As the previous chapters have shown, environmental science fiction recurrently criticizes capitalist economic productivism and/or the ideological positions that enable this productivism. Olaf Stapledon’s *Last and First Men* comments on the economic exploitation of nonhuman nature. George R. Stewart’s *Earth Abides* contains a critique of the myth of human supremacy, which morally justifies capitalist exploitation. *Dune* raises questions about whether we can even locate something called “nonhuman nature” in our contemporary economic situation, when imperial dominance threatens an already second nature with a dystopian third one. Both Ernest Callenbach’s and Marge Piercy’s ecotopias abandon capitalist economies, favoring instead a qualitative affluence; and John Brunner’s books express clear anxieties about capitalist production and consumption patterns. Fredric Jameson observes the identification of patriarchy with capitalist imperialism in Ursula K. Le Guin’s *Always Coming Home* (67), and Sally Miller Gearhart’s and Joan Slonczewski’s ecofeminist novels likewise connect patriarchy to economically motivated imperial aggression toward nonhuman nature.

Much environmental science fiction attends to the “tensions between the economic forces of production and local ecological conditions” high-
lighted by sociologist James O’Connor and environmental historian Carolyn Merchant (Radical 9). Historically considered, the subgenre is an environmental literary movement that has emerged in response to the degradation of nature that characterizes the capitalist productivism of the last one hundred years. Each story, as with each transformative movement reviewed in this study, responds differently to this degradation. Nevertheless, this degradation seems most often to be perceived in environmental science fiction as born if not always in productivism, then certainly in the deep-seated values that make the destruction of nonhuman nature for economic gain morally tolerable.

Spanning the second half of the twentieth century, a period of time that saw the largest increases of economic production and consumption in human history, the novels analyzed in this chapter look critically upon the historical economic circumstances within which each was written, and which collectively enabled such massive economic growth. Frederik Pohl and C. M. Kornbluth’s The Space Merchants (1952) offers a satirical look at “the new emphasis on consumption in the post-war American economy” (Luckhurst 110), particularly calling out the advertising industry whose self-admitted goal was—and still is—to “maintain the multiplicity and intensity of wants that are the spur to the standard of living in the United States” (Lebow 9). Twenty years later in The Word for World Is Forest (1972), Le Guin reads “the ethic which approved the defoliation of forests and grainlands and the murder of noncombatants in the name of ‘peace’” during the Vietnam War as “a corollary of the ethic which permits the despoliation of natural resources for private profit or the GNP” (Le Guin, “Introduction to” 151). And Kim Stanley Robinson’s Mars trilogy (1993, 1994, 1996) appears about another twenty years later in the post-Reagan era of global capitalist expansion to think about the ecological consequences of economic hyperactivity and to imagine political solutions to rampant, unfettered capitalist development. As a result of their critical engagements with the capitalist mode of production, these books can be read within the context of the final transformative environmental philosophy that I will discuss in this study: ecosocialism.

Ecosocialism stands for the supersession of capital by a system of democratized socioeconomic organization that assures social justice and maintains ecological integrity. Joel Kovel, author of the ecosocialist manifesto The Enemy of Nature, defines an ecosocialist society as “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). Ecosocialism is necessarily a class movement, finding in capital’s state-supported class structure the social foundation for an inherently repressive mode of economic production—that is, an elite-driven system that denies workers (and with colonization, indigenous peoples) their control of the tools, raw materials, and sites of material production and with wage labor exploits their labor power in an effort to realize a profit in a globalized network of commodity exchange.

