dreaming envisions optional cultural paths and instructs social and political progression toward these paths.

Deep ecology’s endorsement of ecotopian fiction stems from the “ideal world” that ecotopias imagine. A movement grounded in a belief in species equality, spiritual interconnectedness, and the shared right of all living things to participate in their own self-realization within dynamic ecosystems, deep ecology finds in ecotopian texts the narration of many of its desires. Ecotopian space, unlike the space of the modern world, intrudes little on other species. Its human inhabitants participate in communal governments and promote economic systems that are not growth-centered and resource-intensive. Ecotopian fiction portrays worlds far different from the originary world that it contests, articulating ecologically conscientious lifeways hitherto restrained by modern social, political, economic, and even religious hegemony. Ecotopian fiction is also an instructive “educational machinery,” a cognitively estranging lens through which readers can compare their world with that proposed in fiction and as a result better perceive the flaws of current systems. Devall and Sessions’ confidence in ecotopian fiction stems from their understanding of the possibilities of ecotopia for narrowing, in their words, “the distance between what ought to be and what is now reality in our technocratic-industrial society” (162). Callenbach’s and Piercy’s texts are valuable for this reason.

### **Deep Ecology, *Ecotopia*, and *Woman on the Edge of Time***

*Ecotopia* chronicles the visit of *New York Times-Post* reporter William Weston to Ecotopia, the area once comprising Washington, Oregon, and northern California. Ecotopia seceded from the United States twenty years prior to Weston's visit, and Weston's purpose there is to write a series of articles documenting the practices of the nation's inhabitants. These practices include the development of a "stable-state," anti-growth economy and a national goal to reduce population. Early in the text, Weston's newspaper articles—which along with his private diary make up the novel—are openly critical of Ecopian ways: their lack of traffic and billboards is drab and isolating, their recycling is "an enormous expenditure of personal effort" (18), and their elimination of processed foods and putting certain foods on "'Bad Practice lists'" (20) is "a loophole that might house a large and rather totalitarian rat" (21). Despite the reporter's bias, later in the novel he admits that his attitude toward the nation is changing: "*the more closely I look at the fabric of Ecopian life, the more I am forced to admit its strength and its beauty*" (103). And though Weston's visit to Ecotopia is only supposed to last six weeks, he ultimately stays there. In a letter to his editor he writes, "*I've decided not to come back, Max. You'll understand why from the notebook. But thank you for sending me on this assignment, when neither you nor I knew where it might lead. It led me home*" (181).

A similar reevaluation of ecopian life occurs in Piercy's *Woman on the Edge of Time* as the book's main character, Connie Ramos, admits she wishes her young daughter could grow up in Mattapoisett, the novel's future ecotopia:

She will be strange, but she will be glad and strong and she will not be afraid. She will have enough. She will have pride. She will love her own brown skin and be loved for her strength and her good work. She will walk in strength like a man and never sell her body and she will nurse her babies like a woman and live in love like

a garden, like that children's house of many colors. People of the rainbow with its end fixed in earth, I give her to you! (133)

She has reasons to wish such a fate for her daughter, for Connie has grown up in a fast-paced New York City, has lived on the streets, has been physically and mentally abused by men, has had the one man she ever loved taken away from her by the prison system and killed in a medical experiment, and during the course of the novel is herself forced into a medical experiment while living in a mental health facility. Despite the aversion Connie should have toward existing social institutions, like Weston in Callenbach's book she is reluctant to accept the promises of ecotopia, of Mattapoisett. Her friend from Mattapoisett in the year 2137, Luciente, informs her of the fundamental and positive changes that have occurred in the alternative future, most of which are grounded in the reharmonization of humans with the rest of nature. Living under the supremacy of modern technocratic thought, though, Connie can only doubt the viability of these changes. She questions the city's lack of social hierarchy, patriarchy, and government. But the revolutionary thinkers living in the ecopian future ultimately assist Connie on a journey to free herself from the forces that have dominated her life for so long. In the end, while she does not get to live in the future ecotopia, "she thought of Mattapoisett" as she revolts against the hegemony (364).<sup>1</sup>

As utopias that contrast the perceptions and actions of modern, Western culture with those of ecopian possibility, and that favor the latter, *Ecotopia* and *Woman on the*

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<sup>1</sup> Billie Maciunas sees Connie's revolt—poisoning four doctors with pesticide she stole from her brother—as an act of violence, a poor course for implementing utopian changes (256). Importantly, though, Connie's violence attests to the dominance of the patriarchal worldview to which she has been indoctrinated all her life, and therefore to which she must succumb in order to undergo a personal revolution. Piercy's controversial ending thus demonstrates her awareness that changing from modern paradigms to utopian paradigms is a difficult task, as the hegemony will not respond to the diplomatic tools of utopia.

*Edge of Time* explore the changes that deep ecologists support. In summarizing the strategies for ecological sustainability promoted by Arne Naess, the Norwegian environmental philosopher who coined the expression “deep ecology” in the early 1970s, David E. Cooper writes, “Among the policies advocated by Naess are radical reduction of the world’s population, abandonment of the goal of economic growth in the developed world, conservation of biotic diversity, living in small, simple, and self-reliant communities, and—less specifically—a commitment ‘to touch the Earth lightly’” (213). Callenbach’s and Piercy’s ecotopian spaces display similar commitments to these policies. They challenge modern paradigms and advance ecologically literate and sustainable worldviews and practices, ultimately informing the deep ecological conscience.

### **Population and Economy**

Both Arne Naess and Gary Snyder, another important voice in the deep ecology movement, agree that taking steps to reduce world population is central to achieving ecological sustainability. In his seminal 1973 essay “The Shallow and the Deep, Long-Range Ecology Movements: A Summary,” Naess sketches his concept of biospherical egalitarianism, which is a fundamental principle of environmental movements wishing to go beyond mere “shallow” efforts to cut pollution and resource depletion, efforts really aimed to preserve “natural resources” for affluent nations (151). Biospherical egalitarianism requires “a deep-seated respect, or even veneration, for ways and forms of life” (151-152). It eschews hierarchies of being, instead observing “*the equal right to live and blossom*” for all forms of life (152). Importantly, biospherical egalitarianism “implies the reinterpretation of the future-research variable, ‘level of crowding,’ so that *general mammalian crowding and loss of life-equality* is taken seriously, not only human

“crowding” (152). It is implicit in Naess’s argument that species equality necessitates the protection of appropriate life-space requirements for all organisms. And since life-space for any one species is reduced as another species over crowds and infiltrates, human overpopulation violates egalitarian principles.

Because human overcrowding poses such a threat to the rights of other species, Snyder, in “Four Changes,” suggests cutting world population—that of 1974—in half. His reasoning is similar to Naess’s:

Position: Man is but a part of the fabric of life—dependent on the whole fabric for his very existence. As the most highly developed tool-using animal, he must recognize that the unknown evolutionary destinies of other life forms are to be respected, and act as gentle stewards of the earth’s community of being.

Situation: There are now too many human beings, and the problem is growing rapidly worse. It is potentially disastrous not only for the human race but for most other life forms. (141-142)

The population problem can be addressed on the social and political levels, Snyder believes, by convincing governments that human overpopulation is a serious problem, by legalizing abortion and promoting sterilization, by questioning and correcting cultural ways of thinking that press women to have children, and by refusing to see a nation’s growing population as a sign of a good economy (142). On the level of community, Snyder endorses alternative marriage structures, sharing “the pleasures of raising children widely, so that all need not directly reproduce to enter into this basic human experience” (142), limiting family size, adopting children, and as Naess also encourages, developing “a reverence for other species” (143).

Reflecting the spirit of deep ecological thinking, *Ecotopia* approaches the human population problem in a manner similar to Naess and Snyder. As if guided by Snyder’s political concerns, “After secession, Ecotopians adopted a formal national goal of a

declining population” (67). Ecotopians want to reduce population to minimize pressure on other species, and they begin their efforts by legalizing and lowering the cost of abortion, by universalizing female contraceptives, by associating life quality with a decentralized society dispersed “into the countryside” rather than with population growth and economic expansion, and by disintegrating the nuclear family (67-69). On this final point, “Ecotopians still speak of ‘families,’ but they mean by that term a group of between five and 20 people, some of them actually related and some not, who live together” (69-70). Raising children is a shared duty in these “communal groups” (70).

The efforts to control population in *Woman on the Edge of Time* similarly reflect the ideas of deep ecology. Though Mattapoisett’s use of “brooders,” in which babies are grown in tanks, is more of a science fictional example of population control than Ecotopia’s political and social methods, it nevertheless represents a mode of consciousness that values conscientious control over a society’s population. Analyzing science fiction texts as narrating critical changes in our society often uncovers such strange examples of how to go about change; but since the nature of the genre is to fictionalize speculative thought, examples like Mattapoisett’s brooders must be viewed as fictional representations of particular modes of consciousness. Thus the brooder becomes not a real possibility but a manifestation of a particular way of thinking. Besides the brooders as a means of population control, the residents of Mattapoisett also choose not to use their scientific expertise to find ways to prolong life. Addressing this issue, Luciente admits, “I think it comes down to the fact we’re still reducing population” (269). Finally, similar to the communal groups of *Ecotopia*, and to the community child

rearing Snyder proposes, Mattapoisett's children are assigned three "mothers," or nurturers, who can be male or female.<sup>2</sup>

*Ecotopia* and *Woman on the Edge of Time* thus serve deep ecology as educational machineries in that they present societies attempting to fulfill the movement's goal to reduce population. The methods of the former are less fictional than those of *Woman on the Edge of Time*, and in fact mirror Snyder's viable proposals, while the latter novel exploits the generic conventions of science fiction as it speculates on fantastic solutions to the human population problem. Despite these differences, the novels both generate awareness of human overpopulation and reasons why such overpopulation is a problem, awareness that deep ecology finds key to creating an ecologically sustainable world.

Along with human overpopulation, the modern mania surrounding economic growth and consumerism has distressed the world's ecosystems by encouraging a severe exceeding of natural thresholds. As Sessions notes in his preface to *Deep Ecology for the 21st Century*,

Government leaders and economic elites in Industrial Growth Societies continue to push for endless economic growth and development. [...] Third World countries are now entering global markets and trying to become First World countries by destroying their ecosystems and wild species as they emulate the industrial and consumer patterns of the ecologically destructive unsustainable First World. (xx)

Earth Policy Institute president Lester R. Brown speaks also to this point: "Over the last half-century, the sevenfold expansion of the global economy has pushed the demand on local ecosystems beyond the sustainable yield in country after country" (79). Brown's specific concern is with the growth economy's injurious effects on oceanic

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<sup>2</sup> As Barbara Drake summarizes, "What Piercy substitutes for the paired father and mother is a cooperative of three 'Mothers' for each child. They may be male or female. They volunteer to 'Mother.' [...] With the mothers, the child becomes part of a loose familial group, co-mothers and others" (114).

fisheries, forests, and rangelands. Since economic growth is so responsible for violating the tenets of biospherical egalitarianism everywhere, deep ecologists advocate fundamental changes in the ways developing and industrial societies view such growth. Rather than valuing economic expansion, deep ecologists—and the SF writers discussed here—look toward more ecologically conscientious economic paradigms.

Arne Naess outlines several lifestyle changes necessary for restructuring a growth-centered mentality into an ecologically sustainable economic paradigm: “Anticonsumerism and minimization of personal property”; “Endeavor to maintain and increase sensitivity and appreciation of goods of which there is enough for all to enjoy”; “Absence or low degree of ‘novophilia’—the love of what is new merely because it is new. Cherishing old and well-worn things”; “the attempt to avoid a material standard of living too much different from and higher than the needy”; and “Appreciation of lifestyles which are universalizable, which are not blatantly impossible to sustain without injustice toward fellow humans or other species” (“Deep Ecology and Lifestyle” 260). In encouraging less consumption, common standards of living, and egalitarianism between and among species, these changes advance life behaviors that reject the exploitative practices of a modern growth economy that hardly confirms the intrinsic value of species or shows any reverence for nonhuman life.

Like Naess, Snyder hopes for changes in modern society’s deep-seated, unsustainable economic worldview. In fact, he offers a very Thoreauvian maxim: “True affluence is not needing anything,” a direct challenge to the growth economy (146). With his assertion that “a continually ‘growing economy’ is no longer healthy, but a Cancer,” Snyder also offers a potent critique of the myth of progress (146). Rather than blindly

accepting economic progress without considering its deleterious effects on ecosystems and social systems, Snyder supports an economy that operates as a part of ecology, that handles production, distribution, and consumption “with the same elegance and spareness one sees in nature” (146). For Snyder, personal possessions should surrender to communal sharing, and the modern fascination with new technologies should surrender to a high esteem for old ways: “handicrafts, gardening, home skills, mid-wifery, herbs—all the things that can make us independent, beautiful and whole” (146). Both *Ecotopia* and *Woman on the Edge of Time* share similar, deep ecological concerns.

In his first newspaper article on the subject of Ecotopia, Weston displays his growth-centered culture’s fear of the utopian nation’s anti-growth economy: “Ecotopia still poses a nagging challenge to the underlying national philosophy of America: ever-continuing progress, the fruit of industrialization for all, a rising Gross National Product” (4). Weston sees Ecotopia’s stable-state system as a nagging challenge because “it means giving up any notions of progress. You just want to get to that stable point and stay there, like a lump” (33). His observations suggest the deep-seated faith that his US culture has in the myth of progress, while they also censure economic systems that see progress, industrialization, and a rising GNP as unnecessary and unhealthy. What Weston fails to understand about Ecotopia’s economic model, however, is its underlying motive to preserve the integrity of ecological systems and to fulfill the ethics of ecological equality. He does at least understand the Ecotopian point-of-view, stating “humans were meant to take their modest place in a seamless, stable-state web of living organisms, disturbing that web as little as possible” and “People were to be happy not to the extent they dominated their fellow creatures on the earth, but to the extent they lived in balance with

them” (47-48). But Weston’s rhetoric reflects more the attitudes of the growth-focused hegemony. He analyzes Ecotopia’s stable-state economy using the doctrines of the capitalist system—a move that neglects the possibility of a new language and philosophy for the stable-state—inevitably condemning the new system as hopeless. For if Weston’s readers believe, along with the Ecopian economists who are “highly regarded in the American nation,” that Ecotopia cannot maintain a decent “standard of living” with its twenty-hour work week, that Ecotopia’s system cannot attract “capital,” and that the nation will suffer “financial collapse,” then they will see Ecotopia’s economic paradigm shift as a failure even if it succeeds (48). Viewed within the context of capitalism, the stable-state system will always fail. *Ecotopia* narrates the concerns of deep ecology, then, as it presents the fundamental challenges of moving from an ecologically unsustainable and hegemonic economic structure to one that devalues economic expansion and works toward Snyder’s true affluence.

An ecologically sustainable economic system also exists in Piercy’s book, and again the system is one that someone indoctrinated into the capitalist myth of progress would find difficult to accept. Connie’s expectations when first arriving in Mattapoisett demonstrate her faith in a booming capitalist future: “Rocket ships, skyscrapers into the stratosphere, an underground mole world miles deep, glass domes over everything” (62). But opening her eyes she sees instead the village of a bucolic past, prompting her to ask Luciente, “‘You sure we went in the right direction? Into the future?’” (62). Luciente assents and Connie replies questioningly, “‘Forward, into the past? Okay, it’s better to live in a green meadow than on 111th Street. But all this striving and struggling to end up in the same old bind’” (64). This sentiment repeats William Weston’s concern that

Ecotopia's stable-state system is weak because it lacks "progress." Both protagonists reflect the capitalist tendency to view as backwards the alternative lifeways that do not depend on a constant flow of commodities through markets and a constant reinvestment of capital into new, marketable stuff. As in *Ecotopia, Woman on the Edge of Time* contributes to the utopian conversations of deep ecology by showing how the ruling economic dogma prevents its followers from envisioning the potentials of ecologically sustainable economic systems. Callenbach and Piercy's hopeful messages are communicated by the fact that Weston and Connie ultimately accept these ecotopias as more viable and healthier places to exist.

### **Perception, Community, and Ecocentric Living**

Besides encouraging a reduction of world population and an economy that disdains the notion of growth, deep ecology supports the ecological perception of "Organisms as knots in the biospherical net or field of intrinsic relations," a "*relational, total-field image*" akin to Leopold's metaphorical tangle of chains (Naess, "The Shallow and the Deep" 151). Such thinking requires a fundamental change in the way Western societies perceive the world. Rather than separating humans from the surrounding world, as higher up in an ontological hierarchy or as actors upon a wealth of "natural resources," deep ecologists promote a spiritual epistemology that sees no disconnections between and among species, and even between species and landscapes. In other words, to borrow from Arne Naess, to divide A and B changes the constitutions of both, thus A cannot be said to exist on its own, without B.

A self-admitted Buddhist-Animist who derives his eco-philosophy from Buddhist concepts of organic unity and Animist ideas about the spiritual matrix that connects all life and material (Taylor, "Snyder"), Gary Snyder contributes much to deep ecology's

philosophical stance on humanity's fundamental and essential embeddedness in the natural world: "Man is but a part of the fabric of life—dependent on the whole fabric for his very existence" (141). In fact, in "Four Changes" he insists that such understanding is necessary to solve the population boom, to limit pollution and consumption, and to restrain the rapid and unsustainable growth of civilization. Indeed, to see the intrinsic connections between the components of natural systems is also to understand the harsh effects modern human civilization has imposed on the environment, because alterations of ecosystems forced by destructive technologies, impulsive residential development, rapid extraction of resources, and so forth, jeopardize the healthy interconnectedness of those systems. For Snyder, such impositions suggest a defective spiritual perception in modern culture, rectified only through a fundamental individual and cultural reconnection to the nonhuman world.

Callenbach's ecotopian society comprehends the importance of the perception of interconnectedness that comes with ecological understanding, encouraging ecological wisdom at all stages of life. About Ecopian school children, Weston writes,

The experiences of the children are closely tied in with studies of plants, animals and landscape. I have been impressed with the knowledge that even young children have of such matters—a six-year-old can tell you all about the "ecological niches" of the creatures and plants he encounters in his daily life. He will also know what roots and berries are edible, how to use soap plant, how to carve a pot holder from a branch. (38-39)

Further, an Ecopian ten-year-old knows "how hundreds of species of plants and animals live, both around their schools and in the areas they explore on backpacking expeditions" (130). Such knowledge, even in young children, would be taken for granted in an ecologically conscientious society. But traditional education takes for granted conservative pedagogical models, which according to Bowers emphasize "the recovery

(and rediscovery) of the intellectual achievements of the past”; “moral and spiritual growth; the ability to participate as an enfranchised citizen who bears both freedoms and responsibilities; and the intellectual foundations and skills necessary for earning a living” rather than the knowledge necessary to live with the environment (37-38). Just as ignorant of ecology is the liberal model of education, which focuses on “the progressive nature of social development,” individualism, and rational, linear thinking (Bowers 74-76). Perhaps Weston writes “ecological niches” within quotation marks because of his readers’ unfamiliarity with the term. To be sure, their Western education has not accounted for ecology in the same way the Ecotopians’ has. In fact, Ecopian adults can be heard saying, “*“Knowing yourself as an animal creature on the earth, as we do. It can feel more comfortable than [Weston’s] kind of life”*” (87-88) and “*“We don’t think in terms of ‘things,’ there’s no such thing as a thing—there are only systems”*” (88). Ecotopians thus emphasize ecological understanding and an essentially spiritual thinking rooted in, as the critic Jim Dwyer notes, “Native American and pagan cosmology,” which “inspires people to consider themselves intrinsic parts of nature and act accordingly” (“Ecotopia”).

Like *Ecotopia, Woman on the Edge of Time* demonstrates an awareness of ecological connectedness through describing the children’s education. Indeed, that Mattapoisett’s community gardens follow the principles of organic gardening—“tomato plants growing with rose bushes and onions, pansies and bean plants”—attests to the ecological conscience of the town’s residents (122). In addition, the rite-of-passage for Mattapoisett’s children to become full members of the community involves their spending one week in the woods by themselves, showing that the ecopian town views

wilderness as community rather than as commodity. And if a society regards nature as a part of its community being—enough, in fact, to make the woods central to its adulthood rituals—then it has developed a clear, symbiotic relationship with the land. On the contrary, if a society sees the land as a provider of economically valuable and infinite resources, then it adheres to modern and unsustainable images of nature as commodity. By making experience in nature a significant part of childhood education, Ecotopia and Mattapoisett participate in the deep ecological desire to establish ecologically conscious ways of knowing and ways of interconnected being.

Along with encouraging new perceptions of the natural world and humanity's place in it, *Ecotopia* and *Woman on the Edge of Time* generate further awareness of more sustainable models of community. Naess sees as an ecological guideline the need to cultivate life in community. However, for the deep ecologist, as with Leopold, community ties go beyond mere social interaction. A community, or a total ecological field, is a life system, even a form of life. And because “The vulnerability of a form of life is roughly proportional to the weight of influences from afar, from outside the local region in which that form has obtained an ecological equilibrium,” our current social and economic tendencies to import and export commodities and consumer ways of life disturb the autonomous character of natural systems—including the system of the self (Naess, “The Shallow and the Deep” 153). The results are displaced individuals living in ecosystems destabilized as a result of ecologically disruptive practices. To solve this problem, Naess advocates “efforts to strengthen local self-government and material and mental self-sufficiency” (154).