As an ecological movement ecosocialism highlights the effects of such tendencies on ecosystemic integrity. First, severing workers from a collectively owned and democratically managed means of production enables the production of commodities with value only as things to be exchanged globally for the profit of the owner class (exchange values) rather than as goods necessary to satisfy human needs (use values) and, importantly, obedient to local ecological limits. In capitalism, exchange is the privileged value. As O’Connor writes,

This means that (1) in the workplace, land use practices, divisions of labor, and so on, are governed first and foremost by the need to produce exchange value, or profit. The needs to preserve ecological diversity, avoid ecological debts to other workplaces and future generations, promote the intellectual development of the worker, and the like are subordinated to production for profit; and (2) in the sphere of consumption . . . clean air and water, uncongested transport, and other social and ecological “goods” are sacrificed to the need to realize exchange value in the market. (327)

Second, in capitalist wage labor, workers—who because of the ubiquity of capitalism are under economic compulsion to seek employment in producing surplus value for the owners of private enterprise—are alienated from nonhuman nature, and nonhuman nature is alienated from the creative, ecologically sensible human. Wage labor relegates workers to the status of interchangeable factory, monocultural plantation, or cubicle occupants who are thus psychologically and physically removed from their place within the ecological field of relations that for ecosocialism, and deep ecology, defines a whole human self. While ecosocialists indeed
find much wanting in deep ecology, both movements encourage the de-
alienation of humans as a prerequisite for realizing our selves within the
mesh of ecosystemic relationships. As Kovel argues, the “human trade-
mark”—which is different from the trademarks of other species only in
terms of varying capacities and ways of fitting into the ecological whole—is characterized by inwardness and acting upon imagination in materially transforming ways (109). The realization of our full humanity is a function of the degree to which we participate freely in the production of use values, in the production of the necessities of our own lives, and the community’s life, as integral components of ecosystems. Under capitalism the private owners of the means of production, following the profit motive and a market whim instigated largely by capital’s sophisticated advertising and marketing complex, disunite workers from nonhuman nature and use value, defeating their beings 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 workers from being in eco-
ystemic relationship, then it is anti-ecological in part because by contriv-
ing and mandating the privately owned wage laborer it denies ecosystems the ecological creative capacity of human beings, replacing this capacity with “consumption habits artificially produced by advertising” (Löwy 7).

Finally, the profit motive of capital’s owner class commands a growth imperative that sees social and ecosystemic boundaries as opportunities for new investment and commodification. Capital thus proceeds with an attitude of limitlessness, wreaking social and ecological havoc in the process. Noncapitalist cultures are penetrated and contained within the ruling capita-
talist totality as “Other—barbarians, savages, human animals, and eventu-
ally (with the growth of science), ethnicities and races,” thereby justifying their place at the bottom of a class hierarchy where uncreative wage labor prevails and social life remains perpetually deteriorated despite the prom-
ises of trickle-down theory (Kovel 122–23). Capital “alters [life worlds] in ways that foster its accumulation, chiefly by introducing a sense of dissatis-
faction or lack—so that it can truly be said that happiness is forbidden under capitalism, being replaced by sensation and craving” (52). Kovel continues,

The culture of advanced capital aims to turn society into addicts of com-
modity 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 soci-
ety unable to comprehend, much less resist, the ecological crisis. (66)
Capital’s movement to commodify new pools of labor and to appeal in so many ways to untapped markets parallels its intrusions into nonhuman nature, which along with human labor constitutes what Karl Marx called “conditions of production.” Such intrusions, as ecosocialism argues, are responsible for ecological degradation.

O’Connor’s “second contradiction of capitalism” and Merchant’s “first contradiction” of contemporary society are parallel observations on the tendency for productivist economic activity to be in tension with ecological integrity. Capitalist activity has increased atmospheric warming, decreased soil fertility, exterminated species, polluted oceans, poisoned groundwater, and more.² The agents of capital thus damage the external physical conditions of capitalist production. This damage, combined with further injury to social and personal conditions (e.g., intensified urban congestion, increasing healthcare costs, divorce, crime) raises the economic system’s costs. Operators of the system therefore create a crisis that “has more to do with external or natural barriers than with the internal or class antagonisms of the system” (Foster, “Capitalism” par. 9). Important here is O’Connor’s and Merchant’s theoretical split from traditional Marxism, in which internal economic crisis and class antagonisms are perceived to instigate historical transformation. Instead, the economic mode’s inherently anti-ecological and antisocial activities instigate, as Merchant notes, “new ecological social movements: environmental health and safety, farm-workers’ antipesticide coalitions, ecofeminist protests over groundwater toxins, leftwing green parties, and so on” (Radical 149).

“The root of ecological crisis is economic,” Derek Wall asserts (7). A transformative solution to such crisis is thus to expose capitalism by highlighting its methods and effects, and then to challenge the economic system with a newly imagined democratic mode of production. This new mode would oppose a prevailing global capitalism that, as the dominant force behind anthropogenic pressures on planetary boundaries today, is socially and ecologically unsustainable. As responses to capitalism’s second contradiction, the following science fiction works do much to navigate capitalism’s problems, and in the case of the Mars trilogy, point the way forward toward a different economic system.

Deemed by M. Keith Booker and Anne-Marie Thomas as “a founding text of environmentalist science fiction,” The Space Merchants presents an ecologically dire future Earth where freshwater is in severe decline, coal is
still a big industry, and polluted air necessitates nasal antisoot plugs (207). Overpopulation has people yearning for the more roomy past, and wood is so rare that oak and pine jewelry signify the status that precious metals and jewels signify today. And to meet global food-supply needs in the absence of land fit enough to grow food organically, one company, Chlorella Proteins, develops and maintains Chicken Little, once a small piece of heart tissue and now a gigantic blob of protein-rich meat sliced, weighed, shaped, frozen, cooked, flavored, packaged, and shipped all over the world. The atrocious ecological conditions of this future Earth have not instigated any sort of broadly accepted revolutionary or ecotopian economic program, however. Despite the strain of the growth-centered economy on Earth’s limited life-support systems, and thus on most of the planet’s human and nonhuman population, the wheels of this economy keep turning in what David Mogen, the author of a book about mythologies of the American West in science fiction, identifies as a frontiersmanship imported from the past to drive the modern economy.

Where *The Space Merchants* is most acute in its criticism is not in condemning the ramping up of capitalist production and the associated consumerist ethos in post–World War II America but in illustrating the pernicious nature of capital’s principal instigator of this ethos. This instigator is an advertising institution motivated both to pave the way for global economic expansion into regions of disparate cultural attitudes and practices, and to obfuscate empirical evidence that would otherwise implicate the economic system it serves in a range of misdeeds. Read as a work of environmental science fiction’s economic critique, *The Space Merchants* is most effective when it shows how much the capitalist economy depends on an advertising industry whose foremost obligation is to facilitate social amnesia about the regrettable origins of whatever this economy produces or never to admit that such origins exist in the first place.

In *The Space Merchants* advertising perpetuates at least two of the mythologies necessary for capital’s expansion: (1) there is a pancultural desire and need for the capitalist mode of production, and (2) capitalist production processes and their resulting commodities are harmless. In the book the large advertising agency Fowler Shocken Associates makes its fortune pioneering for economic globalization. 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). 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 Fowler celebrates marketeering efforts to expunge social and cultural difference around the world to facilitate capitalist growth, such efforts are a key target of critique for contemporary critics of the global economy. Jerry Mander and Edward Goldsmith, editors of The Case Against the Global Economy and for a Turn Toward the Local, 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, social justice advocate 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).

Fowler’s brief history of advertising demonstrates what critics of globalization notice today: in the interest of profit and the perpetuation of capitalism, the agents of capital are annihilating cultural tradition. Of the many problems with this subordination of difference to economic purpose, one is indeed ecological, especially if that difference is one of a culture’s desire to maintain its aboriginal place and maintain its indigenous economy. Referencing environmental thinker and activist Vandana Shiva, Brian Tokar writes in Earth for Sale, “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). Indeed, capital’s systematic degradation of knowledge and skills is what leads Daniel R. Wildcat to call for an “indigenous realism,” mentioned earlier in this study as lived embeddedness. Epitomizing Shiva’s point and making Wildcat’s efforts more urgent, apologists for global capitalism believe, as global money manager Peter Marber demonstrates in his book Money Changes Everything, that because citizens of economically disadvantaged nations sport American brand-name clothes they must desire to throw away their culture and enter the global marketplace (158). In replacing the noncommercial with an omnipresent commercial, or subsuming noncommercial cultural practices into commercial exchange as identity commodities, 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, since the latter is often a core concern of the groups that capitalism’s extractive industries target.