Snyder supports a similar move toward social and ecological autonomy: “Division by natural and cultural boundaries rather than arbitrary political boundaries” and “land-use being sensitive to the properties of each region” (147). Such bioregional thought pervades contemporary environmentalist discussions. Orr believes we must “Use locally available resources,” “Rebuild local and regional economies,” and “Rebuild strong, participatory communities” in order to achieve ecological sustainability (161). On the subject of pedagogy, Bowers advocates a bioregional curriculum, one which studies “the plants, animals, soils, sources of water, economic and technological practices, and the community of memory that encodes the collective wisdom about both past mistakes and sustainable practices” (175). Collectively, what these environmental thinkers promote is a worldview that is rooted in the strength of local community dynamics and the lessons of community and natural history, as well as in adopting life practices specific to local regions.

As Naess, Snyder, Orr, and Bowers theorize the strengths of community and bioregional autonomy, so do Callenbach and Piercy speculate on these strengths in their science fiction narratives. Callenbach does so in three ways. First, all Ecopian food, energy, and building materials are locally harvested, and the nature of this practice is such that local systems remain healthy and foreign systems remain untouched—at least by Ecopians. Second, in terms of self, community, and bioregionality, Weston eventually becomes aware of his disconnectedness from the community and from place. He writes, *“I’m beginning to see that to an Ecopian, who always has a strong collective base to return to, a place and the people of that place, my existence must seem pathetically insecure”* (138). When Weston writes *“I have never cried about it. But*

*maybe I should,”* Callenbach issues a compelling request for readers to reevaluate their own disconnectedness and to envision life in community, with a strong sense of place (138). Finally, *Ecotopia* participates in Naess’s and Snyder’s political calls to decentralize the operations of local regions. Explaining the nation’s move, Weston writes, “the Ecotopians largely dismantled their national tax and spending system, and local communities regained control over all basic life systems” (67). The change benefits Ecopian life in many ways: communities arrange their lives more deliberately, population density drops, medical services improve, and previously threatened ecosystems flourish.

Mattapoisett is also communally and bioregionally oriented, demonstrating the ecological value of strong community and bioregional networks. Like *Ecotopia*, the village is ““Ownfed,”” ““Self-sufficient as possible in proteins”” (64). Further, sense of place matters to the inhabitants of Mattapoisett. As Jackrabbit, one of the town’s dwellers, says, ““A sense of land, of village and base and family. We’re strongly rooted”” (116). On this point, one might think Mattapoisett is *Ecotopia*, that had Piercy given Connie Ramos a journal in which to write her reflections, she would have written something similar to Weston’s lament about feeling displaced. To be sure, Connie does wish her daughter could grow up in Mattapoisett. And finally, as members of a bioregion with limited resources, Mattapoisett’s inhabitants “see [themselves] as partners with water, air, birds, fish, trees,” a worldview strongly aligned with Leopold’s ecological conscience (118).

A key goal for deep ecologists—the reason for reducing population, slowing economic growth, adopting spiritual perceptions of connectedness, and thinking in terms

of bioregion—is, to borrow from the sustainable community planners Mathis Wackernagel and William Rees, to limit humanity’s “ecological footprint.” Wackernagel and Rees write, “there is wide agreement that the Earth’s ecosystems cannot sustain current levels of economic and material consumption” (1). Naess and Snyder share this view. They, along with other deep ecologists, hope to “cultivate an ecological consciousness” that will reverse the growth and consumer tendencies of Western culture and thus lessen human influence on the environment (Devall and Sessions ix). *Ecotopia* and *Woman on the Edge of Time* share deep ecological sentiments on dwelling lightly and contribute intellectually to the deep ecological desire to reduce human impact on the Earth. Both Ecotopia and Mattapoisett are recycling societies, with the latter composting and reusing everything—the attitude being that nothing can be thrown away on a round world. Dwelling lightly in these ecotopias, though, goes beyond recycling and into profound moral and philosophical principles. What matters most to Ecotopians, according to Weston, “*is the aspiration to live in balance with nature, ‘walk lightly on the land,’ treat the earth as a mother*” (32). With this moral principle as the core paradigm of social practice—indeed, in direct challenge to the core paradigm of Western society, which is to live in opposition to nature—Ecotopians approach living with ecological balance as their main objective.

Mattapoisett, like Ecotopia, roots itself in practices that inherently challenge Western modes of existence, of consumption and wastefulness. Critiquing the Cartesian model of being, Bolivar, a key spokesperson for social opinion in Mattapoisett, states, “I guess I see the original division of labor, that first dichotomy, as enabling later divvies into haves and have-nots, powerful and powerless, enjoyers and workers, rapists and victims. The patriarchal mind/body split turned the body to machine

and the rest of the universe into booty on which the will could run rampant, using, discarding, destroying.” (203)

Here, Bolivar sums up the critical stance of the ecotopian community. Western models of being, which include the mind/body and human/nature split, have disconnected humans from the ecology within which we exist. This separation justifies environmental exploitation, and instead of dwelling lightly we reside unsustainably. As a community that thinks critically about such fundamental ideas, Mattapoisett initiates a thoroughgoing revision of Western dichotomies, electing to live in opposition to modern, technocratic ways and in favor of more sustainable modes of existence.

For all of these reasons, *Ecotopia* and *Woman on the Edge of Time* serve the visions of deep ecology. Individually, each text narrates the revisionary ideas of deep ecology, and they do so in a utopian manner, always insisting upon the difference between their respective ecotopian societies and the known Western world. Together, these texts demonstrate the value of ecotopian science fiction for communicating and exploring the changes advocated by deep ecologists. It is vital to understand the contribution of these narratives to the ecological conscience and the cultural push toward ecological sustainability. This is not to ignore their weaknesses in narrative, in argument, or in the feasibility of their propositions. Rather, to focus on these ecotopian texts and the ecological ideas they support is to generate important questions about how we currently treat the Earth and crucial ideas about how we should treat it.

### **Deep Ecology and the Dys(eco)topian Visions of John Brunner**

While ecotopian fiction occupies an important place in deep ecology, both for its ecologically conscious visions and for its cultural work, its opposite—dys(eco)topian fiction—holds similar value. According to Lyman Tower Sargent, a dystopian narrative

describes in detail a non-existent society “normally located in time and space that the author intended a contemporaneous reader to view as considerably worse than the society in which the reader lived” (9). Despite its glumness, dystopian narrative maintains the utopian impulse. As Moylan notes, “a dystopian text can be seen as *utopian* in tendency if in its portrayal of the ‘bad place’ it suggests (even if indirectly) or at least stimulates the potential for an effective challenge and possibly change by virtue of human efforts” (*Scraps* 156). Dystopian works fuel challenges to unethical systems of power and domination by rendering a society that is not only worse than that in which the reader lives, but also by portraying a world where the reader might live if steps are not taken to change these systems.

Texts become dys(eco)topian in the same way that texts become ecotopian—that is, when the majority of their critiques center on issues vital to ecological health. John Brunner’s *Stand on Zanzibar* (1968) and *The Sheep Look Up* (1972) both contain such elements of environmentalist concern. *Stand on Zanzibar* focuses on overpopulation and modern economic doctrine and *The Sheep Look Up* portrays a world damaged by Western consumption habits, corporate profiteering, and the absence of deep ecology’s total-field thinking. Brunner’s interests are indeed the interests of deep ecology; his visions of the future are deep ecology’s nightmares. My question in this section follows from the argument of the previous section: If ecotopian fiction informs and reflects deep ecology by speculating on utopian possibilities through a common ecocritical lens, then does dystopian fiction inform and reflect deep ecology in its own ways? Certainly, the worlds of Callenbach and Piercy motivate the ecotopian dream and are thus more attractive than dystopian fantasies for inspiring change. But dys(eco)topia offers

something ecotopia cannot: extended speculations on the social and ecological states that deep ecology aims to avoid. Dys(eco)topian texts stage the frightening worlds made possible by continuing certain present social and economic behaviors; they extrapolate their futures based on relevant interpretations of the now. Thus, this type of fiction is a powerful rhetorical tool for stimulating new, more ecologically conscious ways of thinking and being.

### ***Stand on Zanzibar***

Recognizing that *Stand on Zanzibar* focuses not on “individual agency and linear narratives of ecological fall and recovery” but instead “on the ways that various power structures shape and limit cultural attitudes about ecosocial problems,” Neal Bukeavich understands the complexity of Brunner’s dys(eco)topian project (54). Bukeavich writes, “*Stand on Zanzibar* offers an ecological insight unique to its time: namely, that ecosocial crises arise from combinations of mutually reinforcing factors, including luxury consumption, resource exhaustion, and multinational capitalism” (55). *Ecotopia* and *Woman on the Edge of Time* offer similar insights, implicitly critiquing Western society’s anti-ecological habits by envisioning ecopian alternatives as well as explicitly contrasting these habits with the alternatives. However, while the ecotopias interrelate such habits—identifying overpopulation as related to an inadequate economic worldview stemming from an ideology of human/human and human/nature fracture—their utopian motivation to imagine better alternatives limits their capacity to explore the political and cultural dynamics of the ecological problems, like overpopulation, that they want to avert.

As demonstrated earlier, population reduction is a key interest of both *Ecotopia* and *Woman on the Edge of Time*, as well as of deep ecology. Ecotopians make it a national

goal to decrease population; Mattapoisett controls population scientifically, growing its future generations in brooders; and deep ecology holds as one of its eight basic principles that “The flourishing of human life and cultures is compatible with a substantial decrease of the human population. The flourishing of nonhuman life requires such a decrease” (Devall and Sessions 70). *Stand on Zanzibar*’s insights into the overpopulation question soften deep ecology’s and ecotopia’s strong, if not dogmatic, attention to population controls by highlighting the growth economy and Western consumption habits as much more detrimental than overpopulation to ecological health and by drawing attention to the ethical dilemmas inherent in controlling population. Similar to the ecotopias, *Stand on Zanzibar* ultimately addresses the range of issues that concern deep ecologists, from overpopulation to the ecological pressures brought on by certain social and personal habits. Only, because it is a dystopia that fleshes out even the problems of utopian fantasies, Brunner’s novel offers the critical counterpoint deep ecology needs in order to reconsider its position on world population.

*Stand on Zanzibar* challenges deep ecology’s emphasis on population reduction and encourages critical readers not to deemphasize the global harm of overpopulation but to recognize Western economic doctrine as a greater threat. Human overcrowding jeopardizes appropriate life-space requirements for other species but so does the encroachment of an economic system that liquidates this life-space in the name of profit and progress. In the novel, General Technics (GT), a multinational corporation, wishes to transform a small, peaceful, and economically disadvantaged African nation named Beninia into a market and processing center for its offshore mining project. As Bukeavich notes, “the Beninian enterprise enacts a kind of economic imperialism that

renders it unlikely to initiate any revolutionary shift in global environmental politics” (59). This brand of corporate interest demonstrates the economy that deep ecology targets: elite nations pushing “third world” countries to participate in their market interests and fantasies of a global consumer society while erasing any chance of developing alternative economic structures that are more environmentally sustainable. It is such an economy and the culture it supports, not overpopulation in itself, that wreaks the ecological havoc; and this insight is the specific contribution of *Stand on Zanzibar* to deep ecology’s population dialogue. When the novel’s narrator writes, “The size of planet Earth was . . . large enough, so far. Beninia was pitted and pendulumed, and the walls were closing in,” he acknowledges a linkage between natural limits and the mythology of nature’s bounty that informs the growth economy (12). With the initiation of GT’s scheme, Beninia will be swept into an economic system that not only gobbles up existing social relations—and in Beninia’s case, peaceful social relations—but also exhausts nonhuman nature. For, nowhere in GT’s plan is there a discussion of developing an economy that will lift Beninia out of poverty without sacrificing its already limited resource base.

Throughout *Stand on Zanzibar*, Brunner gives readers fragments of the consumer culture that economic projects such as General Technic’s Beninia plan encourage. It is a culture deep ecology would find harrowing in contrast to ecotopian images of strong local communities and ecologically sustainable ways of living. Certainly, it is the kind of negative culture against which Ecotopia and Mattapoisett define themselves; only, as a dystopia, Brunner’s work fully explores this culture. Community as a dynamic collection of participating individuals with unique senses of self and place does not exist in the mass

culture of *Stand on Zanzibar*. Instead, the corporate state deforms social interaction and individual uniqueness, gratifying capitalist fantasies of a culture unified in its consumption habits. Images of Mr. and Mrs. Everywhere—"construct identities, the new century's equivalent of the Joneses"—fill TV screens sold by the media giant Engrelay Satelserv, allowing viewers to see themselves in a variety of more desirable places (*Stand* 9). And a "Colliderscope" "turns your drab daily environment into a marvelous mystery" (172). These simulation technologies demonstrate a point made in the novel by Chad Mulligan, one of the characters who is critical of the society: "'the whole of modern so-called civilized existence is an attempt to deny reality insofar as it exists'" (251). Here, the reality denied is a present terrible reality made possible by the hegemony's ignorance of the environmental and social consequences of its actions.

Purposefully blind to the richness of difference, the corporate state promotes cultural and individual homogeneity. Song lyrics in Brunner's novel show this:

Like the good Lord God in the Valley of Bones  
 Engrelay Satelserv made some people called Jones.  
 They were not alive and they were not dead—  
 They were ee-magi-nary but always ahead.  
 What was remarkably and uniquely new—  
 A gadget on the set made them look like you!  
 Watching their sets in a kind of a trance  
 Were people in Mexico, people in France.  
 They don't chase Jones but the dreams are the same—  
 Mr. and Mrs. Everywhere, that's the right name!  
*Herr und Frau Uberall or les Partout,*  
 A gadget on the set makes them look like you. (309)

Mr. and Mrs. Everywhere provide the culture of *Stand on Zanzibar* with the type of co-opted utopian experience Moylan discusses, a Disney-esque escape to the Moon, Mount Everest, or Martinique, all freed of social and environmental interaction (Brunner, *Stand* 309). For Moylan, in the mid-twentieth century, utopian visions—originally articulations

opposing “the affirmative culture maintained by dominant ideology”—dissolved into the corporate-driven utopias of shopping malls and the Disney empire (*Demand* 1). Driven by capital, utopia weakened into visions of “pleasurable weekends, Christmas dreams, and goods purchased weekly in the pleasure-dome shopping malls of suburbia,” all visions compatible with growth-centered, capitalist ideology (8). In Brunner’s novel, under the hegemony of this corporate media complex, political difference is nullified as people tune in to mass opinion.

The simulated experience of people and place is only one nightmare scenario for deep ecology, a nightmare that has become all too real in contemporary society. Another has to do with the absence of wilderness in the dystopian world. As simulated culture has replaced genuine social relations in Brunner’s dystopia, simulated nature has replaced the natural world. Synthetic grass carpets General Technics headquarters, and a clinic in London has a floor “covered by tiles with a design of dead leaves embedded under a clear plastic surface” (158). Ironically, this “only touch in the place which suggested nature” is trampled, “a failure,” the leaves disappearing “behind a mist of scratches and scrapes, the legacy of uncountable feet that had crossed the room” (159). Given that this clinic is one pregnant women must visit to be eugenically tested, the results dictating whether they must abort, the trampled floor symbolizes both population pressure and the ecological harm such pressure induces.

*Stand on Zanzibar* does not treat the human/nature disconnect and the loss of wilderness only symbolically. Whales are extinct and Manhattan is under a dome; a character reflects on “when he last saw the stars” and “got wet in the rain” (262); a cosmetics manufacturer brags, “we have taken control of our entire environment, and

what we choose by way of fashion and cosmetics matches that achievement”” (60).

Indeed, Brunner’s novel presents a postnatural world, McKibben’s “end of nature” in which the Western way of life “now blows its smoke over every inch of the globe” (60). McKibben, like Brunner, sees modern economic doctrine as the biggest threat to ecology. “There is no place on the planet now,” says McKibben, “that does not fall under the enchantment of our images of the good life” (xxii). The “good life” is a life of consumption, and ultimately the life that makes overpopulation a serious threat.

*Stand on Zanzibar* considers the growth economy and Western consumer culture to be the most detrimental pressures to global ecological and social health, and it makes this claim stronger by emphasizing population control as a directive far more unethical to institute than changing economic policy and personal habits. The ecotopias that narrate the concerns of deep ecology treat overpopulation and excessive production and consumption as equally solvable problems, but Brunner’s work argues otherwise. *Stand on Zanzibar* treats population control as an ethical quandary. Alongside the consumer ideology broadcasted globally in Brunner’s dystopia is a praise of eugenic legislation. A “Greater New York Times editorial slot” hails Puerto Rico for cracking down on population growth and “for joining the majority of us who have seen the danger [of overpopulation] coming and resolved to put up with the minor inconveniences it entails when we decide to control the human elements of the big scene we inhabit” (15-16). Such minor inconveniences include a cultural stigma on excessive fertility, mandatory abortion, and other top-down methods of enforcing obedience to government-mandated controls.

Oddly, governments in *Stand on Zanzibar* work to cut population growth while allowing economic growth to continue unchecked. *Stand on Zanzibar* does not discount the importance of a declining population for social and ecological health, but it does imagine the danger of treating overpopulation and Western economic doctrine as equally accountable for environmental crisis. Given the hegemony of an economic system that lacks a financial incentive to critique and change itself, popular attention to global social and ecological collapse—an attention driven by this economy's media complex—will turn toward overpopulation as the primary ecological threat, thus absolving the capitalist economy from its environmentally hazardous global expansion.

### ***The Sheep Look Up***

If *Stand on Zanzibar* is Brunner's indictment of the growth economy and consumer ideology as sources of ecological and social peril, then *The Sheep Look Up* is his most thorough exploration of the pervasiveness and effect of this ideology. As in *Stand on Zanzibar*, *The Sheep Look Up* imagines a world in which Western ideas about economic growth, mass consumption, and the human/nature disconnect play out as far as the power structure wishes, despite environmental and social injustices. But while *Stand on Zanzibar* makes a concerted effort to upset the myth that human overpopulation is as responsible for ecological and social breakdown as Western economic doctrine, *The Sheep Look Up* is less concerned with overpopulation and instead surveys what is harmful in modern social, economic, and philosophical paradigms. It expresses concerns about loss of community, the effects of unchecked economic growth, and the ignorance in modern society of ecological thinking, as it also explores contrasting strategies for environmentalist action.

*The Sheep Look Up* details the effects of a United States military hallucinogen leakage. Countries whose citizens consume a synthetic food produced in the area of the leak have mass rioting. The military's cover up of the chemical spill is one of several attempts by the US government and the corporations it supports to ignore their roles in bringing on ecological disaster. Pesticide-resistant worms decimate crops worldwide, and nearly all Americans suffer from ailments caused by environmental contaminants. Fighting to expose the military, the government, and corporations, environmentalist and cult figure Austin Train condemns the emerging violent environmentalist radicalism and divulges the misdeeds of the higher powers. For the latter, Train is labeled subversive by the right-wing US president, Prexy. Falsely accused of kidnapping the son of Roland Bamberley—an opportunist businessman whose company manufactures water filters and whose brother, Jacob, manufactured the poisoned food—Train is put on trial publicly and uses the opportunity to address his viewing audience with a plea: “‘at all costs, to me, to anyone, *at all costs* if the human race is to survive, the forcible exportation of the way of life invented by these stupid men must . . . be . . . stopped’” (353). Shortly after this declaration, Prexy orders Train to be cut off, and the courthouse crumbles from a bomb built by one of the real kidnappers. The novel ends in a fury of American civil disorder, chaos one character claims fulfills his computer-generated forecast of “the best thing we can do to ensure a long, happy, healthy future for mankind” (363). “We can just about restore the balance of the ecology, the biosphere, and so on—in other words, we can live within our means instead of on an unrepayable overdraft, as we’ve been doing for the past half century,” says Dr. Thomas Grey, “if we exterminate the two hundred million most extravagant and wasteful of our species” (363).

*The Sheep Look Up* contributes to the philosophy of deep ecology. Implicitly through its dystopian rhetorical strategy and explicitly through Austin Train, it offers ecocentric critiques of a range of Western ideologies and practices. One of its key critiques is of the type of thinking that declares the inferiority of the nonhuman world to humans. The novel opens with a poem that announces,

The day shall dawn when never child but may  
Go forth upon the sward secure to play.  
No cruel wolves shall trespass in their nooks,  
Their lore of lions shall come from picture-books. (2)

The domestication of wilderness celebrated here is an uncritical utopian ideal imagined and put into practice historically in Western culture.

Domesticating nature for human purposes is a characteristic of the modern ideology Brunner and deep ecology challenge.<sup>3</sup> It is rooted in Christian conceptions of wild nature as evil to be conquered as well as in later ideas of taming wilderness for material progress. This is the same ideology that Callenbach and Piercy imagine overcoming with new economic and spiritual models. Against such an ideology of human supremacy, deep ecology encourages a knowledge of and a respect for natural biodiversity. In *The Sheep Look Up*, Austin Train calls himself a “commensalist,” building his environmentalist philosophy on the idea that “you and your dog, and the flea on the dog’s back, and the cow and the horse and the jackrabbit and the gopher and the nematode and the paramecium and the spirohete all sit down to the same table in the end” (18-19). Such a philosophy challenges the human/nature hierarchy on which are based anthropocentric visions of taming and developing wilderness.