The exhausted ecology represented in The Space Merchants is the result of the reckless consumption encouraged by advertising’s ubiqui-
tous fictional and concealing narratives. After defining early the motivations that drives the advertising industry, Pohl and Kornbluth show this industry in action. Having “actually and literally conquered the world” with Indiastories and other accounts, and “‘Like Alexander, [weeping] for new worlds to conquer’” (6), Fowler initiates his next project: the “development and exploitation of the planet Venus” (7). With “Sales” as their god, Fowler’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 travelled to Venus, to locate in O’Shea’s experiences images that will appeal to prospective immigrants to, and 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 the actual Venus of Jack’s experience and the imaginary Venus that Mitch wants to sell speaks to a fundamental strategy of global capital to conceal physical and or social reality using appealing, marketable symbolic values. But Mitch soon gets to experience the deceptiveness of advertising language when he is thrust into the authentic environment 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 Proteins greets laborers—not family farmers—with “a gush of disinfectant aerosol,” a team of condescending guards, and number plaques 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 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 the Trainites in *The Sheep Look Up*, the W.C.A. is demonized by those in power who control public discourse, thus neutralizing their message. A W.C.A. pamphlet attempts to debunk 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 knows the W.C.A. only as malcontents. His resentment of the “Consies,” as well as his position as an enabler of hyperactive 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 with the W.C.A. cause to escape the Costa Rican factory, and though he seems too firmly embedded in capitalist ideology 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 his entrenchment within the capitalist fantasy prevented him from seeing. 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 Fowler a Truth that “could do no wrong” (136). As Mogen argues, Fowler’s “convictions are part of a system of culturally-reinforced delusions that provide rationalizations for the system from which he profits” (65). Embodying the global capitalist hegemony, Fowler dismisses Mitch’s disclosures the same way capital has dismissed economic alternatives throughout the novel, discounting Mitch’s new conscience as the product of a “wicked, untamed id” (136). The novel ends after Fowler dies and leaves Mitch with majority shares in Fowler Shocken Associates. With his new ecological and social conscience, Mitch exercises his advertising aptitudes and financial resources to convince the public to stay away from Venus. Using the government-sponsored Venus rocket, he relocates to the planet with a group of W.C.A. members—an ending that prompts Mogen to reflect, “Though The Space Merchants spends much of its time lampooning the absurdity of importing myths from our frontier past into the context of the Space Age, it finds its resolution in the tried and true American solution to social and personal problems: escape to the frontier” (66).

In the second edition of her book Screening Space, Vivian Sobchack draws from Ernest Mandel and Fredric Jameson to define the “postindustrial” age and to characterize the cultural dynamics of what is often called “late 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). Marking this late 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 late capitalism. These places 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 imaginative descriptions of scarcity, sterility, and pollution amid the hypercapitalist symbolic strategies that overwrite this ecological reality in every way possible, Pohl and Kornbluth underline the problems of a late capitalism too caught up in an ideology of perpetual economic growth to notice, or even care about, the physical limits of its activities.

Mogen highlights the irony of The Space Merchants’s social and personal escapism in the face of its biting critique of what is ultimately that
same escapism used to enable capitalist expansion. But given Mitch’s seemingly intractable grounding and participation in an economic mode that commodifies nonhuman nature and human culture in ways that go beyond overwriting them with marketing language, his adoption of a conscience critical of capitalist production at least signals a hopeful shift in social consciousness. The frontier is not literally the new world of Venus, but instead the new world of thinking beyond capitalism. Mitch’s 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 culture from a productivist ideology unwilling to confront its inherent hazards—and a resulting consumer conscience unaware of the effects of economic growth on ecosystems and cultures—to an ecological conscience awake to the effects of capital’s global supremacy and willing to meet this supremacy with new ideas.

“One of the major [science fiction] denunciations of the American genocide in Vietnam” and thus of the cultural attitudes that helped sustain that war, Le Guin’s *The Word for World Is Forest* could be discussed within the context of part-of-nature, ecological thinking, deep ecology, and ecofeminism (Jameson 274). Its description of the forest on the planet Athshe, the novel’s setting, expresses a biological reality that challenges modernity’s taming of wild nature in the interest of economic development. 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 circles half an inch across. (25)

Here, complexity and decay mark the actuality of the nature from which life is born, the wild nature of which humans are a part and that must be preserved if life is to continue to be born. The book also reflects on deep ecological concerns. When one character, Kees, worries that Don
Davidson’s Terran logging crew is breaking ecological protocol when it poaches deer on Athshe, Davidson argues his point with anthropocentric reasoning (5): “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 reasoning is coupled in Davidson with an androcentrism that imposes hierarchical sexual relations in the same way it imposes top-down human–nonhuman 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 novel invites readings from the perspectives of normative ecology, deep ecology, and ecofeminism, its central conflict demands a reading critical of capitalist expansion and production—an ecosocialist reading. The book’s success as a work of environmental science fiction comes mostly from its insistence that it is foremost the ideology of capital, with its constituent ways of thinking about human and nonhuman nature, that enables the erosion of biological systems and the oppression of human and nonhuman Others. If The Space Merchants is chiefly about the symbolic strategies used to disguise capitalism’s malignancies while expanding its reach, then Le Guin’s The Word for World Is Forest is a closer exploration of these malignancies. It argues that the capitalist mode of production necessitates ecophobia, speciesism, racism, and misogyny. To build firm inter- and intraspecies hierarchies authorizes the dominant species and the dominant class and race to behave only in its own interests; to objectify women makes them available for consumption. Put differently, capitalism needs understandings of human and nonhuman Others that allow these Others to be commodified in the first place. Capital’s knowledge of people and place—indeed, Davidson’s knowledge in the novel—is strictly economic, fed by a fetish for markets and the emptying of cultural and ecological meaning that turns people and places into objects of exchange.

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). Davidson’s explanation of capital’s intentions on Athshe characterizes capitalism’s perception of nonhuman nature and
of itself. Terms such as “darkness” and “tree-jumble,” disassociated from their signification of the life-giving qualities of nonhuman nature highlighted in the blocked passage above, are imposed on the Athshean woods, writing off their place within a complex ecological totality to serve instead a mythology in which production saves the day by taming the forest and transforming it from a locale of “primeval murk and savagery and ignorance” to “a paradise, a real Eden” (3). Seeing themselves as honorable in disinfecting the forest and its people, the agents of capital in Le Guin’s novel provide the necessities of human life—wood—and are thus all the more pious. To say wood is a “necessary luxury,” though, is oxymoronic, for as the consumer culture theorist James Twitchell contends, luxuries are “totally unnecessary” (1). The logging of the forest is necessary only in that it serves the very economic system that imposes a rhetoric of need upon its products.