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<sup>3</sup> For a discussion of the origins of taming wilderness as a Western ideology see Nash.

After the celebratory poem of human arrogance that begins his novel, Brunner introduces a scene critical of the anti-wilderness vision on which the poem rejoices. In a dislocating incident that would initially reinforce the fear of carnivorous nature in any reader of the novel's opening poem, a man finds himself hunted by wild animals "In broad daylight on the Santa Monica freeway" (3). Petrified, and with "monstrous menacing beasts edging closer," the man hides from cougars, jaguars, cobras, falcons, and barracudas—the beasts that the writer of the opening poem wishes to relegate to children's fairy tales (3). Trying to run, the man is killed by a stingray. Is this a scene of some science fictional, fantastical California now taken over by the savage creatures the poem demonizes? No. The beasts are merely names of cars; the predation often associated with wild nature is given a different look, an ecocritical reevaluation demonstrating that industrial society, not wilderness, is the threat to life. With the counterpoint between the introductory poem and the ensuing scene of industrial carnage, Brunner introduces early in the novel the dynamic between the Western industrial system and the voices of dissent against this system that gives his dys(eco)topia its rhetorical power.

*The Sheep Look Up* links global ecological disaster to Western habits that have grown from a philosophy of man as conqueror, to borrow Leopold's concept, instead of man as biotic citizen. Though this ignorance of ecological connections enables industrial "progress" in Brunner's novel, it ultimately, as Brunner shows, disables ecological systems and creates an atmosphere conducive only to corporate profiteering. Lead, chemical byproducts of various industries, and DDT have created the poisoned world imagined by Rachel Carson in *Silent Spring*. As a result, clean oxygen, water, and

filtermasks are commodities in *The Sheep Look Up*, purchased from vending machines. And a food producer, Puritan Foods, uses the public's growing fear of pollution to market falsely its brand of "uncontaminated" food. The unchallenged corporate state in *The Sheep Look Up*—due not to a lack of dissenters but to government efforts to repress opposition—exposes an odd capitalist dynamic: the omnipresent (ill)logic of capitalism permits big industry to profit from its own poor environmental record, but in no way are the resulting clean-up industries altering their profit motive and developing an ecologically conscious economy, despite the obvious necessity to do so. As one character states, "'they shit in the water until it's dangerous to drink, then make a fucking fortune out of selling us gadgets to purify it again'" (187).

Similar to *Stand on Zanzibar*, the corporate offices in *The Sheep Look Up* boast of man's containment of nature: "cosmographic projections," simulated views of the outside world "Superior to the natural article," "prevent the intrusion of untasteful exterior reality" (133). Again, this exterior reality represents McKibben's postnatural world at its dystopian extreme, demonstrating deep ecology's fear of the effects of human dominion and economic imposition on ecology and its anxieties over loss of life. Deep ecology recognizes intimate, spiritual connections between all forms of life, connections that allow for self-realization among all species. Callenbach's Ecotopia and Piercy's Mattapoisett strive to nurture these connections. Fields and natural gardens serve as places for reflection and identity building. In Brunner's world, however, exterior space is poisoned, lifeless but for "rodent" species whose extreme populations are due to the loss of biodiversity. A child in Brunner's novel cuts her foot while playing in an old garbage

dump; a woman dies from exposure to pollutants at the beach. In such an atmosphere, fostering a human-nature connection and an ecological conscience becomes improbable.

Influenced by Austin Train, the “Trainites” of *The Sheep Look Up* mount a genuine attack on Western philosophic and economic paradigms. A loosely organized group manifesting itself shortly after Vietnam “as the result of some telepathic trigger,” Trainites live out a number of environmentally sustainable practices in small collectives called wats (77). As if taking a cue from deep ecologists Arne Naess and Gary Snyder, Decimus—the man killed in the opening scene—is a Trainite who promoted, as Naess would say, a “global solidarity of lifestyle” (“Deep Ecology and Lifestyle” 260): “His principle, at the Colorado wat, was third-world oriented; his community grew its own food, or tried to—crops had a nasty habit of failing because of wind-borne defoliants or industrial contaminants in the rain—and likewise wove its own cloth, while its chief source of income lay in handicrafts” (*Sheep* 34). The presence of Trainite wats gives Brunner’s novel a utopian quality. Wats are Brunner’s Ecotopias or Mattapoisetts, spaces apparently insulated from what is “Out There,” from “death and destruction” and “poison in the rain,” as one character thinks (171). But what makes *The Sheep Look Up* differ from *Ecotopia* and *Woman on the Edge of Time*—what makes the wats objects of a dys(eco)topian narrative rather than places of ecotopian hope—is that at the moment of optimism the Out There breaks through the insulation and intrudes upon utopian space. Despite the Trainite ecological conscience and foresight, the wats cannot keep acid rain at bay, nor can they prevent the intrusion of a crop-threatening worm imported into the United States by a careless corporation.

Brunner uses the wats to insist on the potential for utopian spaces and utopian ideals to elicit cultural work in the world outside of those spaces. His exploration into this potential is not simplistic and unidirectional, though. Instead, *The Sheep Look Up* speculates on contrasting ways environmentalist, “Trainite” opposition— influenced in different ways by ecotopian social dreaming—can manifest itself in mainstream culture. The first of these narratives shows the journalist Peg Mankiewicz becoming discouraged with the polluted and corrupt state of modern life. Her extended investigation of Decimus’s death draws the ire of her editor, Mel Torrence, who is hostile to the Trainites. Mel views Trainite resistance, the most violent of which Mel carelessly and wrongly associates with Train’s followers, as a ““nuisance”” (92). As Mel states, ““They block traffic, they foul up business, they commit sabotage, they’ve even gone as far as murder—”” (92). Seeing the merit in such dissent, the falsity of Mel’s allegations of murder, and the fact that the real killers ““are the people who are ruining the world to line their pockets,”” Peg quits the newspaper and heads to the Colorado wat (93). Encouraged by the undemanding and harmonious way of life at the wat, but ultimately dissatisfied with its people’s lack of civic engagement with the world Out There, Peg leaves to carry on the fight started by Austin and Decimus. The Colorado wat is indeed an ecotopian space, but for Peg, such a space is not enough in a world in need of change. In the end, she channels her energies into critical writing, researching and revealing the effects of rich nations on poorer nations. With such exposures, she hopes to bring about change.

While Peg’s story is one in which an individual draws inspiration from an ecotopian ideology and moves into the world to institute positive change through journalism, the second narrative that demonstrates the real potential of ecotopia is

different. Like Peg, Hugh Pettingill becomes disgruntled with the state of society.

Speaking out against his adoptive father Jacob Bamberley, Hugh voices the anger of many in the novel:

“Because of you and people like you we sit here in the richest country in the world surrounded by sick kids—[. . .] You and your ancestors treated the world like a fucking great toilet bowl. You shat in it and boasted about the mess you’d made. And now it’s full and overflowing, and you’re fat and happy and black kids are going crazy to keep you rich. *Goodbye!*” (112)

Hugh also flees to the Colorado wat, but instead of seeing the aggressive activism he associates with Trainites, he witnesses a community “rehearsing for tomorrow, devising a viable lifestyle by trial and error” (148). But Hugh wants action now, pistols and bombs (149). He leaves the wat and joins a small group of activists who employ the violent resistance he desires, including kidnapping Roland Bamberley’s son Hector and demanding for ransom that Roland freely distribute twenty-thousand water filters to citizens.

The wats in *The Sheep Look Up* thus symbolize ecotopian intellectual space, space similar to what deep ecology creates in its ecotopian dreaming. Peg and Hugh admire the ideals of the wat; they are both seeking alternative lifestyles that move away from the dystopian state. However, both desire to transform dystopia. Peg’s tactic is disclosure, getting information Out There and hoping for change by educating people. Hugh’s tactic is direct action, physically confronting those who have made modern life unsustainable. Neither of these approaches are “shallow,” in Naess’s sense of that word. Nor do they prefigure 1980s third-wave environmentalism, which, according to Bill Devall, “was based on the principle that environmental experts, usually lawyers and scientists, could and should negotiate directly with corporations and government agencies to achieve compromises on pollution controls, energy policies, and other environmental

issues, preferably using the ‘market’ mechanism” (“Deep Ecology and Radical Environmentalism” 55). Instead, Peg and Hugh’s methods are radical methods, “deep” methods that do not compromise with the power structure but instead struggle to challenge and overturn its basic assumptions.

Deep ecology similarly influences uncompromising resistance to the anti-environmental status quo. Its intellectual figures include not only Naess and Snyder, but also early spokesmen for social and personal change Henry David Thoreau and Walt Whitman, sense of place voices Mary Austin and Anne Dillard, radical ecologists Sears and Frank Egler, and social critics Vandana Shiva and Dolores LaChapelle. Though several of these thinkers come before the solidification of deep ecology in the early 1980s, they all speak, in varying degrees, for the basic principles deep ecologists support: human harmony with nature, the intrinsic worth of nature, simplicity in life ways, understanding of the Earth’s limited resource capacity, non-domineering science, and bioregionalism. Represented in *The Sheep Look Up* by Peg, Decimus, and Train, these intellectual figures strive in their writings to influence a deep ecological conscience.

Hugh’s methods of dissent, while often too aggressive and thus not representative of the nonviolent spirit of deep ecology and Leopold’s ecological conscience, nevertheless do dramatize another activist wing influenced by deep ecological, ecotopian values. Devall cites Earth First!, Greenpeace, and the Sea Shepherd Society as organizations that have used acts of ecotage to undermine anti-environmental institutions (“Deep Ecology and Radical Environmentalism” 57-58). As a dystopian text, Brunner’s novel cannot imagine the success of such dissenting actions against the power structure. Instead, in *The Sheep Look Up* Brunner’s dystopian focus brings him to imagine dissent

in its worst state of uncontrolled violence acted out by those who “wanted to wreck and burn and kill” (*Sheep* 123). However, the novel does not condemn all forms of active opposition. To be sure, Austin Train supports demonstrators while he condemns violent radicals; he frets, “‘Suppose someone decides a whole city is offending against the biosphere, and pulls the plug on a nuclear bomb’” (40). Rather, the manifestations of extremist pandemonium in Brunner’s work illustrate social disorder that is a symptom of the failure of the hegemony to open a dialogue with critical groups. Thus, Hugh’s pistols and bombs emerge only after Train’s rhetoric and Trainite demonstrations fail to get the attention of the political and economic hegemony.

### **Conclusion**

As Wegner suggests, imaginary communities “are real [. . .] in that they have material, pedagogical, and ultimately political effects, shaping the ways people understand and, as a consequence, act in their worlds” (xvi). Ecotopian fiction is a place where deep ecology finds its “reality,” its motivating space for ideological change. Ecotopia is a space for acting out and testing the changes deep ecology theorizes. In this space, nature is not some Disneyesque utopian fantasy of lions, birds, and humans living together in harmony. Such would be the imposition of misinformed human ideals upon the natural world, an anthropocentric bias. Rather, ecotopia is a place where humans live in nature, doing their best to exist unobtrusively as part of something bigger, as one part of a complex ecology. Doing this requires new patterns of being that reduce the human footprint and allow for the flourishing of all species—deep ecology’s ultimate goal. New rituals and new pedagogical models emerge in ecotopia. More sustainable economic practices prevail over the old, modern faith in capital growth and consumption. Political

decisions are localized and all people are encouraged to participate in the governmental process.

Furthermore, while it is not a vehicle for fully imagining new social and economic methods informed by an ecological conscience, dys(eco)topia nevertheless is a valuable project to which deep ecology must pay attention. As literary depictions of ecological and social crises, Brunner's novels shape our understanding of the dynamics of worlds opposite those of Callenbach's and Piercy's. An extreme faith in the growth economy, a culturally enforced homogenization, and an authoritative government and corporate leadership inhibit the possibility of new patterns of being. Without ecotopian dreaming—or, in the case of *The Sheep Look Up*, with ecotopian dreaming present but dismissed and criminalized—damaging systems are allowed to flourish at the expense of ecological and social relations.

## CHAPTER 5

### ECOFEMINIST SCIENCE FICTION

Ecofeminism is the body of ecocritical thought that makes connections between the patriarchal oppression of women and the modern will to dominate nature. As the philosopher Karen J. Warren notes, Western patriarchy sustains an oppressive conceptual framework that justifies the domination and subordination of women by men. The “logic of domination” inherent in this conceptual framework legitimates inequalities between men and women and promotes the oppositional pair male/female, placing a higher value on the former category (47). The superiority granted to males in this ideological system justifies the use of power to subordinate females and permits a privileged socio-economic and cultural stance for males. For Warren and other ecofeminists the similarities between the patriarchal logic that permits the oppression of women and the logic that permits the domination and subordination of nature cannot go unnoticed in the projects of feminism and environmentalism. In fact, as Greta Gaard asserts in her anthology *Ecofeminism: Women, Animals, Nature*, “no attempt to liberate women (or any other oppressed group) will be successful without an equal attempt to liberate nature” (1). The logic of domination embraced by patriarchy licenses men not only to be above and more valuable than women but also to treat nature the same way. The hierachal, dualistic, and essentialist structures of the logic of domination locate culture on the same plane as men and nature on the same plane as women, the subordinate category. Thus, the oppression of women by men and of nature by culture are products of the same logic. Dismantling this logic is the philosophical project of ecofeminism.

Science fiction's role in feminist theory has been well documented; the critical work of scholars like Sarah Lefanu, Marleen S. Barr, and Jenny Wolmark open up a space in SF studies for *ecofeminist* inquiry as well. Though not speaking as *ecofeminist* critics, Lefanu, Barr, and Wolmark all declare the basic value of science fiction to explore, articulate, and theorize feminism. In *Feminism and Science Fiction* Lefanu explores "the question of whether science fiction, despite its preponderantly male bias, offers a freedom to women writers, in terms of style as well as content, that is not available in mainstream fiction," concluding that SF does provide a unique narrative opportunity for writers engaged in an emancipatory project (2). For Lefanu, science fiction permits a space for the deconstruction of patriarchal certainties and the construction of female subjects—both important feminist projects, whether in narrative or in socio-political praxis (23). Similarly, Barr's *Feminist Fabulation* explores how "feminist SF" (a term she finds "inadequate," because difference, not science, "is at the heart of feminist SF") works to display the viability of nonpatriarchal paradigms against the patriarchal master narrative (3). Finally, Wolmark argues, "Feminist SF is concerned with the complexities and ambiguities of contemporary definitions and representations of gender," her focus in the book *Aliens and Others* being on the ways science fiction's postmodern tendencies open up new cultural spaces for feminist performances (22).

Since the feminist effort to liberate women and the environmentalist effort to liberate nature share an interest in deconstructing the brand of logic that permits the oppression of women and nature, Lefanu's, Barr's, and Wolmark's assertions on the value of science fiction for feminism also hold for *ecofeminism*. Science fiction permits the imagining of ecological spaces and the prioritizing of values necessary for such

spaces to exist. Because of its speculative nature, science fiction also permits writers to argue the viability of ecologically conscious cultural systems while exposing the social paradigms that have proven to be unsustainable. The purpose of what follows is to explore the ways in which several works of science fiction stage narratives that envision healthy ecological space as the outgrowth of both the cultural valuing of the “feminine” and the containment and/or absence of patriarchy. “Feminine” is a contested term in feminist theory, though; so while it is important to explore how ecofeminist science fiction defines essential femininity, it is also important to examine whether or not ecofeminist SF has moved beyond essentialist and often problematic notions of woman and nature and considered as well social constructionist positions. I will argue that ecofeminist science fiction is not exclusively essentialist; with varying degrees of success, the works I explore negotiate the tension between essentialist and social constructionist ecofeminist attitudes towards gender and nature.

### **Negotiating Ecofeminist Territories I: Essentialism and the Ecological Conscience of Woman**

Sherry B. Ortner’s 1974 essay “Is Female to Male as Nature is to Culture?” establishes a context for discussing the difference between essentialist and social constructionist positions within ecofeminism. Ortner explores the subordination of women as a universal, pan-cultural fact and asks what it is in every culture that leads to this subordination. She reasons that the universal subjugation of women must be the result of women being identified with “something that every culture devalues, something that every culture defines as being of a lower order of existence than itself” (40). Since culture is engagement “in the process of generating and sustaining systems of meaningful forms (symbols, artifacts, etc.) by means of which humanity transcends the givens of

natural existence,” it follows that *nature* is culture’s devalued conceptual category, the given that culture subdues to insure its existence (40). Ortner conjectures that culture must then identify women with its nemesis nature, thereby substantiating patriarchy as its protection against anything that would undermine the culturalization of the wild.

Patriarchy labels women as a threat to culture because it perceives women as closer to nature. Women embody nature, as Ortner observes. The author borrows from Simone de Beauvoir to argue that female physiology discourages the humanist transcendence that Western culture expects; breasts, the uterus, menstruation, and pregnancy perform or are performances of organic functions that highlight humanity’s connection to nature instead of its rise above animality, as modern culture aims to do. “*In other words,*” Ortner summarizes,

*woman’s body seems to doom her to mere reproduction of life; the male, in contrast, lacking natural creative functions, must (or has the opportunity to) assert his creativity externally, “artificially,” through the medium of technology and symbols. In so doing, he creates relatively lasting, eternal, transcendent objects, while the woman creates only perishables—human beings. (43)*

Ortner also argues that in addition to physiological characteristics, women’s perceived social role and psyche locate women closer to nature and thus further from the goals of culture. The physiological functions of the woman “have tended universally to limit her social movement, and to confine her universally to certain social contexts which *in turn* are seen as closer to nature” (45). Lactation, for example, reminds culture of humanity’s fundamental animality, evidencing the mammalian and signifying a “natural bond,” since “the mother’s body goes through its lactation processes in direct relation to a pregnancy with a particular child” (45). When interpreted by patriarchal culture, this mammalian bond leads to a woman’s placement in a domestic sphere where she can exercise her natural role as caregiver, as mother. This association with the domestic

further places women closer to nature, because it is in the home where animal-like infants live “utterly unsocialized,” “unable to walk upright,” unfamiliar with social language, and excreting uncontrollably (45-46). Also, the domestic sphere consists of *intrafamilial* relationships as opposed to the *interfamilial* relationships that make up the public sphere, the sphere privileged in cultural reasoning. Like nature, then, the domestic is considered of a lower order than culture and the public sphere.

Finally, culture views women’s psychic structure as more like nature than the psyche of men. Ortner recognizes that many generalizable personality traits in women are products of socialization and hardly pan-cultural; however, drawing from Nancy Chodorow’s anthropological research on family structure and feminine personality she points to the relative concreteness and subjectivity of the female personality as universal. “The feminine personality,” Ortner notes, “tends to be involved with concrete feelings, things, and people, rather than with abstract entities” (49). Unlike men, who embody the ideals of culture by overlaying abstract values on natural particulars, women relate with the world as a given, as “immanent and embedded in things” (50).

Melissa Leach critiques Ortner’s argument as problematic, mainly because of its claims about a universal woman-nature connection. And indeed, Leach’s book on the Mende-speaking people of Western Africa—whose relationships with nature disturb any simplified conception of women as closer to nature than men and of culture as dependent upon oppressing nature—does much to dismantle such claims. But as a context for discussing the varying motives of ecofeminist thought, Ortner’s research is still useful; for, in highlighting a connection between women and nature—whether intrinsic or socially constructed—Ortner’s work leads to further questioning about whether that

connection is imperative for social and ecological reform or in the end hazardous for feminist and ecofeminist projects.

Essentialist ecofeminism—or put differently, affinity ecofeminism—posits that an innate woman-nature connection is to be embraced as a way of dealing with the social and environmental problems inherent and evident in patriarchal culture. Developing out of radical feminism's refusal to endorse oppressive ideologies and its underscoring of epistemologies that reverse patriarchal binaries, affinity ecofeminism dismantles the logic of Western patriarchy by restoring priority to “feminine” values. Affinity ecofeminists “elevate what they consider to be women’s virtues—caring, nurturing, interdependence—and reject the individualist, rationalist, and destructive values typically associated with men” (Gruen 77). Lori Gruen, a critic of this brand of ecofeminism, argues that “the belief that woman and nature are essentially connected” only works to devalue men as unconnected from nature and thus does nothing to restructure hierachal relations of privilege (77). But for affinity ecofeminists, privilege itself is not a problem; the direction of the privilege is.

Judith Plant writes,

Women’s values, centered around life-giving, must be revalued, elevated from their once subordinate role. What women know from experience needs recognition and respect. We have had generations of experience in conciliation, dealing with interpersonal conflicts in daily domestic life. We know how to feel for others because we have practiced it. (160)

Plant does not challenge the validity of the ideals of feminine life-giving, interpersonal communication, and empathy, which other brands of feminism and ecofeminism would label as imposed upon women by patriarchal social codes. In fact, her essay in Irene Diamond and Gloria Feman Orenstein’s *Reweaving the World* is about what women, specifically, can bring to the bioregionalist project, a project dependent on

a more life-centered, more interpersonal, more connected—in essence, more feminized—view of local place. The idea that women are inherently closer to nature is not a problem for affinity ecofeminists. What is a problem, however, is when culture devalues feminine categories, and thus devalues the virtues necessary for a more viable relationship with the natural world. While still manifesting a sort of hierarchical thinking, privileging reproduction of life instead of production of goods and privileging empathy instead of self-interest are reversals necessary to an ecocentric, life-affirming culture.

Affirming feminine values is central to Andrée Collard's affinity ecofeminism. Like Plant, Collard centers her theorizing on the importance of an essential woman-nature connection for environmentalist reforms. She writes in *Rape of the Wild*,

Ecology is woman-based almost by definition. *Eco* means house, *logos* means word, speech, thought. Thus ecology is the language of the house. Defined more formally, ecology is the study of the interconnectedness between all organisms and their surroundings—the house. As such, it requires a thorough knowledge and an intimate experience of the house. (137)

As speakers of the language of the house, women endure the burdens relegated to them by patriarchal convention. As speakers of ecology, women share patriarchy's abuses with culture's abuse of nature, making women "better situated to remedy" this latter abuse (138).

Affinity ecofeminism goes further in its analyses than just calling attention to the significance for environmentalism of values traditionally viewed as secondary, though. Much of the work done in affinity ecofeminism involves revaluing matriarchal principles not socialized into women but relevant as historical realities. In its spiritual forms, affinity ecofeminism promotes the reemergence of ancient matriarchal belief systems that coincided in Minoan Crete and Old Europe, for example, with peace and respect for all life. Collard, along with the influential archeologist Marija Gimbutas, Riane Eisler,

Starhawk, Charlene Spretnak, Joanna Macy, and Carol P. Christ are all thinkers in this tradition. They call for Western culture to embrace or at least adopt some values of Earth-based spiritualities historically seen in Goddess-worshipping cultures. “In cultures where the cycle of life is the underlying metaphor,” Starhawk writes, “religious objects reflect its imagery, showing us women—Goddesses—ripe in pregnancy or giving birth. The vulva and its abstracted form, the triangle, along with breasts, circles, eyes, and spirals, are signs of the sacred” (175). According to Spretnak, many ecofeminists came to ecofeminism after their exposure, through historic and archeological research, to such an ancient religion “that honored the female and seemed to have as its ‘good book’ nature itself” (5). What was intriguing for early ecofeminists “was the sacred link between the Goddess in her many guises and totemic animals and plants, sacred groves, and womblike caves, in the moon-rhythm blood of menses, the ecstatic dance—the experience of *knowing* Gaia, her voluptuous contours and fertile plains, her flowing waters that give life, her animal teachers” (5).

Finally, in addition to recollecting the religious symbolisms and interests of a matriarchal past, affinity ecofeminism stresses the need for a collective history of women’s oppressions in patriarchy. Indeed, one project of feminism as a whole is to draw attention to women’s history; but the goals of this attention vary. Affinity ecofeminism breaks from the liberal feminist endeavor to achieve equal rights and representation for women in current socio-political systems and instead seeks to contrast the modern history of women’s oppression with an ancient history permeated with pre-patriarchal ideals such as kinship, egalitarianism, and nurturance. The goal of this juxtaposition is epistemological; lacking knowledge of “what [women] were and

therefore what [women] can be [...] encourages women to want incorporation into man's world on an 'equality' basis, meaning that woman absorbs his ideologies, myths, history, etc. and loses all grounding in her own traditions" (Collard 8). The affinity ecofeminist project comes full-circle as the values of the past become the values now given priority.

As a narrative space for breaking down cultural certainties and replacing the absence of subordinated subjects with their presence, science fiction lends itself to the radical, affinity ecofeminist project of revaluing the feminine. Though this project provokes much relevant criticism—namely because recent ecofeminist discourse rightly contests essentialist notions of "the feminine"—its key contribution to ecofeminism is its push for woman to define herself as a subject through her own experience, through collective histories, and through spiritual tradition rather than to be defined as an object by a dominant logic of patriarchy. Three important works of ecofeminist science fiction written from the late 1970s through the mid 1980s—Sally Miller Gearhart's *The Wanderground: Stories of the Hill Women* (1979), Ursula K. Le Guin's *Always Coming Home* (1985), and Joan Slonczewski's *A Door Into Ocean* (1986)—narrate the possibilities of woman to define herself in ways encouraged by affinity ecofeminism. But these texts do not represent an exclusive affinity position; in fact, they balance—and at times struggle with—their essentialist views and views that challenge essentialist positions. For this reason, Gearhart's, Le Guin's, and Slonczewski's works not only call for an ecological conscience in their own ways but also perform within their narratives the critical dialectic important for the ongoing development of ecofeminist theory. They stage within their fictions the very debate that ecofeminism grapples with as a body of

ecocritical theory searching for ways to break apart the dual oppressions of woman and nature.

### ***The Wanderground***

*The Wanderground* is the story of an all-female society, the Hill Women, living nomadically in a wilderness far away from the City and its patriarchal oppressions. Driving the narrative is the encroachment of men from the City into the wilderness where years before, various forms of male potency—aggressive sexuality, militarism, and destructive technologies—were made impotent by what the Hill Women call both the “Revolt of the Earth” (130) and the “Revolt of the Mother,” a juxtaposition of “Earth” and “Mother” characteristic of affinity ecofeminism (158). Explaining the Revolt, one of the Hill Women says, “‘Once upon a time [ . . . ] there was one rape too many. [ . . . ] The earth finally said ‘no.’ There was no storm, no earthquake, no tidal wave, no specific moment to mark its happening. It only became apparent that it had happened, and that it had happened everywhere’” (158). Guns no longer worked in the wilderness, machines broke down, animals refused to serve men, and the male libido waned. Central to the Revolt that Gearhart imagines in her novel is that it eschews mythologies of the Earth as the tool of a violently retributive god and instead conceives of the Earth as a subject peaceably protecting itself against men, who have sinned against women, animals, and the landscape. The opening of the novel, however, shows that the effects of the Revolt are disappearing. Rumors of male virility outside the City are leading men to test their sexual strength through acts of rape and group “*Cunt Hunts*” (160) in the country, generating a fear in the Hill Women that “woman energy might again be drained as it had been for millennia before the Revolt of the Earth” (130).

The narrative of *The Wanderground* is predicated on a female/male binary and all of this binary's essential associations. In fact, the novel is self-reflexively aware of its one-dimensional dichotomy of good women and evil men, presenting one character, Jacqua, who says to herself early in the book, ““It is too simple [ . . . ] to condemn them all or to praise all of us”” (2). But this simplicity is a necessary doctrine for both the Hill Women, whose experiences do not reveal anything decent in the male sex, and for the novel itself as an affinity ecofeminist thought-experiment and a radical feminist SF text motivated to narrate female subjectivity against the genre's traditional male gaze.

Continuing her reflection on the lack of complexity in the Hill Women's categories, Jacqua says, ““for the sake of earth and all she holds, that simplicity must be our creed”” (2). Indeed, the end of the novel challenges the Hill Women's absolutes, yet these absolutes are vital to Gearhart's engagement with the ecofeminist enterprise as she establishes the possibilities of liberated woman.

As a result of the Revolt and the subsequent escape of the Hill Women's predecessors to the wilderness, woman energy has been left free to evolve independently of patriarchal oppressions and expectations. This narrative move facilitates Gearhart's speculation on the qualities inherent in women as free subjects. Though often fantastical—to be expected in science fiction—all of these qualities stand out as being more ecologically conscious than the qualities man possesses as a fundamentally disconnected sex. The Hill Women fly, or “windride.” They have a built-in instinctual mechanism called a “lonth” that acts as a sort of flight response allowing involuntary kinesthetic control, demonstrating their return to humanity's lost animal nature. They also have an ability to communicate telepathically with other Hill Women and with flora

and fauna, a phenomenon called “mindstretch” that requires traits associated in essentialist thought with the feminine: ““Meaningful communication,”” a Hill Women lesson goes, ““is the meeting of two vessels, equally *vulnerable*, equally *receptive*, and equally *desirous of hearing*”” (emphasis added) (115). Finally, the Hill Women engage in a ritual called “earhtouch” that uses mindstretching to send energy drawn from the Earth by one Hill Woman to another in need of this energy. Combined, mindstretch and earhtouch fictionally represent a dynamic, spiritual, and communicative web of interrelations between women and women—and women and nature. This web is an ecological phenomenon permitted to develop as a result of the absence of anti-ecological, linear, and enforced patriarchal power.

Affinity ecofeminism does more theoretically to culturally elevate and prioritize what it conceives as women, and as womanly, than simply to connect women and nature in an essential bond. *The Wanderground*, too, goes beyond just conceptualizing women as “windriders” with a more ecologically sound instinctual and communicative awareness. The novel offers up legitimate programs for reviewing modern cultural tendencies that have oppressed women and nature. The first is a historical program. Against a destructive patriarchal memory that recalls the potency men used to have outside the City and thus reinstates the misogyny of the past after the effects of the Revolt have worn off, the women of *The Wanderground* stress the importance of a collective and constructive memory that allows members of their liberated society to understand their history and what motivates their emancipatory project. Thus, while the City continually seeks a return to a master narrative of patriarchal history—even requiring every woman to be married, allowing men to have several wives, and instituting curfews on women—

the women of the country seek local stories that will illustrate what they are escaping from as well as inform their progressive future. Nowhere in their history do the women subscribe to a master narrative of their culture's experience. Instead,

From countless seemingly disconnected episodes the women had pieced together a larger picture so that now they had some sense of what had happened during those last days in the City. Over the years as women had joined them the memory vessels had been added to: more and more stories, more and more horrors, and sometimes a narrative that brought with it some hope or humor. As a woman shared, she became part of all their history. (Gearhart 23)

As an essentialist text, then, *The Wanderground* posits competing paradigms of history—one masculine, one feminine—that use historical references to either recreate the social conditions of a predetermined, univocal patriarchy or to create emancipatory conditions based on an ecology of private experiences.

Second, as the earthtouch ritual shows, the Hill Women are rooted in an Earth-based spirituality that is vital to their selfhood, their kinship, and their sense of place. Indeed, advocating such a spirituality is imperative for affinity ecofeminism, as shown earlier. Earthtouch emphasizes what Riane Eisler, a cultural historian, calls a “partnership model of society” (33). Developing out of the Gaia tradition, which conceives of the Earth as “a living system designed to maintain and to nurture life” (26), the partnership model opposes the “dominator society” in favor of a worldview founded upon ancient spiritualities in which “the world was viewed as the great Mother, a living entity who in both her temporal and spiritual manifestations creates and nurtures all forms of life” (33). Partnership requires empathetic nurturance. Thus from an affinity perspective, partnership—while not exclusive to women—can only emerge given a revaluing of the feminine. In *The Wanderground*, however, partnership in earthtouch is exclusive to women whose feminine capacities have been permitted to develop due to the

absence of men. As a political statement, Gearhart's is radically essentialist. To posit a separatist, feminist space where a spiritual ecological conscience can thrive is a key theoretical move for ecofeminism, though, for it speculates on what in modern culture undermines the human potential for such an ecological conscience. So, while Gearhart's story "reinforces the exclusivity of the categories of male and female"—something Wolmark sees as problematic for its adherence to the same-old gender assumptions and the resulting failure to question these assumptions—such reinforcement is a necessary starting point in an ecofeminist project that endorses a worldview contrary to the dominant ideology (85).

In *The Wanderground*, the dominant ideology is represented by man and by man's collective space, the City. In fact, Gearhart's novel bridges the gap between ecology and feminism and becomes ecofeminist as it locates the City as the institutional space for both *man*, the oppressor, and *technology*, the tool of his oppression. Answering why the Hill Women, with their extraordinary powers, refuse to seek violent revenge on the City with the equivalent of "'Bombs and nerve gas and disease pellets,'" one Hill Women insists, "'That's the mistake the men made, sisterlove, and made over and over again. Just because it was possible they thought it had to be done. They came near to destroying the earth—and may yet—with that notion'" (145). Thus, the essential quality of men in the novel is being "'Driven in their own madness to destroy themselves and us and any living thing'" with whatever technology is available (3). Using everything from the technology of language as manifested through the imposition of arbitrary aesthetic standards for women ("streamlined," "limited," "dependent," "constantly available"), to the

technological tools of war, and even to the technology of the phallus, man in the novel uses power for power's sake, Warren's logic of domination (63).

*The Wanderground*, then, succeeds as an affinity ecofeminist text. It establishes what it means to be a woman in both the oppressive context of patriarchy and in a liberated context. As women unchained, the Hill Women restore and develop further their innate feminine potentials. Vulnerable, receptive, pacifist, interconnected, wild—these terms describe both the natural world that Gearhart imagines and the women she envisions evolving free of masculine oppressions, women empowered by a Revolt of the Earth-Mother to create themselves as subjects who value the qualities of the feminine traditionally disparaged in patriarchy. In fact, to make this empowerment clearer, Gearhart sketches a woman living in the dystopian City as an unmistakable object of the male gaze: “a thickly painted face, lacquerstiffened hair, her body encased in a low-cut tight-fitting dress that terminated at mid-thigh” (63). This image of stiffness, encasement, and termination speaks to the association against which the Hill Women are fighting, one that locates men as exercising an ideology of reckless power that sustains a civilization of dominance over women and nature.

### *Always Coming Home*

About Le Guin's writing, the critic Tonia L. Payne writes, “she creates a vision of what a future might look like if we were to change current trends, working through the implications of changes in contemporary practice and thought to create a goal toward which we might strive” (193). Much like Gearhart's *The Wanderground*, Le Guin's *Always Coming Home* envisions social and intellectual changes that parallel the affinity ecofeminist project—namely, revaluing Earth-based spiritualities and developing the

human-nature connection characteristic of such spiritualities, as well as interrogating the elements of culture that prevent both of these developments from happening.

Similar to Le Guin's 1969 novel *The Left Hand of Darkness*, *Always Coming Home* imagines the potential of completion, of "the weaving together of dualities" (Willis 36). However, while the earlier novel focuses on the liberatory possibilities of androgyny—historically seen as the completion of one sex by the other, thus equalizing both sexes in a genderless society—*Always Coming Home* is more about uniting humanity and nature, components of another modern duality, and with this unity highlighting what in modern culture needs to be changed in order to curtail the oppressions about which ecofeminism is so concerned. In fact, with the Kesh society of her future history, Le Guin interweaves humanity and nature in a way that breaks down the human/nature dichotomy as it also condemns the patriarchal quest for dominance over women and nature that would undermine the completion that the Kesh have achieved. Kesh society manifests all that affinity ecofeminists hope for in their revaluing of the matriarchal past. They have returned to "Mother Earth," so to speak, and have developed a complex symbolic and social structure that energizes their sustainable relationship with the Earth and with each other. With this return to an Earth-based spirituality, "The identification of woman and animal went deep throughout [their] sexual and intellectual teaching" (Le Guin 420). However, a specter haunts the Kesh in the form of a masculinity, denounced in affinity ecofeminism, in which the "identification [of woman and animal] is used to devalue" and thus indicates value hierarchies that run throughout an oppressive cultural framework (420).

The Kesh are a culture steeped in an Earth-based spirituality that informs their social organization, their symbolisms, and their treatment of the Earth. It is a spirituality characterized by a profound sense of living with, or among, the Earth. One Kesh poem reads,

Come among the unsown grasses bearing richly, the oaks  
heavy with acorns, the sweet roots in  
unplowed earth.

Come among the deer on the hill, the fish in the river, the  
Quail in the meadows.

You can take them, you can eat them,  
like you they are food.

They are with you, not for you.  
Who are their owners? (76)

Although the with-ness of Kesh society is not overtly distinguished as feminine in the text, its opposite is given a gender: “the City of Man” (153). As in Gearhart’s novel, *Always Coming Home* distinguishes between the City and the country, or here, the Valley. While a historical moment—the Industrial Age—the City of Man still exists in the world of *Always Coming Home* in the form of dangerous industrial toxins left behind by modernity. The City of Man represents a time ““when they lived outside the world,”” “a sort of peninsula sticking out from the mainland, very thickly built upon, very heavily populated, very obscure, and very far away” (153). The Kesh recognize the City of Man as a historical detour, an anthropocentric detour, and correct it with a return to an Earth-based way of being.

The Kesh do not windride or communicate telepathically in an ecological network of humans and nature. Their return to living “with” and “among” the Earth—a return permitted by the historical disappearance of the City of Man—is more symbolic than the Hill Women’s physical return to nature. The Hill Women become wild and dwell in the

wilderness; the Kesh stay civilized and manifest their with-ness through their symbolic capacities. The central symbol of Kesh culture is the “heyiya-if, two spirals centered upon the same (empty) space” (Le Guin 45). Manifesting “connection” with its dual spirals growing inward, as well as “change” with its center “empty” of finalizing that connection, the heyiya-if permeates Kesh existence (45). Its dance choreography and its stage productions, its town planning and art, its musical instruments, and its meditative practices all revolve around the ecological symbol. In short, the heyiya-if is “the visual form of an idea which pervaded the thought and culture of the Valley” (45).

The social structure of the Kesh reveals the heyiya-if as a pervasive ecological symbol of connection and change. Knowing the world through a grammar that “makes no provision for a relation of ownership between living beings,” the Kesh organize their society around not simply a respect for life but a sense of their place within the ecological web (43). The “Earth People” of the “Five Houses of Earth” include “the earth itself, rocks and dirt and geological formations, the moon, all springs, streams and lakes of fresh water, all human beings currently alive, game animals, domestic animals, individual animals, domestic and ground-dwelling birds, and all plants that are gathered, planted, or used by human beings” (43-44). The “Sky People” of the “Four Houses of the Sky” include “the sun and stars, the oceans, wild animals not hunted as game, all animals, plants, and persons considered as the species rather than as an individual, human beings considered as a tribe, people, or species, all people and beings in dreams, visions, and stories, most kinds of birds, the dead, and the unborn” (44). The Kesh have no god or gods; their spirituality centers on the metaphor of the House, an interesting attention to the domestic sphere given affinity ecofeminism’s prioritizing of subordinated social

categories. Under the Kesh's conceptual paradigm, all phenomena that interact to influence the dynamic ecological system—animals, humans, narratives, and so forth—live within one of these nine houses of Earth or Sky.

Le Guin's novel traces one woman's experience of the “outside,” of living life under the cultural paradigms dominant during the City of Man but reemerging as a force that Valley culture must struggle against. North Owl is the daughter of a woman of a Village House—Willow—and of a father of a nomadic, warrior people called the Condor—Terter Abhao. She is “among” the world as a child enough to recognize “the dirt [as] the mother of [her] mothers” and to make her pre-adolescent ritual one of absolute independence in the wilderness (19). However, because North Owl's father left the Village so early in her life to command an army, she has grown up with the title “half-person” (19). At eight-years-old, North Owl feels incomplete. Abhao's return to the Village with his army prompts North Owl to admit, “He was home, he was here, our family was whole; now everything was as it should be, balanced, complete; and so it would not change” (30). But North Owl soon finds out that her fantasies of familial completion contradict the ecological completion intrinsic to Kesh culture.

If *The Wanderground*'s affinity ecofeminism emerges chiefly as it defines liberated woman as inherently ecologically conscious, then *Always Coming Home*'s affinity ecofeminism emerges chiefly as it defines masculine, hierarchical spiritualities as detrimental to the interrelations that make up the non-hierarchical, ecologically interrelated House. Abhao's presence in the Village makes evident the peculiarity of potent masculinity and all of its gendered associations when placed within the context of a cultural and spiritual awareness that does not recognize hierarchy or institute

oppressions. Among the masculine intrusions, Abhao prefers to pay one of his warriors to work the family plot despite both the oddity of exchanging such labor for capital in Kesh culture and the necessity for a member of the family's house to work the family's land. Abhao's disregard for Kesh tradition is matched too by his disregard for the Kesh as an independent people. His reason for being with the Kesh is to build a bridge with his army to transport supplies across a river that runs through their village. The Condor initiate this project "without consulting either the River or the people who lived alongside it" (33).

The Kesh question the absence of women in the intruding Condor group, and it is when North Owl leaves the Village to join her father and experience Condor culture that we learn the reasons for both this absence and the broader oppressions instituted by the Condor. Unlike the language of the Kesh, the language of the Condor recognizes hierarchy. In fact, Abhao renames North Owl "'Ayatyu,'" "'woman born above others'" (186), while he also refers to the people of other towns as "people of no account" (189). *Condor* itself is a hierachal designation symbolizing people who "go in silence, above all the others" (189). This grammatical recognition of hierarchy goes hand in hand with the reemergence of patriarchal spirituality in Condor culture. Condor religion is monotheistic, with only one person—a man, "The Condor"—able to interpret the word of "One" (193). Furthermore, narrates North Owl,

Certain men belonging to certain families are called True Condors, and others like them are called [ . . . ] One-Warriors. No other people are called Condors. Men who are not of those families are all called *tyon*, farmers, and must serve the True Condors. Women of those families are called Condor Women, and must serve Condor men, but may give orders to *tyon* and *hontik*. The *hontik* are all other women, foreigners, and animals. (193).