With the capitalist vocabulary lifted from Davidson’s project, no longer is it a noble endeavor to sanitize Athshe and fulfill human necessity. Instead, it is a deforestation project supported by “the Development people” whose real interest in Athshe is the one hundred twenty million dollars’ worth of lumber that the planet provides the Terran market annually (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 dies as quickly as the rain can wash its 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 assessment of the Athsheans as a passive and consequently exploitable species leads those in power to disregard his ecologically literate observation as another erroneous judgment. But Lyubov’s speculation exhibits one of environmental science fiction’s key environmentalist features, and it returns us—as any extrapolative assessment could—to the issue of extrapolation I discussed in the introduction to this book. As Frank M. Robinson avows, science fiction writers are “our early warning system
for the future” (255), and 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). Science fiction does ask imperative questions about the future, but as Le Guin asserts, “Science fiction is not predictive; it is descriptive” (Introduction par. 7). By depicting spaces ravaged by economic production, environmental science fiction authors raise questions about how we should behave now to avoid such consequences in the future. But, importantly, they also engage in such depictions to make us aware that much of what they portray or forecast is happening now. Lyubov’s prediction operates on both levels. It serves as a warning to the Terrans (and us) about the consequences of current extractive activities, and it reminds them that these consequences have already been experienced somewhere else. 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 . . . 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 with the industrialists 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 nonhuman nature is a central, though as we have seen contradictory, 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 take precedence over a feared and disposable nonhuman nature comes the outlook that everything in this nature must make way for the development that capital brings. Just as Davidson represents the attitude of capitalist agents toward an expendable nonhuman nature, he also represents their feelings about those who dwell in the places they desire to exploit. Davidson remarks about the native Athsheans, “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 premodern, and as inferior, Davidson validates capitalist activities that threaten a native culture whose lives are interconnected with the living forests and with each other, or in Davidson’s estimation, a substandard herd of “creechies” whose wild life ways attest to their baseness. Once “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 the Athsheans’ new knowledge of how to kill, their ecological consciousness might forever be changed as well. Though this claim is speculative (Selver’s statement ends the novel and we never find out if his prediction comes true, or to what end), it follows that such a drastic mutation of a nonviolent, embedded culture could dissolve any sense of ecological connectedness that the culture has. If the people “they were before” were seamlessly integrated into the ecology of Athshe and had developed their nonviolent, cooperative social tendencies as a result of this integration, then the introduction of social violence is also the introduction of an idea and a state of being that could separate the Athsheans from the nonhuman 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 rec-
recognizes how capitalist violence and its inherent deficit of cooperation and lived embeddedness severs native people from their traditional ways of life (466). Armstrong shares with Le Guin an uneasiness about the effects of capitalism on nonhuman 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 in the name of economic growth and the perpetuation of the capitalist mode of production.

Robinson’s Mars trilogy is especially successful at imagining an economic system that fundamentally rejects the types of capitalist obfuscations, oppressions, and assaults that are underlined in The Space Merchants and The Word for World Is Forest. Set on Mars, a “blank red slate” of social, economic, political, and environmental historical possibility, the entire trilogy illustrates the challenges of moving beyond the blemished Terran past and toward a utopian Martian future (Red Mars 85). Early in Red Mars the group of one hundred first settlers who are chosen to establish a Martian colony look forward to beginning a small scientific research station on the planet. Back on Earth capitalism’s second contradiction has played out fully and the resulting shortages of exploitable resources encourage mining and oil drilling on the protected continent of Antarctica, “the last clean place on Earth” (251). As a result, like Venus in The Space Merchants Mars becomes the next site of growth, the latest economic venture necessitated by capital’s destruction of its own conditions of production, which is in this case Earth’s nonhuman nature.

Capitalist intentions take precedence over the scientific motives of the first settlers, and the subsequent intrusion of transnational corporate interests instigates many of these settlers toward revolt later in Red Mars. The first sign of this intrusion is when the millionaire and UN Office for Martian Affairs bureaucrat Helmut Bronski violates a Mars treaty by allowing the Armscor 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 productivist 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. . . . (276–77)

Though at this point in the book Mars has just been settled, the land is quickly becoming marred by the same industrial overdevelopment that initially compelled the economic exploitation of yet another planet.

Robinson’s reflections on the insatiable demands of capitalist production do not end with the mention of Antarctica and the Armsgor “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 twenty-three-thousand-mile-high traversable cable that allows the various ores being mined on Mars to be shipped efficiently to Earth. Phyllis Boyle, the primary visionary of the space elevator, explains,

“It will . . . 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.” (306–7)

Though Phyllis promotes the elevator’s clean operation and efficient energy use, her seemingly environmentally conscious assurances conflict starkly with 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 understands to be essential for developing a Martian economy. Phyllis also perceives the scarcity crisis in the availability of ores back on Earth, yet her attitude toward the very mode of production that enabled such a crisis goes unchanged.