In spiritual practice, too, “Women were not allowed into the sacred parts of their *heyimas*, which they called *daharda*; we could come no nearer than the vestibule in front of the *daharda* to listen to the singing inside on certain great festivals. Women have no part in the intellectual life of the Dayao; they are kept in, but left out” (200).

As North Owl continues to recount her experience of the Condor, we come to understand Le Guin’s affinity ecofeminism, to understand that indeed *Always Coming Home* narrates oppression and living outside the world as products of a masculine ideology and spirituality and their compulsory hierarchies. The Condor’s patriarchal organization supports the oppression of women, nature, and Others. Ransacking towns, the Condor, or “Dayao,” “killed and burned men and children and kept women to be fucked by Dayao men. They penned the women with the cattle” (193-194). Furthermore, the Condor “believed that animals and women were contemptible and unimportant,” “Condors’ wives were expected to have babies continuously, since that is what One made women for” (345), and “a woman who slept with a man not her husband would be killed by the husband’s family” (346). While such convictions and oppressions are unheard of in Kesh culture, because of its non-hierarchical belief systems, in Condor culture they are supported by a spirituality that holds them as prerequisites: “True Condor warriors were to be one thing only, reflections of One, setting themselves apart from all the rest of existence, washing it from their minds and souls, killing the world, so that they could remain perfectly pure” (201).

That the oppressions instituted by the Dayao are specifically patriarchal oppressions becomes clear when North Owl reviews the Dayao’s treatment of women, animals, and Others. Le Guin’s affinity ecofeminism continues to become evident as

North Owl describes the militaristic aspirations of the Condor. The Condor are a patriarchal people, so when North Owl relates their historical project of resurrecting the “Great Weapons” of the past, such a project is identified with the essence of masculinity (349). Witnessing a demonstration of one of these weapons, a tank-like vehicle named the “Destroyer,” North Owl describes it using masculine imagery: “We saw it push through a wall of bricks, thundering and shaking through the ruins it made, huge and blind, with a thick penis-snout” (350). This figurative rape is not only symbolic of the way the Dayao treat women and Others, but also of their treatment of nature. North Owl imagines “the Destroyer pushing against the oak trees [. . .], pushing them over” (350).

North Owl ultimately returns to the Village. Her journey, written down as history for the Kesh, reveals stark differences between the Condor’s oppressive ways of life and the Kesh’s ecologically conscious, egalitarian culture. As “men without women” (378), as one Valley dweller deems them, the Condor communicate only through “aggression, domination, exploitation, and enforced acculturation” (379). A Dayao woman states, “A Dayao man belongs to himself. He thinks everything else belongs to him, women, animals, things, the world” (367). To this North Owl replies, ““We call that living outside the world”” (367), a terminology signifying the absence of “mindfulness,” of “the intelligent awareness of [the] interdependence of energies and being, a sense of one’s place and part in the whole” (490). In contrast, as a culture returned to humanity’s Earth-based roots, the Kesh are mindful, living inside the world with the understanding that “no choice could be made independent of the superpersonal and impersonal energies, the cosmic/social/self-relatedness of all existences” (490). *Always Coming Home* is a key

text in the affinity ecofeminist project because it defines potent masculinity as a threat to mindful, ecologically conscious ways of being.

### ***A Door Into Ocean***

Uniting *The Wanderground*, *Always Coming Home*, and Slonczewski's *A Door Into Ocean* is their creation of separate social and ecological spaces for the ideological positions being critiqued as well as celebrated. *The Wanderground*'s City intrudes upon its ecofeminist wilderness through modes of potent masculinity, represented by the rape of women and a technology fetish. Le Guin's interests are similar; with its patriarchal religious beliefs, *Always Coming Home*'s reestablished City of Man violently intrudes upon a revived ecocentric culture and its Earth-based spirituality. In *A Door Into Ocean*, the autonomy of an all-female, all-water world named Shora, whose inhabitants display a remarkable knowledge of planetary ecology and sense of place, is threatened by the colonialist politics of a patriarchal world named Valedon.

In an effort to keep his wife Berenice from meddling in ““affairs of state”” (197), General Realgar, commander of the army overseeing Valedon's exploitation of Shora, offers her a choice: ““A sanatorium or a [ . . . ] retreat”” (198). ““I only want what is best for you,”” he says, ““You need a long rest”” (198). The similarity between Realgar's condescension and, say, John's confinement of his wife in a nursery in Charlotte Perkins Gilman's “The Yellow Wallpaper” (1892) is not coincidental, for one of Slonczewski's primary targets of critique in her novel is the brand of patriarchy that places men in a position to decide “what is best” for women. Though Realgar's silencing of Berenice occurs halfway into the novel, it exemplifies the broader role patriarchy plays throughout Slonczewski's work. In licensing men to define the female subject, *A Door Into Ocean* argues, patriarchy similarly licenses centralized power to define “what is best” for nation-

states and for ecology. As with Gearhart's and Le Guin's criticisms of patriarchy, Slonczewski's novel shares with affinity ecofeminism the dual goals of censuring men's social and ecological oppressions as well as highlighting women's ecological conscience.

Shora's inhabitants, Sharers, are much like the women of *The Wanderground* and the village dwellers of *Always Coming Home* in that they have unique characteristics that demonstrate their deep connection to place, a connection permitted by their willingness to exist as a part of ecology rather than apart from it. Physically, the "breathmicrobes" of the Shoran atmosphere turn their skin a deep purple, a preventable phenomenon that Sharers accept as part of dwelling on Shora. Their lungs, too, have evolved to allow long stints of breathlessness under water. Conceptually, the notion of sharing that gives Shora's inhabitants their name erases the hierarchies inherent in one-dimensional, cause-and-effect thinking. The expressions "learnsharing, worksharing, [and] lovesharing" nullify any conceptual paradigm that would deny that "'Each force has an equal and opposite force'" (36). The concept of sharing makes clear that the actor and the acted upon are one and the same; to hit is to be hit. Intellectually, Sharers understand that their livelihood depends on an intact ecological web. When asked why she does not spray the living rafts that Sharers inhabit with a pesticide when parasites threaten them, Merwen—a native of Shora—responds, "'Then seasilk would choke the raft. And fingershells would go hungry, and tubeworms die of the poison; then fish and octopus would have nothing, and what would Sharers eat?'" (60). Their embeddedness in place and their ecological literacy sets the Sharers apart from their colonial oppressors, whose patriarchal intrusion into Shora constitutes the plot of Slonczewski's ecofeminist novel.

Valedon's people, Valans, know the Sharers as "women-like creatures who lived in the endless sea, women whose men were never seen, who subsisted on seaworms and could dive deep beyond light's reach without going mad" (9). This outsider gaze shrouds the Sharers in a mystery of otherness that ultimately justifies attempts at their exploitation by a patriarchy cemented to hierarchical value structures. Historically, Valedon had a native population, known derogatorily as "Trolls," that "passed away when the godlike Primes"—comparable to modern humans, but now extinct due to nuclear catastrophe—"came to remodel the planet [ . . . ] to human standards" (36). As "creatures," Sharers, too, are threatened by a new manifestation of power; the rulers of the universal patriarchal political system of which Valedon is a part—known appropriately as the Patriarchy—wish to open up Shora for mineral exploration and textile markets. Sharer compliance is necessary for this to happen, but since increased economic exploitation threatens "'the web of life of Shora,'" as one Sharer asserts, such compliance will not happen (80). Valan trade on Shora has brought a "troubling upsurge in ocean noise," drowning out the communications of animals essential to Shora's ecology (65). The traders' applications of poisons to the Shoran sea has also threatened life. Thus, the Sharers defend their planet against these intrusions.

Interestingly, the Patriarchy was formed to regulate the dangerous use of power by independent governments, namely to curtail the misuse of nuclear power that ended the reign of the Primes. But the events of *A Door Into Ocean* suggest little distinction between the violent use of power by the Primes and the violent use of power by those now in the Patriarchy. The Patriarchy claims to follow "the lesson of the dead gods: too many people smashed too many atoms—and planets, in the end," but its support of

Valedon's social, political, and ecological exploitation of Shora demonstrates that it fails to see this exploitation as another way of smashing planets (21). Indeed, the Patriarchy's entrenchment in the ideology of knowing what is best for autonomous people as well as for political and ecological systems is itself a dangerous form of power that Slonczewski shows to be as hazardous as the misuse of atomic energy.

The stark contrast between Valedon's social and political norms and the lifeways of the Sharers leads to ideological collisions as Valans attempt to take possession of Shora. While the outcomes of these collisions seemingly favor those in power, in the end the Sharers overthrow their colonial oppressors by using what could be considered an essentially feminine will. If to be feminine in essentialist thought is to value the interconnectedness of all life, to affirm life, to nurture life, and to stress ecological communicative networks, then Sharers are a feminine culture. In addition to living in a separatist ecotopia where the absence of men permits such feminine values to thrive, the Sharers manifest specific, so-called feminine characteristics. Their science is a science of life, their intellectual supremacy in biology used not to destroy but to nurture ecological systems. Their politics thrives on open communication between all of Shora's raft communities in events called Gatherings. And Sharers are pacifists. In an instance that reveals the intertwining of their scientific power and valuing of life, their political methodologies, and their pacifism, at one Gathering a Sharer named Yinerva proposes to use biological warfare to rid Shora of ““the Valan pestilence”” that threatens ““Not only Sharer children and survival [ . . . ], but all the other creatures of Shora, the lesser sisters, seashallowers, fanwings, rafts—from snail to swallower”” (309). The group, however,

ultimately chooses to preserve their nonviolent ways and instead to conquer the Valans with what the defeated Valan general calls “bloodless ‘invasions’” (395).

The Sharers’ nonviolent techniques for resisting Valan aggression include whitetrance—a form of “Gandhian discipline” in which a Sharer grows pale, still, and unresponsive to outside threats—as well as a boycott of Valan goods (Slonczewski, “Study Guide” par. 31). But one of the most effective ways the Sharers defeat the Valans is not by conscious tactic but by possessing a racial, biological characteristic—their purple skin—that signifies for the Valans various substandard associations. From the perspective of the Valan patriarchal mindset, Sharers are low creatures; they are natives who “‘don’t think like civilized people’” (275), who are “‘just naked women’” (253), and who do not “‘acknowledge the authority of Valedon’” (249). These trademarks are inscribed on the Sharers biologically in the purple skin tone that results from Shora’s breathmicrobes. Thus, when the Valan occupiers begin to manifest externally the signifier of Sharer nativeness and all of its racial and gendered associations, they fear the “Purple Plague” (299). Troop morale plummets, contributing to the ultimate withdrawal of Realgar’s army.

Read as an essentialist feminist text, *A Door Into Ocean* demonstrates the potential for “feminine” values to triumph over an imposed patriarchy. Slonczewski’s feminist utopia bars potent masculinity by denying both the adoption of the Patriarchy’s program for Shora’s economic development and the militaristic ways of the Patriarchy. Instead of embracing Valedon’s exploitive economic agenda, the Sharers defend their independence and their native lifeways. And in defending Shora, the Sharers refuse to play the Valan war game, opting to remain pacifistic despite their destructive potential. *A Door Into*

*Ocean* becomes a successful affinity ecofeminist text as it grounds the Sharer's life-affirming, feminine qualities in their understanding of ecological systems, their respect for all life, and their sense of ecological place. The novel interrogates patriarchy, too, contrasting the artificial power hierarchies of the Patriarchy with the ecological politics of Shora, ultimately demonstrating the viability of the latter.

### **Negotiating Ecofeminist Territories II: Social Constructionist Ecofeminism and the Limits of Essentialism**

The harshest critics of affinity ecofeminism believe that valuing an innate woman-nature connection is an ineffective liberatory strategy that does not dismantle patriarchal logic but instead reinforces it. In *Finding Our Way: Rethinking Ecofeminist Politics*, Janet Biehl chides affinity—or “psycho-biologicistic” (11)—ecofeminism for becoming “a force for irrationalism, most obviously in its embrace of goddess worship, its glorification of the early Neolithic, and its emphasis on metaphors and myths” (2). For Biehl, essentialism “biologize[s] the personality traits that patricentric society assigns to women. The implication of this position is to confine women to the same regressive social definitions from which feminists have fought long and hard to emancipate women” (3). To say women are “nurturing” is to justify their confinement to the nurturing, private sphere. To say women are more in touch with the interconnectedness of ecology is to justify their exclusion from a public sphere that values independence over interdependence.

Biehl’s analysis also questions the validity of affinity ecofeminism’s historical references. Goddess worship itself does not guarantee a benign culture, she argues; yet affinity ecofeminists seem to honor such worship as “the magic carpet by which we can reclaim the ‘women’s values’ of the Neolithic” (33). Nor does the presence of “full-

figured female figurines” in ancient archeological sites confirm that the relatively peaceful cultures of the Neolithic existed as a result of their embrace and worship of “a generative female principle” (34). The societies of the Neolithic were complex and expansive, and to suggest that their socio-political dynamics grew simply out of goddess worship is to ignore the range of social, political, and cultural intricacies that constructed the Neolithic temper.

Biehl’s text dismisses ecofeminism as an illegitimate movement caught up in regressive perceptions of women, inaccurate historical references, and even privileging women over men in a future-primitive ecotopia. Certainly, *Finding Our Way* does not picture a productive ecofeminism in its critique of ecofeminist essentialism. Not all critics of essentialism dismiss ecofeminism altogether, though, because unlike Biehl they speak from another wing of the ecofeminist movement: social constructionist ecofeminism. Espousing the multiplicity of perspectives within ecofeminism, Lee Quinby notices, ecofeminism “has combated ecological destruction and patriarchal domination without succumbing to the totalizing impulses of masculinist politics,” embracing as political strategy a plurality of theoretical positions rather than a single, hegemonic stance (123). However, the contrasts between the brand of ecofeminism discussed above and social constructionist ecofeminism is nonetheless a contrast that complicates ecofeminist discourse. Gearhart’s, Le Guin’s, and Slonczewski’s texts importantly work through this snag by dialectically negotiating, with varying degrees of success, an ecofeminism that remains open to essentialist claims while also understanding the limitations of these claims.

Unlike affinity ecofeminism, which sees women and nature as fundamentally interconnected by virtue of a set of innate feminine values that are at once the sole territory of women and the preferred values of ecotopia, social ecofeminism sees “women’s closer relation to the natural world as socially constructed. Any superior knowledge women may have about the environment or the natural world stems from their social position” (Mellor 17). A critic of this school of thought, Janet Biehl questions the motive of social constructionist ecofeminism, asking if it is “an attempt to show that [women’s inherent biological traits] are merely social constructions and eliminate them?” (19). But social constructionist ecofeminism has been defined in more detail than Biehl admits, specifically by Ynestra King.

King’s articles in *Healing the Wounds* and *Reweaving the World* demonstrate her critical attitude toward affinity ecofeminism as they also consider ways in which essentialist positions can be revised to preserve their ecological conscience while introducing a more complex social conscience. Essential to King’s social constructionist position are the ideas that “in patriarchal thought, women are believed to be closer to nature than men” (“The Ecology” 18) and that “the mind-set of hierarchy originates within human society” (“Healing” 107). In recognizing the social origins of both the woman-nature connection and the supremacy of hierarchical ontology, King sets herself and her brand of ecofeminism apart from affinity ecofeminism and reveals social constructionist ecofeminism to be more politically conscious than essentialist positions. King admits that in choosing nature over culture and feminine values over masculine values, essentialist thinkers do not adequately question these illusory dualisms. She notes, too, that “women’s ecological sensitivity and life orientation”—truths for affinity

ecofeminists—"is a socialized perspective that could be socialized right out of [women] depending on [their] day-to-day lives" ("The Ecology" 23). Continuing, she writes, "There is no reason to believe that women placed in positions of patriarchal power will act any differently from men" (23).

King's critical points about ecofeminism help free ecofeminism from some potentially devastating theoretical and practical limitations. She integrates nature and culture in a way that does not maintain each as mutually exclusive categories. In social constructionist ecofeminism, the reformative impulse—whether ecologically conscious, socially conscious, or both—is not tied to a specific way of living in or with nature as it is in affinity ecofeminism, in which it seems that reform can only happen with the help of very generally defined but supposedly universal feminine traits in the absence of equally generalized masculine qualities. By showing that nature is itself culturally defined and that culture is intricately connected to and dependent upon the natural world—in essence, by showing that all categories are conceptual categories, whether nature, culture, female, male, or so forth—social constructionist ecofeminism insists that reform begins not in recovering universal values but in understanding the complexities and social contexts behind sustainable value systems and then employing what we learn to instigate change. As King notes, women's ecological sensitivity is context-specific, not universal. Just as women can be healers, nurturers, or defenders of nature, given the cultural contexts they might also be torturers, as we see in Slonczewski's novel. Likewise, while men can be culturally programmed to be militaristic, contexts might determine them to be caring.

Social constructionist ecofeminism thus begins with the blurring of hardened boundaries, a blurring that originates in understanding the woman-nature connection and

the nature/culture dualism as malleable cultural products. King's final image of a more responsible ecofeminism is thus one that welcomes a multiplicity of views not strictly "feminine" in the effort to generate a more ecologically and socially conscious society:

Ecofeminism suggests [...] a recognition that although the nature-culture dualism is a product of culture, we can nonetheless *consciously choose* not to sever the woman-nature connection by joining male culture. Rather, we can use it as a vantage point for creating a different kind of culture and politics that would integrate intuitive, spiritual, and rational forms of knowledge, embracing both science and magic insofar as they enable us to transform the nature-culture distinction and to envision and create a free, ecological society. ("The Ecology" 23)

Though she hints at a socially conscious ecofeminism, Gearhart is ultimately unsuccessful in *The Wanderground* at imagining the practice of social constructionist ecofeminism. To successfully achieve a fully developed ecofeminism, Gearhart could have further contemplated the simplicity of her novel's universal condemnation of men—a simplicity her character Jacqua admits. But she passes up this opportunity in favor of strict essentialist polemic. This move has problems, as June Howard observes in her critique of the book:

The evaluation of "feminine" and "masculine" qualities asserted by radical feminism and by *The Wanderground* [...] lends support to the idea that differences between men and women are "natural," and thus endangers the basis of our critique of existing social relations and our belief that they can be changed. The disagreement is between those who accept and build upon the common-sense observation that the sexes differ, and those [...] who argue that gender identity is constructed by complex, socially and historically specific structures. (72)

From Howard's point of view, *The Wanderground* promises nothing reformatory and is in fact dangerous in its maintenance of female/male, nature/culture dualisms.

Gearhart's novel points to a potential dissipation of essentialist definitions of men with its "Gentles. Men who knew that the [Hill Women] were the only hope for the earth's survival" (2). However, this potential is quickly overthrown in the subsequent

description of the Gentles: “Men who, knowing that maleness touched women only with the accumulated hatred of centuries, touched no women at all” (2). The Gentles are established as men who understand their instinctive male aggressiveness and thus choose to abstain from physical contact with women altogether. They know themselves as hostile bodies that require self-policing to ensure the protection of women and nature.

Of course, this understanding of the Gentles is Jacqua’s, revealed in the passage in which she reflects on and endorses the simplicity of the Hill Women’s condemnation of all men. Gearhart’s ecofeminist project still shows promise of theoretical complexity, though, when it introduces other Hill Women who question the imposition of a predetermined, inborn aggressiveness on the Gentles. Reacting to the developed communicative powers of one of the Gentles, another Hill Woman, Betha, admits, “her absolutes began to get fuzzy around the edges when she tried to make them apply to a man like Aaron” (115). But again, Gearhart does not attempt to break apart dualities or explore gender difference as more complex than essentialism declares. Only women can share power peacefully, her novel insists; “men—even Gentles—found it difficult or impossible really to share power” (115). And what Betha sees in Aaron is not a revision of the Hill Women’s established beliefs. Instead, it is Aaron’s “understanding of the essential fundamental knowledge”—that “women and men cannot yet, may not ever, love one another without violence; they are no longer the same species”—that impresses on her a slightly different perception of the Gentles than her perception of men in general (115). Thus, the Gentles are different than men only because they observe and contain their innate brutality and because they share the Hill Women’s view of human sexual relations.

Gearhart's final opportunity to negotiate a more complex rendering of ecofeminism comes when the Hill Women communicate with the Gentles. The Gentles have noticed that the increased violence against women outside the City correlates with the number of Hill Women on rotation in the City, and they want to meet with the Hill Women to inform them of this trend. As fewer women from the Wanderground make their way in disguise into the City to keep an eye on the conditions there, more abuses happen in the country against the Hill Women. Before the meeting in which the Gentles communicate this crucial observation, the Hill Women engage in a debate to decide whether they should grant the Gentles this meeting. Though the meeting does happen, this decision does not come without opposition. “[T]o some of the women,” *The Wanderground* reads, “it did not matter that the gentles were men sworn to isolate themselves from women; if they were men then there was no reason for concourse with them” (126). Thus the eventual decision to let several women meet with the men—while unenthusiastic and permitted only under the assurance that the individual women speak only for themselves, not for the group as a whole—signals a step toward a more socially conscious ecofeminism.