As a set of economically critical environmentalist texts, The Space Merchants, The Word for World Is Forest, and the Mars trilogy argue the same general point: capitalism is ecologically destructive. Pohl and Kornbluth’s book looks at the ways capital’s symbolic apparatus masks bleak environmental realities that should signal the need for other economic paths; Le Guin’s book narrates the host of social and ecological abuses and attitudes that capitalist production requires; and Robinson’s books
continue Le Guin’s observations of capitalist avarice. But out of these three works, Robinson’s trilogy also theorizes an alternative economic system. Against the growth-centered mode of production practiced back on Earth and now being imported onto the newly settled Mars, the *Mars* trilogy presents a counter model of economics: eco-economics. Thought up by two of the trilogy’s biologists, Vladimir Taneev and Marina Tokareva, eco-economics places value on individuals and institutions according to their material affects on ecosystems: “‘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 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 safeguarding and contributing to the processes of interrelated, flourishing human and nonhuman 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). Individuals of any species cannot succeed alone in the struggle to resist entropy; “each 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 phenomenon, and in fact having no “internal (or external) regulatory mechanism that causes it to reorganize” in response to biological and/or ethical imperatives to preserve life-sustaining ecological integrity, capitalism functions under the principle that only rate of return on financial investment determines the success or failure of an economic venture (Foster, “Capitalism” par. 14). 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.

Having finally gained independence from Earth’s political and economic institutions, the leaders of Mars in *Blue Mars* organize a congress to establish an official Martian government. As Marxist literary scholar William J. Burling notes, “At the constitutional congress the ‘economic problem’ looms over the entire process, and not until the matter is resolved by active debate and democratic political process is a peculiarly Martian
system of ‘eco-economics’ given birth” (160). During this congress one character debates that the eco-economic model of the Martian economy “is a radical and unprecedented intrusion of government into business” (*Blue Mars* 141). Vlad counters by pointing out the inherent problem of such an attitude: business relations are hierarchical, contradicting the democratic values that have guided the new Martian civilization since its earliest days. He then outlines the eco-economic system, which socially provides the equal rights and self-rule that the hierarchical structure of capitalism cannot, and which philosophically challenges capitalist conceptions of nonhuman nature. As Vlad states, “the world is something we all steward together” rather than exploit privately (144). Important in eco-economics is its synthesis of socialist elements—workers owning the means of production and “hiring capital rather than the other way around,” for example—with environmentalist 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 more embedded citizenry through a new economic paradigm that values ecosystemic integrity.

Burling draws attention to the democratic political process of the Martian congress and its outcomes to emphasize a key departure of the *Mars* trilogy from traditional socialist theory. In such theory, as already noted, capitalism is predicted to give way to socialism as a result of contradictions within the economic system. O’Connor summarizes this “first contradiction”: “capitalist production is not only production of commodities but also production of surplus value, that is, capitalist exploitation of labor. The exploitation of labor means simply that class struggle and economic crisis are inherent in capitalism” (127). But as Burling observes of the Martian congress, “capitalism did not in any sense collapse due to economic dynamics but was replaced via the political process,” an observation that allows us to shift our attention from the content of the congress—namely, the details of the eco-economy—to its political form, one of a radical democratic participation foreign to, and even threatening to, capitalist social relations (160). This shift in turn allows us to dwell for a bit on a complementary analysis of this radical political form from the specifically ecosocialist literature: Kovel’s discussion of differentiation and dialectics.

As Kovel notes, ecological integrity is dependent upon differentiation, “a state of being that preserves both individuality and connectedness”
“Elements of living ecosystems do not exist as separable parts,” Kovel writes, “they also exist in relation to the Whole, which is non-reducible to any of its parts, which plays a role in determining them, and cannot exist without them” (105). But “capital is riddled with the sequelae of splitting” (Kovel 139); capitalism disintegrates ecosystemic integrity through its quantification and extraction of exploitable resources from, for example, an ocean ecosystem that is not simply a temporary holding area for marketable seafood but a complex totality of interdependent living and nonliving parts, most of which have no economic value. If we are ethically interested in ecological integrity for the sake of humanity and otherkind, then we need to rise above such splitting with a noncapitalist practice of recognized ecosystemic differentiation. But for this to happen requires a fundamental change from a decidedly nondemocratic economic mode that is deaf to the people who speak for ecosystemic integrity, to a democratic, dialectical communal mode that is always open to the voices of its stakeholders, many of whom for various reasons constitute the new ecological movements that O’Connor sees emerging as a result of the second contradiction of capitalism. In other words, a viable ecopolitics must be modeled on ecological differentiation; it must operate as a dialectical process that brings together individuals “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).