In the end, however, the women maintain their essentialism. Their fear of a universal masculine aggression prevents them from opening up productive conversation with the Gentles about how both groups can work together to dodge the intruders from the City. Moments after their pledge to communicate the Gentles' observations to other Hill Women, the women return to their separatism after learning that the Gentles, too, have discovered in themselves telepathic powers similar to the Hill Women's. Responding to the Gentles' claim that these powers are nonviolent, Evona says,

“‘Nonviolent? Never. You know what will happen. You’ll use your new power all right. You’ll use it, perfect it, manufacture it, package it, sell it, and tell the world that it’s clean and new because it comes from a different breed of men. But it’s just another fancy prick to invade the world with’” (179). Evona’s response is laden with the types of ideological barriers that, in its drive to open up the ecofeminist conversation to difference, social constructionist ecofeminism avoids. The Hill Women’s attitude toward the Gentles does not encourage the breakdown of their essentialism into a mode of thought more open to recognizing the potential for men to have a social and ecological conscience.

Like Gearhart’s novel, Le Guin’s *Always Coming Home* and Slonczewski’s *A Door Into Ocean* are also guilty of performing the essentialist moves that Janet Biehl critiques: in different ways they maintain that women and “feminine” societies are more natural and spiritually connected to the Earth than men and patriarchal societies, and they stage masculinity and militarism as one and the same. But unlike *The Wanderground*, these novels are not motivated only by affinity ideology. In them we find honest considerations of positions that oppose or complicate their own essentialist views, thus making them key works also in a social constructionist ecofeminism that is open to more complex ways of achieving social and ecological harmony.

As an affinity text, *Always Coming Home* explores the oppressions seemingly fixed to male-centered ways of being. North Owl’s journey from living with the Kesh and inside the natural world to living with the Condor and outside the natural world, and then back to the ecologically and socially conscious Kesh, represents a journey between opposite ends of a gendered spectrum. Le Guin’s novel, however, does not frame this

spectrum as innate and something to be dealt with using separatist strategies, as does *The Wanderground*. Instead, *Always Coming Home* engages readers in a critical dialogue about the roles of language and history in the construction and deconstruction of both egalitarian and oppressive value systems. On the importance of language in Le Guin's writing, Payne states, "Le Guin works to demonstrate ways in which we can reestablish our connections with others, both human and nonhuman, through the medium of fiction. She is clearly aware of the ways in which those connections are constructed through language, particularly our responses to the nonhuman and the concomitant actions that are called forth" (192). Le Guin's novel steps into the realm of social constructionist ecofeminism as it makes us aware that our social and ecological actions indicate and are indicated by our historical grammar.

A speculative archaeology of the future, *Always Coming Home* embraces social constructionist thinking in both its form and its content. Formally, the novel is a postmodern collection of artifacts, with North Owl's tale being a personal narrative archived for the Kesh's historical reference. Additionally, *Always Coming Home* contains excerpts of literature, artwork, maps, and other relics of Kesh and Condor existence. The effect of this structure—at least with regards to Le Guin's contribution to ecofeminist thought—is to engage dialectically with the novel's apparent essentialism by making obvious that both the Kesh's ecological conscience and the Condor's tyranny are products of a set of historical artifacts, not intrinsic to a gendered cultural stance. The heyiya-if produces and is produced by the ecological mindset of the Kesh just as the Condor's crimes feed and are fed by their hierarchical spiritual language. Social change,

it seems, is possible given fundamental changes in the symbolic frameworks that make up any cultural system.

Such an argument is central to social constructionist ecofeminism, which in not asserting that “feminine” social and ecological consciousness and “masculine” aggression are predetermined and natural divergent categories stresses the potential for progressive change to occur if we socialize modern culture away from dualistic thinking and towards an ecological conscience. Again, Ynestra King reminds us that the characteristics that social constructionist ecofeminists value in the ecological-feminine are not predetermined conditions of women but conditions socialized upon women. If women’s ecological values are socialized (not innate) values that can likewise be “socialized right out of” women, then they can also be socialized right onto men, indeed onto an entire culture. *Always Coming Home* highlights this possibility as it presents a culture whose means of socialization—its adolescence rituals, its creative production, its architectural manner, and its spirituality—embrace an ecological mindset.

If Le Guin’s novel stages a philosophical proof for social constructionist ecofeminism, then Slonczewski’s is more practical. *A Door Into Ocean* does not have the postmodern form of *Always Coming Home*—in fact, its more traditional narrative structure is more akin to *The Wanderground*’s. Thus, its social constructionism cannot emerge from its formal qualities. Like Le Guin’s text, though, *A Door Into Ocean* does exalt the value of language in the formation of an ecological and social conscience. In particular, the entrenchment in Shoran language of *sharing* as a fundamental concept attached grammatically to “learning,” “hating,” “loving,” and so forth demonstrates the influence of language on practice, for the Sharer culture understands and lives out social

and ecological symbiosis. But Slonczewski's social constructionist ecofeminism comes through in more obvious ways, challenging Gearhart's perspective and complementing Le Guin's. *A Door Into Ocean* reverses the assumptions of essentialist ecofeminism with two of its characters. As Susan Stratton notes, "Gender duality [in *A Door Into Ocean*] is challenged both by the successful adaptation of a Valedonian male teenager to Sharer ways and by the fact that the most vicious of Valedonian soldiers is female" (par. 22). These characterizations complicate essentialist notions and open the door for ecofeminist thought to look more at the social than the innate origins of gendered behavior.

Slonczewski's text is in part a bildungsroman about Spinel, an adolescent boy from patriarchal and colonialist Valedon who experiences Shora and ultimately chooses to reside there. Spinel's acceptance of Sharer ways, however, comes after his interior battle with himself and with the patriarchal ideology inscribed on him as a citizen of Valedon. Going through hard times financially, Spinel's parents arrange for him to seek opportunity on Shora. The Sharers promote the move, for Spinel presents them with the opportunity to study maleness and to prove that a man can become a Sharer. But Spinel is not so excited; it is outrageous to him that "'there aren't any *men* on Shora,'" and he believes that "'A world without fathers could have no place for him'" (22). Coming from a hierarchical society, Spinel sees the equality among Sharers as the product of "bizarre logic"; to him, the planet is "ridiculous" (61). Finally, as Spinel's exposure to the Shoran atmosphere turns him purple, he demands a medicine that will curtail the phenomenon.

With his compulsory defense of the heterosexual family unit, his hierarchical logic, and his unwillingness to experience difference, Spinel embodies essentialist notions of masculinity. But Spinel is not the subject of essentialist contention. Central to

Slonczewski's argument is that masculinity is a socialized characteristic, and this is made obvious as Spinel embeds himself more and more into Shoran life, shedding his socialized maleness and adopting a social and ecological conscience. Interestingly, this embedding begins after he witnesses the intricacies of Shoran ecology. Spending time alone contemplating his physical changes, Spinel

had time to absorb the silent drama that pulsed below the waves. Hungry eels hid in wait beneath raft seedlings, which now dotted the sea like copper medals. A fanwing's egg stretched and strained until the tadpole burst out and fluttered away, to swim and grow until it sprouted wings. At the coral forest, a beakfish crunched the hard stalks with enormous jaws that never tired. After some minutes of this calciferous grazing, a puff of sand would spout from its tail. Spinel wondered how long a beach a beakfish could fill, were the sand not destined to fall several kilometers below. (100)

After witnessing the phenomena of nature, "Spinel was now more than simply curious about Shora. *Something* compelled him to come to grips with this place that was inexorably becoming a part of him" (emphasis added) (100). That "Something" is likely the very nature that he at once beholds and becomes a part of as his skin deepens to purple and his ocean dives increase in depth and duration. Spinel's sense of place ultimately leads him to join the Sharers in defending Shora against Valan exploitation, his literal sea change expressed in the final words of the novel as he swims away from the spacecraft that would take him back to Valedon: "a friendly fawning dipped and soared overhead like a hand beckoning, Come, lovesharer, come home" (403).

That a male can become a "lovesharer" is one part of the social constructionist claim of *A Door Into Ocean*. The other is that given the cultural atmosphere, a woman can embody the worst of masculinity's aggressiveness. Chief of Staff of the Valan army, Jade is a woman whose militarism challenges essentialist notions of femininity and the idea that violence and hostility are gender specific. Ecofeminist scholar Janis Birkeland

details the ways militarism is promoted through images of femininity and masculinity. “[M]en,” she writes, “are taught to despise and distance themselves from their ‘feminine’ side, or their emotions and feeling” (35). Arguing the contrary, Slonczewski’s narrative shows that militarism exists exclusive of one’s sex and is in fact a trait inscribable on both men and women. Jade derogatorily nicknames the Sharers “catfish,” placing them at the bottom of an ontological hierarchy that denies species equality and justifies Valan oppressions against Shoran natives. “‘Catfish aren’t human,’” Jade says, “‘they’re Vermin, and that’s how to treat them’” (323). Jade admits that it is her duty to kill, as she also administers a range of tortures in an attempt to crack the Sharer’s nonviolent protests. In Slonczewski’s world, “masculinity” is a socialized trait; militarism and violent aggression do not emerge simply from being male but are characteristics etched on any sex by genderless oppressive institutions.

### **Conclusion**

In Greta Gaard’s anthology of ecofeminist thought, Stephanie Lahar asks,

Is there a way to know whether there were ever times and places when human beings lived in easy cooperation with each other and the nonhuman environment, without the sexist, oppressive, and exploitative complex of power relations we call patriarchy? Is seeking such times and places useful in empowering women today, by portraying model societies in which women either shared or held primary power? (97)

As science fiction, Gearhart’s, Le Guin’s, and Slonczewski’s novels all imagine such times and places. Central to their narrative arguments is the essentialist idea that women and women’s ways manifest more of an ecological and social conscience than men and patriarchy. While indeed blemished, this essentialism is strategic, permitted because traits deemed masculine—whether really innately male or not—need to be challenged and dismantled for an ecological and social conscience to emerge in a modern world

seemingly unwilling to challenge the status quo. From Gearhart's overt affinity ecofeminism to Le Guin's and Slonczewski's more careful and complicated essentialism, the theoretical stances taken in these three speculative and visionary novels are parts of an environmentalist dialogue addressing an industrialized consumer culture in need of an ecological conscience.

## CHAPTER 6

### TOWARD AN ECOLOGICALLY CONSCIOUS POLITICAL ECONOMY: ECOSOCIALIST REFLECTIONS

Uniting the science fiction discussed so far in this study is the concern that growth-centered economic models, namely capitalism, threaten ecological systems. While *Last and First Men*, “Twilight,” *Earth Abides*, and *Dune* do not participate in the type of anti-capitalist environmentalist critique prevalent today in both environmentalism and science fiction, these narratives foreshadow such critiques. As SF that subverts some reigning paradigms, they consider the exhaustion of resources, the myth of human supremacy, and the dynamics of consolidated power that characterize capitalism. More openly critical of capital, Callenbach’s ecotopian society in *Ecotopia* practices a stable-state economy that counters the capitalist exploitation of nature, and *Woman on the Edge of Time* envisions a rustic but healthy future that defies the capitalist myth of progress. Brunner’s dystopian works *Stand on Zanzibar* and *The Sheep Look Up* bring to light the dangers of capitalist supremacy, exposing the growth economy and its consumer ethos. And the corrupt, masculine spaces of Gearhart’s, Le Guin’s, and Slonczewski’s ecofeminist novels are likewise capitalist spaces. The Revolt of *The Wanderground* prevents the City’s expansion, though, just as the pre-capitalist, nature-centered societies of *Always Coming Home* and *A Door Into Ocean* impede the progress of those who would exploit them.

A concern over the growth-economy’s effect on the natural world also unifies the environmental philosophies discussed so far. Deemed subversive by Sears in the 1960s, ecological science remains subversive as scientists connect global warming,

deforestation, and species extinction to capitalism's excessive economic activity. As Brian Tokar notes in *Earth for Sale*, "Ecology came into its own at a time of profound questioning of contemporary life, especially the alienated, high-consumption ways that had emerged in the United States after World War II" (114). Ecology, then, grew up countering capitalist intentions and has matured into a key opponent of the growth economy. Objective scientific study of the state of the Earth's ecosystem is so threatening to capital that, as the environmental lawyer Robert F. Kennedy, Jr. writes, "crooked scientists on industry payroll [...] publish junk science [...] to persuade the public that there are no environmental crises and to undo the laws challenging their pollution-based profits" (78). Capital has taken a reactionary stance against legitimate science in order to exonerate the growth-economy from any blame in the global destruction of vital ecosystems.

And if deep ecology and ecofeminism have anything in common, it is that like ecological science they both turn a critical eye toward capitalism and consumer society, although deep ecologists and ecofeminists are often at odds over whether to locate anthropocentrism or androcentrism as more responsible for ecological crises. As noted previously, deep ecology questions ontological hierarchies that position humans as the central species on the Earth, that understand nonhuman species to be of lesser importance and as a result govern the globe accordingly. Devall and Sessions write, "Excessive human intervention in natural processes has led other species to near-extinction. For deep ecologists the balance has long since been tipped in favor of humans. Now we must shift the balance back to protect the habitat of other species" (127). But ecofeminists

criticize this claim for being too broad in its use of the term *human*. Reading Devall and Sessions' passage, Chaia Heller argues,

The romantic ecologist constructs a big, flat category called “human” and holds this abstract human responsible for the destruction of nature. However, it is unclear just who is subsumed under this category of human. Are the authors referring to women, who, rather than participating intentionally and profitably in “human intervention” in nature, are reduced to “bodies of natural labor” and plundered along with nature? (226)

Theoretical differences aside, deep ecology's desire to allow “all entities [ . . . ] *the freedom to unfold in their own way unhindered by the various forms of human domination*” (Fox 270) and ecofeminism's call “for an end to all oppressions” both condemn an economic system that whether human-centered or male-centered remains socially and ecologically oppressive (Gaard 1).

Political economy, or a “society's way of organizing both economic production and political processes that affect it and are affected by it,” is thus an interest of green movements (M'Gonigle 125). Ecological science, deep ecology, and ecofeminism assess a globally dominant political economy organized around economic growth and its necessary components of want-creation, inequitable social and material circumstances between capital and labor, and bureaucratic forms of socio-economic governance.

*Ecosocialist* critique, however, best and more directly offers a critical language indispensable to a thorough analysis of such a political economy, enriching green scientific, philosophical, and feminist arguments with its own radical insights.

### **Ecosocialism**

In his ecosocialist manifesto *The Enemy of Nature*, Kovel writes,

ecosocialism refers to a society that is recognizably socialist, in that the producers have been reunited with the means of production in a robust efflorescence of democracy; and also recognizably ecological, in that the ‘limits to growth’ are

finally respected, and nature is recognized as having intrinsic value and not simply cared for, and thereby allowed to resume its inherently formative path. (10)

The way toward such a society involves a number of fundamental critiques, rethinkings, and revisions, the first of which is a close examination of capital and its tendencies. As a manner of socialist thought, ecosocialism is necessarily a class movement. It finds in capital's state-supported class structure the social foundation for the capitalist mode of production—that is, an elite-owned system that separates workers from the means of production and with wage labor exploits their labor power in an effort to realize a profit in a network of commodity exchange. As an ecological movement, ecosocialism highlights the effects of such tendencies on ecosystemic integrity. First, splitting people from the tools and raw materials (the means of production) they need to create whatever they are creating for the market allows and assures the production of commodities with value only as things to be exchanged (exchange-values) rather than as goods relevant to local social needs (use-values) and, importantly, obedient to local and global ecological limits.

Second, under the capitalist system of wage labor, the worker is alienated from nature and nature from the creative, ecological human. Wage labor relegates workers to the status of interchangeable commodities. As commodities, workers are forcibly removed from their place within the ecological field of relations that for ecosocialism defines a whole human self. As Kovel argues, the “human trademark”—which is different from the trademarks of other species not qualitatively but in terms of varying capacities and ways of fitting into the ecological whole—is characterized by inwardness and the acting upon imagination in materially transforming ways (109). The realization of one’s full humanity is thus a function of the degree to which she or he participates

freely in the production of use-values, in the production of her or his own life as an integral component of ecosystems. Under capitalism, the private owners of the means of production, following market whim and the profit motive, disunite workers from nature and use-value, defeating their being as “organismic totalities [ . . . ] who act in the ecosystemic world and are acted upon by the world” (Kovel 99). And if capitalism is dehumanizing because it prevents humans from *being* in ecosystemic relationship, then it is anti-ecological precisely because by contriving and mandating the privately owned wage laborer it denies ecosystems the ecologically creative capacity of *Homo sapiens*.<sup>1</sup>

Finally, and indeed these points are interrelated, capital’s profit motive instigates a growth imperative that sees social and natural boundaries as new “point[s] of investment, commodification and exchange” (Kovel 44). Capital thus proceeds with an attitude of limitlessness, wreaking social and ecological havoc in the process. Pre-capitalist life-worlds suffer gross penetration, and socially the colonized subaltern are incorporated into the ruling capitalist totality as “Other—barbarians, savages, human animals, and eventually (with the growth of science), ethnicities and races” (Kovel 122-123), thereby justifying their place at the bottom of a class hierarchy where wage labor prevails and social conditions remain perpetually deteriorated despite “trickle-down” theory.<sup>2</sup> Further, capital “alters [life-worlds] in ways that foster its accumulation, chiefly by introducing a

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<sup>1</sup> One might think here of organic farming—as opposed to capital-driven agribusiness—as expressing such capacity. Additionally, and on this general point, Kovel references the indigenous peoples of the Amazon, who “not only created new ecosystems, they deliberately made these in a way that encouraged diversity of species—for instance, by planting different configurations of trees that would attract varying patterns of game species” (109).

<sup>2</sup> The ecosocialist position on the concept of Other borrows from ecofeminism, which similarly posits that the association of women and Others with nature has historically justified their oppression in patriarchal societies that embrace a human/nature, male/female bifurcation. See above, Chapter 5.

sense of dissatisfaction or lack—so that it can truly be said that happiness is forbidden under capitalism, being replaced by sensation and craving” (Kovel 52). Kovel continues,

The culture of advanced capital aims to turn society into addicts of commodity consumption, a state ‘good for business’, and, *pari passu*, bad for ecologies. The evil is doubled, with reckless consumption leading to pollution and waste, and the addiction to commodities creating a society unable to comprehend, much less resist, the ecological crisis. (66)

Capital’s illimitable movement to commodify new pools of labor and to appeal in so many ways to new markets parallels its illimitable intrusions into nature, its source of raw materials and of growth. Such intrusions, as ecosocialism argues, are responsible for ecological crisis.

Capitalist political economy organizes production around the profit motive and the growth imperative; and to maximize profit and growth inevitably requires a system in place that exploits labor, commodifies nature, and as Kovel reiterates without really a sustained examination, deifies consumption. Betsy Taylor and Dave Tilford—both consumer society critics whose “green consumerism” campaigns fall short of ecosocialist revolutionism but are nevertheless important as ensembles for ecosocialist development—write,

By making conspicuous consumption our way of life, we have kept an ‘enormously productive economy’ running full tilt. Unprecedented levels of consumption have powered unparalleled economic growth, with predictable material benefits. In industrial countries, the standard of living has risen so that items considered luxuries a few decades ago are common among the middle class today. Nonmaterial benefits have also accompanied this growth. Life expectancy is higher, and more people than ever before in the industrial world have adequate food, housing, clean water, warmth, electricity, and transportation, as well as many other comforts that make life easier. (463)

Here, the author’s recognize capital’s ideological drumbeat, but not without noting that the march of economic progress is limited to industrial countries and, moments later, acknowledging the disastrous ecological consequences of this progress:

From a broader, more farsighted perspective, the binge has been an ecological disaster. Latter twentieth-century consumption patterns [...] have resulted in devastating levels of environmental deterioration, which threatens to eradicate the economic well-being that accompanied the growth. [Victor] Lebow's vision of a better life through higher levels of consumption left out two very important parts of the equation: Where does all this stuff come from? Where does it all go when we are done with it? (464)

Taylor and Tilford's discussion targets an oft-quoted statement from Lebow, a post-World War II marketing expert whose ideas still inform the growth economy: "*Our enormously productive economy . . . demands that we make consumption our way of life, that we convert the buying and use of goods into rituals, that we seek our spiritual satisfaction, in consumption. . . . We need things consumed, burned up, worn out, replaced, and discarded at an ever-increasing rate*" (Taylor and Tilford 463).

An ecocritical analysis of consumption can go in several directions, one of which is a look at the social and ecological effects of a culture so addicted to buying stuff.<sup>3</sup> Lebow's insistent decree for consumption, however, raises another important issue regarding capital's political economy of consumption, an issue not specific to ecosocialism but certainly crucial for the movement: the juxtaposition of consumption with "spiritual satisfaction." Again discussing the "human trademark," Kovel writes, "The emptiness that always shadows the self and the peculiar set of powers conferred by human nature creates for humanity a capacity not seen elsewhere in nature, namely, a reaching beyond itself, along with the potential [...] of achieving a universal perspective, and of reaching toward the Whole" (104). A fully realized ecological conscience will manifest a return to such a spiritual "reaching toward," one prior to religious constructions that exclude and even demonize the material world as well as prior to the

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<sup>3</sup> On this, I will only refer the reader to Wackernagel and Rees, Brown, Kovel's introduction, or any number of texts that cite the harrowing statistics.

growth-economy's construction of consumption as spirituality, shopping malls as churches, and bought stuff as idols. Capital co-opts spirituality not simply by commodifying "New-Age" but, more drastically, by locating Wholeness in the very act of participating in the market. As such, questions about the source of commodities and their final resting place need not be asked; the gods know the answers.

Capitalist political economy, too, organizes socio-political relations to support its economic framework, namely by limiting human lifeways disagreeable to capital. It could be said, then, that capital is hostile toward *differentiation*, if indeed "A differentiated relationship is one in which elements of an ecosystem are brought together in a process of mutual recognition that respects their wholeness and integrity" (Kovel 139). The loss of ecosystemic integrity under capital occurs both as a result of capital's quantification of the ecosystem parts it sees as valuable and its social-political limitations on human ideas and lifeways. Both ecosystemic integrity and social dialectics (one-in-the-same in ecosocialism) involve differentiated relationships that capital fundamentally cannot embrace if it wants to do what capital does—that is, expand effortlessly and transnationally in a regime of abstract exchange values and the extraction of surplus value through the exploitation of a working class.

The novels analyzed in this chapter critique capitalism differently, but each respective argument is crucial to an ecocritical dialogue involving ecosocialist perspectives. Certainly capitalism is a complex operation, and together Frederik Pohl and C.M. Kornbluth's *The Space Merchants* (1952), Le Guin's *The Word for World is Forest* (1972), and Kim Stanley Robinson's *Mars* trilogy (1993, 1994, 1996) critique capitalism in a necessary range of ways. Pohl and Kornbluth's book targets the advertising industry

that creates the cultural atmosphere necessary for the growth-economy to prosper, an industry whose symbols erase conditions of capitalist production as they generate consumer desire for supposedly neutral products. Le Guin's award-winning novella exposes the conditions of capitalist production; in *The Word for World is Forest*, capital's insatiable desire for natural resources results in the attempted deforestation of an inhabited planet and the exploitation of the planet's natives. Finally, Robinson's *Mars* trilogy speculates on the possibility of an eco-economy against a hyper-capitalist push to consume all the resources of Mars, as it also formally revalues the dialogical stance now suppressed in the capitalist political mode.

### ***The Space Merchants***

The narrative of *The Space Merchants* unfolds against the background of a threatened future Earth. Fresh water supplies are limited and to wash up in even a trickling tap is considered wasteful. Polluted air requires residents of this Earth to wear “antisoot plugs” in their noses (9). Coal is still a big industry. Overpopulation has some people yearning for the “spacious old days,” and wood is so rare that oak and pine jewelry have the status that precious metals and jewels signify today (42). And in one of many of Pohl and Kornbluth’s darkly comical but all-too-plausible speculations, corporate food manufacturers meet global food supply needs artificially, presumably necessitated by the absence in the future of land fit enough to grow food organically. One company, Chlorella Proteins, develops and maintains Chicken Little, once a “lump of heart tissue” and now a gigantic blob of protein-rich tissue sliced, weighed, shaped, frozen, cooked, flavored, packaged, and shipped all over the world (76).

But the atrocious ecological conditions of this future Earth do not create the dystopian reality that one might expect. Despite the obvious strain of consumption on the

Earth's limited resources, the wheels of the growth-centered economy keep turning. Producers keep producing and consumers keep consuming. Where *The Space Merchants* is most acute in its criticism, though, is not in reproving producers and consumers for maintaining the production-consumption frenzy but in illustrating the absurdity of an advertising machine powerful enough to erase empirical evidence that such a frenzy is materially impossible to sustain. Read as an environmentalist text, *The Space Merchants* is most effective when it shows how much the growth-economy depends on an advertising industry whose foremost purpose is to layer desirable meaning over the most unpromising social and ecological circumstances.

Housed in an office epitomizing conspicuous consumption, with its imposing furnishings of "genuine tree-grown wood," Fowler Shocket Associates—"the largest advertising agency in the city"—makes its fortune pioneering for economic globalization (2). One of Fowler Shocken's favorite accounts is Indiastries, for which the agency prepared "a whole subcontinent" to merge "into a single manufacturing complex" (3). Though not a narrative specifically about the *effects* of capitalist ideology on populations or on ecology, *The Space Merchants* does recognize the dangerous scope of capital's material and symbolic activities. Fowler Shocken himself outlines the "history of advertising—from the simple handmaiden task of selling already manufactured goods to its present role of creating industries and redesigning a world's folkways to meet the needs of commerce" (6). While Shocken celebrates the malleability of culture at the hands of marketeers, contemporary critics of the global economy mourn it. Jerry Mander and Edward Goldsmith, editors of *The Case Against the Global Economy*, write, "For corporations, the overwhelming drive is constantly to expand their resource bases and

*their markets to create globally homogenized consumerist life-styles”* (295). Developing this point in the same collection, Tony Clarke observes the effect of the growth-economy’s homogenizing objectives: “a global monoculture is emerging, which not only disregards local tastes and cultural differences but threatens to serve as a form of social control over the attitudes, expectations, and behavior of people all over the world” (300).

Shocken’s brief history of advertising legitimates, at least in fiction, what critics of globalization notice today: in the interest of profit, capital is annihilating cultural tradition. Of the many problems with this forced subordination, one is ecological. Referencing the environmental thinker and activist Vandana Shiva, Tokar writes, “development [ . . . ] systematically degrades the knowledge, skills and cultural practices that have made it possible for people to thrive completely outside of a commercial context for thousands of years” (170). Epitomizing Shiva’s point, apologists for global capitalism believe, as Peter Marber does in his book *Money Changes Everything*, that because citizens of less profligate nations sport American brand-name clothes they must desire to throw away their culture and enter the global marketplace (158). In its replacement of the non-commercial with the commercial, or of traditional cultural practices with cultural attitudes more favorable to capital, the development policy that extends from Marber’s attitude—indeed, the very attitude that Fowler Shocken fosters in Pohl and Kornbluth’s novel—erodes not only cultural integrity but also ecological integrity.

*The Space Merchants* suggests that the exhausted ecology of the future—little clean water, polluted air, overpopulation, deforestation, and dead soil—is the result of the reckless consumption encouraged by advertising’s fictional and concealing narratives.

After defining early the ideology that drives the advertising industry, Pohl and Kornbluth show this industry in action. Having ““actually and literally conquered the world [and] Like Alexander, [weeping] for new worlds to conquer”” (6), Fowler Shocken initiates his next project: the ““development and exploitation of the planet Venus”” (7). With “Sales” as their god, Shocken’s agency begins its marketing. To start, Mitchell Courtenay, the agency’s language man and the novel’s narrator, consults with Jack O’Shea, the only person to have gone to Venus, in order to locate in O’Shea’s experiences images that will appeal to potential consumers of the planet. O’Shea’s honesty about Venus, though, is not what Mitch wants to hear. Asked to ““Suppose [he] wanted a lot of people to go to Venus. What would [he] tell them about it?”” Jack replies, ““I’d tell them a lot of damn big lies”” (17). How else to sell an atmosphere of ““embalming fluid,”” heat that ““averages above the boiling point of water—if there were any water on Venus, which there isn’t,”” and winds ““clocked five hundred miles an hour”” (17)? Mitch, however, trusts that ““there are answers for all those things”” and instead wants Jack to give him ““the feel of the place”” (17).

The contrast between Jack’s Venus and the desirable Venus Mitch wants to create through language speaks to the fundamental strategy of global capital and its advertising methodologies: the intentional obfuscation of conditions of production using appealing, sellable symbolic values. But Mitch soon gets to experience the falsity of advertising language when he is thrust into the reality of another one of his accounts: Chlorella Proteins. Kidnapped and given a new identity as a laborer at the oppressive Costa Rican factory that houses Chicken Little, Mitch cannot help but recall the words he wrote to sell Chlorella’s products: ““From the sun-drenched plantations of Costa Rica, tended by the

deft hands of independent farmers with pride in their work, comes the juicyripe goodness of Chlorella Proteins”” (68). In contrast to the advertising language, Chlorella’s factory greets laborers—not family farmers—with “a gush of disinfectant aerosol,” a team of condescending guards, and a number plaque to wear around their necks (67). The factory is eighty stories high and its photosynthesis mirrors create working conditions too bright to be safe.

Opposing Fowler Shocken Associates and the consumer culture that the firm promotes, the World Conservationist Association (W.C.A.) works to curtail the “reckless exploitation of natural resources” that it believes “has created needless poverty and needless human misery” (80). However, in the postindustrial world of *The Space Merchants*, a world in which the ideology of capital permeates social consciousness, the W.C.A. offers a criticism too contrary to be adopted comfortably. As with any group who questions the dominant paradigm, the W.C.A. is demonized by the hegemony, thus neutralizing their message. A W.C.A. pamphlet attempts to debunk such myths about the organization:

You have probably heard that “the Consies” are murderers, psychotics, and incompetent people who kill and destroy for irrational ends or out of envy. None of this is true. W.C.A. members are humane, balanced persons, many of them successful in the eyes of the world. Stories to the contrary are zealously encouraged by people who profit from the exploitation which we hope to correct. (80).

As a key player in capital’s mind control, Mitchell Courtney knows the W.C.A. only as zealots. Mitch’s resentment of the “Consies,” as well as his position as an enabler of consumer behavior, comes out when he reflects on the fellow factory worker and secret W.C.A. member who handed him the abovementioned leaflet:

I hated the twisted minds who had done such a thing to a fine consumer like Gus. It was something like murder. He could have played his part in the world, buying

and using and making work and profits for his brothers all around the globe, ever increasing his wants and needs, ever increasing everybody's work and profits in the circle of consumption, raising children to be consumers in turn. (82)

Mitch must feign sympathy for the W.C.A. cause in order to escape the Costa Rican factory, and though he seems too firmly embedded in the ideas of the growth-economy to adopt any conservationist sentiment while intermingling with members of the organization, in the end he does just that.

Once he is outside his corporate physical and ideological space, Mitch sees a reality that previously he knew only through the eyes of capital. Interestingly, Mitch's experiences in and realizations about this reality attest to a worldview so different from the worldview of global capital that Fowler Shocken writes them off as imagined. Contrary to the mythologies perpetuated by capital, "The interests of producers and consumers are not identical," "Most of the world is unhappy," "Workmen don't automatically find the job they do best," "Entrepreneurs don't play a hard, fair game by the rules," and "The Consies are sane, intelligent, and well organized" (135). But *Sales* is to Shocken a Truth that "could do no wrong," a god that begs no questions (136). Embodying the global capital hegemony, Shocken dismisses Mitch's disclosures the same way capital has dismissed economic alternatives throughout the novel and throughout the postindustrial age: he discounts Mitch's new conscience as the product of a "wicked, untamed id" (136). The novel ends after Shocken dies and leaves Mitch with majority shares in Fowler Shocken Associates. With his new ecological and social conscience, Mitch exercises his symbolic and financial power to unconvince people of the desirability of Venus. Using the government-sponsored Venus rocket, Mitch relocates to the planet with a group of Consies.

In her book on American science fiction film, Vivian Sobchack draws from Ernest Mandel and Fredric Jameson to define the postindustrial age and to characterize the cultural dynamics of consumer capitalism. She notes, “With the 1940s [ . . . ] and coincident with the technological development of nuclear and electronic power marked progressively by the atom bomb, the television set, and the computer, comes a new moment of capitalist expansion” (243). Distinguishing this postindustrial stage of capitalism is “The totalizing incorporation of Nature by industrialized culture [ . . . ] into a visible and marketable ‘desire’ produced as media spectacle” (244). When in *The Space Merchants* Mitch stares through the window of a tourist rocket at the Amazon valley and Tierra Del Fuego only to be interrupted with advertisements that opaque his view, he is experiencing postindustrial capitalism. These landscapes are already capitalist spaces in the book—the Amazon basin home to the world’s biggest power dam and Tierra Del Fuego a whale fishery—and are thus doubly commodified when Mitch’s gaze is subjected to advertisements. Indeed, with their speculations on a future atmosphere of scarcity, sterility, and pollution amid the hyper-capitalist symbolic strategies that overwrite this ecological reality in every way possible, Pohl and Kornbluth assert the weaknesses of a postindustrial, consumer capitalism too caught up in an ideology of economic growth to notice, or even care about, the physical limits of its activities.

Given Mitch’s seemingly permanent grounding and participation in a capitalist structure that commodifies nature in ways that—as demonstrated in Shocket’s intended Venus project—go beyond overwriting the landscape with marketing language, his adoption of a conscience critical of capital and consumer society signals a hopeful shift in social consciousness. His physical relocation from a completely commercialized and

dominated Earth to a Venus he vows not to compromise to corporate interests symbolizes the possibility of a movement in postindustrial culture from a consumer conscience unaware of the effects of capitalist production on ecosystems to an ecological conscience awake to the effects of capital's global supremacy.

***The Word for World is Forest***

If *The Space Merchants* is about the symbolic strategies used to cover up conditions of capitalist production then Le Guin's *The Word for World is Forest* is about these conditions of production, namely the effects of deforestation on ecology and on native people who depend on the wilderness for culture and survival. A critical allegory about the then ongoing war in Vietnam, Le Guin's book is also subversively ecological as it prefaces deep ecological and ecofeminist wisdom. As such, it is a central text in environmentalist science fiction. But the book's effectiveness as a work of ecocritical SF comes, too, from its insistence that the ideology of capital enables the erosion of biological systems and the oppression of women and Others that ecological science, deep ecology, and ecofeminism all condemn in their respective ways.

From the perspective of ecological science, *The Word for World is Forest* understands the dynamics of ecological systems; its detailed description of the forest on the planet Athshe—the novel's setting—in fact expresses a biological reality that challenges mythological and popular representations of wilderness as evil and, as a consequence, permitted to be tamed at the hands of capital. In the forest,

No way was clear, no light unbroken [ . . . ]. Into wind, water, sunlight, starlight, there always entered leaf and branch, bole and root, the shadowy, the complex. Little paths ran under the branches, around the boles, over the roots; they did not go straight, but yielded to every obstacle, devious as nerves. The ground was not dry and solid but damp and rather springy, product of the collaboration of living things with the long, elaborate death of leaves and trees; and from that rich graveyard

grew ninety-foot trees, and tiny mushrooms that sprouted in circle half an inch across. (25)

Here, Le Guin gives life to the woods through imagery that is traditionally used to make wilderness seem horrifying. To be sure, wilderness is gloomy and “devious,” a “damp” “graveyard”; but this is the environment from which life is born.

Furthermore, as a text aware in 1972 of what have since become the concerns of deep ecology and ecofeminism, *The Word For World is Forest* reflects on the oppressions caused by human-centeredness and misogyny. Regarding the former, when one character, Kees, worries that by poaching deer on Athshe—or “New Tahiti”—Don Davidson’s Terran logging crew is not following “‘Ecological Protocols’” (5), Davidson argues his point with anthropocentric reasoning: ““it’s the men that count. Not the animals”” (4). Continuing his dispute with the ecologically conscious Kees, Davidson declares, ““You worry about deer and trees and fibreweed, fine, that’s your thing. But I like to see things in perspective, from the top down, and the top, so far, is humans. We’re here, now; and so this world’s going to go our way”” (5). This human-centeredness is coupled, in Davidson, with an androcentrism that imposes hierarchical sexual relations in the same way it imposes “top down” human-nature relations. In fact, the novel begins with Davidson anticipating his visit to the “new shipload of women [. . .] breeding females [. . .] 212 head of prime human stock” (1).

While Le Guin’s novella invites readings from the perspective of ecological science, deep ecology, and ecofeminism, its central conflict demands a reading critical of capitalist production—an ecosocialist reading. *The Word for World is Forest* shows the destruction of forest ecology, speciesism, and misogyny to be interrelated effects of capitalist ideology. To fear wilderness sanctions its commodification, its taming; to

hierarchize species authorizes the dominant species to behave only in its own interests; to objectify female sexuality makes women available for consumption. Put differently, capitalism forces understandings that allow the subjects it commodifies—wilderness, species, women—to be commodified in the first place. Capital’s knowledge of people and place—indeed, Davidson’s knowledge in the novella—is strictly economic, fed by a fetish if not for markets, specifically, then at least for the emptying of cultural and ecological meaning that makes the consumption of people and place possible.

Demonstrating this emptying of meaning, Davidson reflects on the motivations of those exploiting Athshe: “men were here now to end the darkness, and turn the tree-jumble into clean sawn planks, more prized on Earth than gold. Literally, because gold could be got from seawater and from under the Antarctic ice, but wood could not; wood came only from trees. And it was a really necessary luxury on Earth. So the alien forests became wood” (7). A key passage in the text, Davidson’s explanation of capital’s intentions on Athshe characterizes capitalism’s perception of nature and of itself. Terms such as “darkness” and “tree-jumble” are imposed on the Athshean woods, writing off their place within an ecological totality in order to serve instead a mythology in which production saves the day by cleansing the forest and transforming it from a locale of “primeval murk and savagery and ignorance” to “a paradise, a real Eden” (3). Seeing itself as honorable in disinfecting the forest and its people, capital in Le Guin’s novel, too, provides the necessities of human life—wood—and is thus all the more pious. To say wood is a “necessary luxury,” though, is a contradiction, for luxuries are, as the consumer culture theorist James Twitchell contends, “*totally unnecessary*” (1). In

producing luxuries, the logging of the forest is necessary only in that it serves the very economic system that imposes a rhetoric of need upon its needless products.

With the capitalist vocabulary lifted from Davidson's project, no longer is it a noble endeavor to sanitize Athshe and fulfill human "needs." Instead, it is a deforestation project supported by "the Development people" whose only interests in Athshe is the one-hundred-and-twenty-million "new-dollars worth of prime lumber" that the planet provides the Terran market, and of course the slave labor that will help them get it (76).

Certainly, this project has a number of ecological and cultural ramifications. His thoughts focused on "212 buxom beddable breasty little figures," Davidson is inconvenienced by news of the ecological consequences of his venture: "Dump Island"—the first Terran colony on Athshe—cannot sustain crops or a healthy ecology with its forest logged (1). Missing the ecological network of root systems and fibreweed that stabilizes the topsoil, Dump Island erodes as quickly as the rain can wash the soil into the sea. Concerned about the ecology of Athshe and critical of the Terran development plan for the planet, one character, Raj Lyubov, admits, "As for the total land ecology, [...] I say we've irrecoverably wrecked the native life-systems on one large island, have done great damage on this subcontinent Sornol, and if we go on logging at the present rate, may reduce the major habitable lands to desert within ten years" (71).

Lyubov is an anthropologist for the Terran colonies and his ultimately inaccurate analysis of the Athsheans as a passive and consequently exploitable race permits those in power to disregard his ecologically conscious observation as another erroneous judgment. But Lyubov's remarks exhibit one of science fiction's key ecocritical strategies. By foreseeing future spaces ravaged by human demands, ecocritical science fiction raises

questions about how we should behave now to avoid such plausible futures. Science fiction writers in general are “our early warning system for the future,” as writer Frank M. Robinson avows (255). Carol P. Hovanec maintains, “This is certainly one of Le Guin’s purposes”—to offer a theoretical case study “of what might happen in the future if humanity continues to exploit the environment” (84). This, too, is what Lyubov does as the novel’s ecocritical voice; only, with the Earth ecologically dead in the novel, Athshe is the planet he hopes to spare. Disputing the argument that the Terran development plan for Athshe can progress with minimal ecological impact, Lyubov asserts, “‘That’s what the Bureau of Land Management said about Alaska during the first famine. [. . .] The survival percentage of Native Alaskan species in habitat, after 15 years of the Development Program, was .3% It’s now zero’” (72).

Identifying Davidson’s attitude with the industrialist outlook of late-nineteenth-century America, Hovanec writes, “In his desire to destroy the forest and convert it to products useful for Terran, he also resembles the deterministic industrialists who saw the environment as an expendable commodity” (88). The concept of the expendability of the natural world (a world that most fear anyway, according to capital) is a central justification for capitalist production and, as Le Guin’s novel demonstrates, the focus of its rhetoric. And with the mindset that the interests of markets supersede the feared and disposable natural environment comes the outlook that everything in the environment, including people, must make way for the “development” that capital brings. Just as Davidson’s language represents capital’s attitude toward an expendable nature, it also illustrates capital’s feelings for those who dwell in the places it desires to market. Speaking of the native Athsheans, Davidson remarks, “‘They’re going to get rubbed out

sooner or later, and it might as well be sooner. It's just how things happen to be.

Primitive races always have to give way to civilized ones. Or be assimilated. But we sure as hell can't assimilate a lot of green monkeys” (12). Labeling the Athsheans as inevitable victims of colonialism, as pre-modern, and as inferior, Davidson validates the activities of capital that threaten not a native culture whose lives are spiritually interconnected with the living forests and with each other but a substandard herd of “creeches” whose wild life ways attest to their baseness.

“Perfectly integrated into the natural ecology of their planet,” the Athsheans are so dislocated as a result of Terran activity that they sacrifice their pacifism to engage in their own fierce project to end Terran exploitation (Yanarella 100-101). Also a *culturally* critical voice in *The Word for World is Forest*, Lyubov speculates on the Athsheans’ recent violence toward the Terran occupiers:

“I wonder if they’re not proving their adaptability, now. By adapting their behavior to us. To the Earth Colony. For four years they’ve behaved to us as they do to one another. Despite the physical differences, they recognized us as members of their species, as men. However, we have not responded as members of their species should respond. We have ignored the responses, the rights and obligations of non-violence. We have killed, raped, dispersed, and enslaved the native humans, destroyed their communities, and cut down their forests.” (62)

A postcolonial analysis of Le Guin’s novel might examine the cultural ramifications of the Terrans’ introduction of violence into Athshean civilization, particularly how that civilization is in effect erased as a consequence of the erasure of one of its key defining characteristics: nonviolence. Selver, the Athshean who leads the successful revolution to defeat Terran conquest, even laments to one Terran, ““Maybe after I die people will be as they were before I was born, and before you came. But I do not think they will” (169).

With their new knowledge of how to kill, the Athsheans may be forever changed ecologically, as well. Though this claim is speculative (Selver’s statement ends the novel

and readers never find out if his prediction comes true, or to what end), it follows that such a drastic mutation of a nonviolent, nature-centered culture could dissolve any ecological connections that culture has. If the people “they were before” were seamlessly integrated into the wilderness and had developed their nonviolent tendencies as a result of this integration, then the introduction of violence is also the introduction of an idea that could separate the Athsheans from the nature that made them as they were before.

Speaking on this point in a different, real-life context, the Okanagan Native activist Jeannette Armstrong writes, “Indigenous people, not long removed from our cooperative self-sustaining life-styles on our lands, do not survive well in this atmosphere of aggression and dispassion” (467). Asserting the idea that Le Guin’s book also asserts—that “We are our land/place”—Armstrong recognizes how capitalist violence and its inherent deficit of human-human and human-land cooperation severs native people from their traditional and sustainable lifeways (466). Armstrong shares with Le Guin an uneasiness about the effects of capital on natural places and on the cultures that dwell in them. Ultimately, Le Guin’s tale calls for something to be done about the exploitation of people and place executed by capital in the name of economic growth.

### ***The Mars Trilogy and the Eco-Economy***

The concerns of Robinson’s *Mars* trilogy range from interpersonal relationships to the potentials of technological wizardry, but the series is especially successful at imagining an economic system that fundamentally rejects the types of obfuscations, oppressions, and violence essential to capitalist production.<sup>4</sup> Set on barren Mars, the

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<sup>4</sup> Much of the following discussion recalls my article on the *Mars* trilogy in *Utopian Studies*, only with a reframing of that argument within the contexts of political economy and the critical language of ecosocialism.

trilogy speculates what paradigms the planet's settlers will inscribe on the "blank red slate" (*Red Mars* 85). Anything is possible for the group of one hundred chosen to establish the first Martian colony, and Robinson uses all 1900-plus pages of his trilogy to illustrate the challenges of moving beyond a history spawned on the Earth and toward a future, Martian history generated by new ideas.

Like Pohl and Kornbluth and Le Guin, Robinson spends much time implicating the capitalist economic paradigm for its environmental and social destructiveness. Early in *Red Mars* the Mars settlement team of one hundred scientists has hopes of beginning a small scientific research station on the planet, but later we come to understand the motives of those higher powers responsible for sending these scientists: to terraform Mars rapidly, opening the way for total economic exploitation. Oddly, and perhaps predictably given the nature of capital, as the U.N. Office for Martian Affairs (UNOMA) approves the terraforming of Mars for economic purposes, on Earth the previously protected Antarctica starts being mined and drilled for its oil. The parallel between the corporate terraforming of Mars and the exploitation of Antarctica suggests that as "the last clean place on Earth is gone" so the next clean place, Mars, is becoming the victim of the same economically driven rampage (251). Surely, this terraforming stages capital's tendency to "refuse all boundedness," as Kovel writes, and thus to seek boundaries such as that imposed by capital on itself through its full development of the Earth (44). Mars is only the next site of growth.

Indeed, capitalist intentions take precedence over the scientific motives of the first settlers. Though many of the first one hundred are pleased with UNOMA's decision to support terraforming as a scientific venture, the subsequent intrusion of transnational

corporate interests instigates many of these settlers to revolt later in *Red Mars*. The first sign of this intrusion is when the German millionaire and UNOMA bureaucrat Helmut Bronski violates a Mars treaty by allowing Armscor, a transnational corporation, to begin prospecting on Mars. As John Boone, the settlement's symbolic father, observes the mining operations at Bradbury Point, his thoughts suggest an environmentalist's distress over the effects of capital's economic activities:

John shook his head. That afternoon they drove for an hour back to the habitat, past raw pits and slag heaps, toward the distant plume of the refineries on the other sides of the habitat mesa. He was used to seeing the land torn up for building purposes, but this . . . It was amazing what a few hundred people could do. [. . .] wreaking such havoc just to strip away metals, destined for Earth's insatiable demand . . . . (277)

Though at this point in the book Mars has only recently been settled, the developing industrial landscape already reflects the contaminated atmosphere of a world being torn apart by greed.

Robinson's reflections on the insatiable demands of the capitalist economy do not end with the mention of Antarctica and the Armscor "gold rush," as John later calls it (284). One of the most awful (in both senses of the word) technologies in *Red Mars* is the space elevator, a thirty-seven-thousand kilometer traversable vertical cable that allows the various ores being mined on Mars to be shipped efficiently to the Earth.

Phyllis Boyle, the primary visionary of the space elevator, explains,

"It will also be possible to use the cable's rotation as a slingshot; objects released from the ballast asteroid toward Earth will be using the power of Mars's rotation as their push, and will have an energy-free high-speed takeoff. It's a clean, efficient, extraordinarily cheap method, both for lifting bulk into space and for accelerating it towards Earth. And given the recent discoveries of strategic metals, which are becoming ever more scarce on Earth, a cheap lift and push like this is literally invaluable. It creates the possibility of an exchange that wasn't economically viable before; it will be a critical component of the Martian economy, the keystone of its industry." (306-307)

Though Phyllis promotes the elevator's cleanliness and its low energy use, her seemingly ecologically conscious assurances are odd after reading John's observation earlier of the "raw pits," "slag heaps," and "distant plume[s]" that litter the Martian landscape and that are the results of the mining that Phyllis sees as key to the developing Martian economy. Furthermore, Phyllis's promotion of the space elevator is even more awkward if we consider her awareness that the Earth's own supply of metals is dwindling.

The *Mars* trilogy continues its critique of capitalism as it shows how the rapid terraforming that capital supports—as opposed to the *Dune*-like, deliberate, and creative efforts to change Mars—causes environmental instability on the planet. The action at the end of *Red Mars* takes place among avalanches and floods; and just as this chaos is juxtaposed oddly with Phyllis's faith in the direction of the Martian economy, the continuing environmental violence of *Green Mars*, too, is prefaced by Phyllis's confidence: ““All the stockpiled metals from the last forty years are ready to enter the Terran market, and that’s going to stimulate the entire two-world economy unbelievably. We’ll see more production out of Earth now, and more investment here, more emigration too”” (183). Soon after Phyllis says this, the scientist Sax Russell reflects on the negative effects of the rapid changes to the Martian environment: “Mass wasting was causing many landslides a day, and fatalities and unexplained disappearances were not at all uncommon. Cross-country travel was dangerous. Canyons and fresh craters were no longer safe places to locate a town, or even to spend a night” (217). Here, the *Mars* books again question capital by drawing attention not only to the environmental consequences of capital's activities but also to the social consequences, for capital is threatening people's lives.

As a set of ecocritical texts, *The Space Merchants*, *The Word for World is Forest*, and the *Mars* trilogy argue a very similar point: capitalism is inherently violent, both socially and ecologically. Pohl and Kornbluth's book looks at the ways capital's symbology destroys realities that would signal the need for other economic paths; Le Guin's book narrates the host of social and ecological abuses that capitalist production requires; and Robinson's books continue Le Guin's observations of capitalist avarice. But out of these three works, only Robinson's series directly imagines an economic system alternative to the corporate regime. Against the growth-centered and ecologically blind economic system imposed on the newly settled Mars, the *Mars* trilogy presents a counter model of economics: eco-economics. Thought up by the biological team of Vladimir Taneev and Marina Tokareva, eco-economics places value on individuals according to their biological contributions to the ecosystem: “Everyone should make their living, so to speak, based on a calculation of their real contribution to the human ecology” (*Red Mars* 298). Detailing the eco-economy further in a rousing speech in *Red Mars*, John Boone declares, “what you take from the system has to be balanced by what you give in to it, balanced or exceeded to create that anti-entropic surge which characterizes all creative life” (378).

In their related assertions, Vlad, Marina, and John realize collectively that a “living,” ecologically defined, is determined by one’s production of use-values with respect to ecosystemic integrity, with respect to the functions of interrelated life. Kovel writes, “The work of life, and the intricate dance of energy and form that goes into it, are essential enterprises to stave off and reverse the Second Law [of Thermodynamics],” which says that entropy—the loss of energy we know as death—increases over time (95).

Life is anti-entropic in that it is in constant struggle with entropy. But individuals of any species cannot succeed in this struggle alone. “[E]ach creature is insufficient in-itself,” because “life must exist in relation to other life and to nature as a whole if it is to contend with the Second Law” (Kovel 95). Blind to this fundamental ecological principle, capitalism functions under the mythology that only return on investment determines the success or failure of an economic venture. Under an eco-economy, though, the success or failure of an economic project is determined by the degree to which it can be continued across generations without threatening the ecosystemic relationships that facilitate the “anti-entropic surge.” The sustainable development expert Herman E. Daly writes,

An economy in sustainable development adapts and improves in knowledge, organization, technical efficiency, and wisdom; it does this without assimilating or accreting an ever greater percentage of the matter-energy of the ecosystem into itself but rather stops at a scale at which the remaining ecosystem can continue to function and renew itself year after year. (195)

In theory, eco-economics is inherently nonviolent; rather than exploitively managing ecology and society—or “resources” and “labor”—eco-economics is managed by ecology and society, never violating the boundaries that ecology and social life impose upon markets.

For the Martian society of the *Mars* trilogy, the eco-economic model becomes the most viable model for limiting the influence of capital on the fragile Martian ecosystem. Having finally gained independence from the Earth’s corporate institutions, the leaders of Mars in *Blue Mars* organize a congress to establish an official Martian government. Of course, Mars is a completely new social, political, economic, and environmental situation; thus it is difficult for these leaders to turn to historical models for help in creating their political system. Despite all the possible conflicts inherent in trying to form a new system, though, the issue that provokes the most debate is land-use, an

environmental concern. While much of this debate revolves around the terraforming of Mars, it also involves finding an economic system that stresses not the exchange-value of the land but the ethical importance of a sustainable and sufficient economy.

Phyllis defends capitalism in both *Red Mars* and *Green Mars*, and her sentiments are repeated in *Blue Mars* by another character: Antar. At the end of the chapter entitled “A New Constitution,” Antar claims that the eco-economic model of the Martian economy “‘is a radical and unprecedented intrusion of government into business’” (141). Unconvinced, Vlad outlines the eco-economic system, which provides the equal rights and self-rule that the hierarchical structure of capitalism cannot. Environmentally, such an egalitarian democracy also requires a view of the land that opposes capitalist paradigms. As Vlad states, “‘the world is something we all steward together’” rather than exploit privately (144). Important in the eco-economic model, then, is its synthesis of socialist elements—workers owning the means of production and “‘hiring capital rather than the other way around,’” for example—with ecological elements (147). Nonviolent stewardship becomes everyone’s responsibility, and environmental courts “‘estimate the real and complete environmental costs of economic activities, and help to coordinate plans that impact the environment’” (146). Ultimately, the eco-economic model is voted in, and the Martian civilization becomes a biotic citizenry through a new economic paradigm that values ecosystemic integrity.

Deeply interested in political economy, the *Mars* trilogy carries more than an economic message reflecting ecosocialist principles. It also manifests a politics of differentiation important for the way ecosocialism thinks about economic production. To reiterate, differentiated relationships are relationships in which ecosystemic elements—

humans and all other species in ecological interaction—operate together and totally in mutual recognition. Socio-politically, differentiation brings together minds “in a dialogical spirit of open discourse—a process the fulfilment of which requires a free society of associated producers, that is, a society beyond all forms of splitting, in particular those imposed by class and gender or racial domination” (Kovel 140). The dialogical spirit enables knowledge unacceptable in the ideological framework of capital, which cannot allow indigenous being, for example, or cultural practices that interfere with economic expansionism. The dialogical spirit also encourages an open political atmosphere inherently resistant to closure, to the illusions of definitiveness and inevitability that characterize the *laissez faire* creed.

The *Mars* trilogy engages the dialogical spirit formally, with Robinson modeling the very nature of differentiated social relationships that ecosocialism envisions. For example, Ann Clayborne and Sax are characters who embody the novels’ important political dialogue between pure science and applied science, respectively, and whose perspectives obtain more radical polarities in the extremist Red movement (which wants no terraforming at all) and in the equally extremist movement of capital (which, as noted above, advocates mega-terraformation). Further, on top of Ann and Sax’s trilogy-wide struggle with their respective positions Robinson layers the spirituality of the character Hiroko Ai, whose “areophany” is “a kind of landscape religion, a consciousness of Mars as a physical space suffused with *kami*, which was the spiritual energy or power that rested in the land itself” (*Red Mars* 125). Arkady Bogdanov leads an architectural movement reflecting his own Marxism, wanting to redesign the Mars settlements to spatially deny social hierarchy; and Phyllis, a Christian who supports Biblical dominion

rhetoric and conflates capitalism with Manifest Destiny, contests Arkady's utopianism.

Despite the reader's possible desire to see all of these and the trilogy's other perspectives tied up in a completed vision of settled Mars, in no way does Robinson render a closed socio-political space. Instead, the completion and closure Robinson does envision is precisely incompleteness and openness, a dialogical political system whose final closure would only prompt a more rapid entropy—just as earlier in the trilogy the imposition of monolithic capital, in the form of rapid terraforming, expresses itself on the Martian landscape in the form of industrial waste and violent floods and avalanches.

Arguments about Robinson's dialogical form make up much of the critical literature on the *Mars* trilogy, with commentators both questioning and appreciating it. For example, Yanarella argues that the trilogy's "polyphony of subject-positions" is a "narrative ploy [acting] as an authorial ruse to exonerate Robinson of the apparent responsibility for choosing or determining the outcome of the terraforming controversy and the fate of the Martian experiment" (280). William Dynes does not see such a problem, writing instead,

Read as a whole, the Mars series evokes a utopian call for community: of wholeness within the self, within interpersonal relationships, within political and economic entities, within the species itself. This unity, however, comes not through a creation of shared identity, nor through a hierarchical subordination of the many to the few. Rather, true community is realized in syncretism—messy, complicated, frustrating, but in the end enriching and fruitful. (151)

And Jameson maintains the same, speaking of the trilogy as a welcomed achievement in utopian fiction: "The utopian text is not supposed to produce [...] synthesis all by itself or to represent it: that is a matter for human history and for collective praxis. It is supposed only to produce the requirement of the synthesis, to open the space into which it is to be imagined" (409). The *Mars* trilogy's polyphony is a richly utopian, even

ecotopian, polyphony that in recognizing differentiated social relationships opens the space for a revolutionary imagining of an economy and politics that like ecology itself engages a necessary struggle against entropy by remaining open to inputs.

### **Conclusion**

Speaking of the *Mars* trilogy's eco-economy, Robert Markley notes, "Restricting consumption becomes a far more effective means to increase one's value to the system than accelerating production because production invariably strains scarce resources" (776). With an eco-economy in place, *The Space Merchants'* Fowler Shocket and *The Word for World is Forest*'s Don Davidson would go bankrupt, their productions valueless in an ecologically conscious economy that penalizes any use of resources and labor that threatens eco-social integrity. Strategically void of an ecological conscience with its ideology of private gain, capitalism "does not recognize basic ecological concepts of sustainable yield nor does it respect the balances of nature" (Brown 78). Indeed, such recognition would harm the growth-economy's existence; for, as *The Space Merchants*, *The Word for World is Forest*, and the *Mars* books show, the enterprise of forever increasing material wealth and supplying industry-created consumer demand is incompatible with ecological evidence that material is finite and sociological evidence that privatizing and commodifying place and people has dire cultural consequences.

## CHAPTER 7

### CONCLUSION: FROM FICTION TO ACTION

In their 1991 non-fiction study of the state of the environment *Our Angry Earth*, the science fiction writers Isaac Asimov and Frederik Pohl assert the value of futurological study for environmentalism: “The major, if not the only, utility of future studies lies in the ways in which their projections can help identify future problems, events or needs, so that, with the information the forecasts give us, we can do something *now* to bring about the desirable outcomes and try to avert the bad ones” (27). Asimov and Pohl’s book is not about science fiction, nor do the authors promote their genre as ecological futurology. But the claim that science fiction is “a handmaiden of futurological foresight in [. . .] ecology” was made by Darko Suvin in 1976 (67). Science fiction, to be sure, is not the literature of prediction, if *prediction* implies prophesizing “what *will* happen” (Nicholls 957). But considering, for example, Stapledon’s foresight in *Last and First Men* that the modern world’s excessive consumption rates threaten to bring about global catastrophe and Pohl and Kornbluth’s foresight in *The Space Merchants* that the logical end of the capitalist advertising complex is a rampant postindustrial state, SF is the literature of “what *could* happen” (Nicholls 957).

And as other works in this study show, ecological science fiction is more than extrapolation. It also reflects on what it is in the now that is responsible for environmental degradation; it is “a way of trying to describe what is in fact going on” (Le Guin, “The Carrier Bag” 154). *Ecotopia* and *Woman on the Edge of Time* argue, among other things, that modern humanity is too physically, intellectually, and spiritually

disconnected from the nonhuman world, and that this disconnection has resulted in weak communities and deteriorated ecosystems. *The Wanderground, Always Coming Home*, and *A Door Into Ocean* criticize patriarchy as the ideological foundation upon which is built the subjugation of the nonhuman world by modern humans. And *The Space Merchants*, *The Word for World is Forest*, and the *Mars* trilogy all disparage capitalist economic paradigms. Whether as futurology or as cognitive estrangement, science fiction invigorates the ecological conscience.

Real change, however, is the principal goal of environmentalism. Ecological systems are material systems, dependent on the flow of energy and the circulation of matter through complex food chains and within complex and specific physical conditions. Environmental groups such as Earth First! and the Sea Shepherd Conservation Society directly engage these material conditions, limiting the influence of exploitative objects—whaling boats, chain saws, or driftnets, for example—on ecosystems. But as the environmental politics professor Paul Wapner argues in his defense of Greenpeace's *symbolic* activism, "human behavior is a matter of oriented action by which people process experience into action through general conceptions of the world. At the most general level, then, the first step toward protecting the earth is to change the way vast numbers of people understand it" (306). "Ideas shape material reality" (311), Wapner declares in his support of a "transformative politics" in which the revision of ideational perspectives is, along with direct action, an important environmentalist endeavor (314).

Wapner's support of a transformative politics is more a specific support of Greenpeace's banner hanging than it is of other types of symbolic activities. But if environmentalism "involves changing the prevailing economic, political, moral, cultural,

and social dispositions of society which support environmental degradation,” then any form of symbolic activity—including literature—that engages these dispositions is important for the movement (Wapner 311). In a response to an interview with writer and activist Janisse Ray, in which Ray affirms the value of books for saving wild places, I wrote, “writing *is* an essential part of ecological health” (147). It was my belief then, as it is still, that nature-oriented literature supports ecological fitness by disseminating conceptual understandings that counter ecologically illiterate and destructive ways of knowing and being. Literature—a symbolic mode of *Homo sapiens sapiens*—is vital for stimulating the types of ideological shifts required for the material fitness of ecosystems whose current abuse results from cultural, religious, political, and economic ideologies deliberately ignorant of humanity’s fundamental connectedness to the nonhuman world.

The science fiction works reviewed in this study are literatures of the ecological conscience, literatures theorizing the restoration of this connectedness from a multitude of perspectives. Indeed, science fiction’s narrative “territories”—to borrow again from Landon—often seem impossibly distanced from the interests of environmentalism, what with their explorations into terraformation (*Dune* and the *Mars* trilogy), technocentric reproduction (*Woman on the Edge of Time*), and worlds with socio-ecologic systems drastically different from those of the Earth (*A Door Into Ocean*). But despite their generic obligations to imagine the technological and biological fantastic, the texts studied in this dissertation exercise these obligations to extrapolate and estrange in order to call for a general recognition that many modern institutions have abandoned the biological reality that humans are “plain member[s] and citizen[s]” of an interconnected biotic community (Leopold 204). Aldo Leopold writes, “man-made changes are of a different

order than evolutionary changes, and have effects more comprehensive than is intended or foreseen" (218). Leopold does not speak of science fiction in *A Sand County Almanac*, but his assertion seems to motivate an environmentalist science fiction sub-genre that accepts as its narrative task to question the intentions of modern humanity, to foresee the consequences of ill-advised human actions, and ultimately to bring about a transformative ecological conscience that manifests itself in changed human actions.

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