Critic William Dynes writes,

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)

This “syncretism” reaches its high point in the Martian congress, when twenty-one political parties and other organizations come together with the shared goal to create a Martian government. It is in this congress that those who favor the capitalist mode of production cannot make a good case for private business interests against collective responsibility for the commons, the reuniting of workers with the means of production, and a legal system that oversees and regulates the impact of economic activity on
the Martian environment. The genuine democratic political process of the congress becomes, in the end, the key to defeating capital and ushering in the new economic mode.

For Burling democratic political process finally enables the supersession of capital. For O’Connor capitalism falls, or at least takes on more transparent forms, as a result of the new social movements that come into being as individuals and communities start to see and feel the environmental and social costs of doing business in the capitalist economic mode. There is a complementary relationship between these two theories, and we can see this relationship in the Mars trilogy. In Green Mars the democratic congress at Dorsa Brevia generates seven work points, the last of which reads, “The habitation of Mars is a unique historical process, as it is the first inhabitation of another planet by humanity. As such it should be undertaken in a spirit of reverence for this planet and for the scarcity of life in the universe” (390, emphasis added). Given work points three through five—which affirm the collective stewardship of the Martian commons, the personal ownership of one’s labor, and thus the complete incompatibility of the economic order currently practiced on Earth with the order desired by most people on Mars—the issue of scarcity stressed in point seven is a direct response to the now “metanational” corporations that are trying to make their move onto Mars. The perception of scarcity requires some kind of understood environmental crisis, whether species extinction, water crisis, or in the case of the Mars books, the combination of Earth’s various economogenic environmental problems and the visible effects of capitalism on Mars (e.g., “raw pits and slag heaps” and refinery plumes). Work point seven is thus a public response to capital’s degradation of the conditions of production, a response that is codified later in the Martian congress when the eco-economy is approved.

It could be said then that the perception and experience of environmental exploitation leads to increased participation in democracy, which in turn leads to increased social pressures on the economic system that according to ecosocialism is responsible for such exploitation. Of course in the economically developed West our perception and experience of ecosystemic degradation is both mediated by capitalism’s symbolic apparatus and limited by the economic mode’s geopolitical dynamics. As The Space Merchants can help us understand, marketing and advertising teach us nothing about the actual origins of products and in fact necessarily pro-
mote consumption as the only path to personal satisfaction. And as Slavoj Žižek observes in the film *Examined Life*, it is too easy for us in the West to fall into ideological disavowal when confronted with issues of environmental degradation, to “act as if [we] don’t know” about global climate change or biodiversity loss. This is largely because of the way the evidence of capitalism’s effects on ecological integrity is mapped geographically, with economically and politically disadvantaged groups carrying the ecological and social burdens of industrial production. For most citizens of the developed North, however, it is hard to believe that environmental crisis is upon us when after reading books and articles about climate change, peak oil, and water wars, we step outside and see, again in Žižek’s words, “nice trees, birds singing, and so on.”

There are thus at least two major obstacles in the way of communicating the political urgency with which we need to be addressing the very real ecological exploitations inherent in the capitalist economic mode: (1) the broad lack of serious, action-generating public interest in environmental issues due to the counterforce of ever-present advertising messages that advocate a supposedly benign and life-enhancing consumption, and (2) the broad lack of likewise action-generating experience of environmental issues in a Western society that has distanced itself from the places and people whom it exploits to maintain a certain way of life. Indeed, as environmental degradation comes closer to home, as it did in the United States in April of 2010 with the British Petroleum oil gusher in the Gulf of Mexico, perhaps more and more citizens of the North will enter into fruitful democratic political process. But we do not have to wait for oil spills, water crises, species extinctions, and more to heighten our perception of local and global environmental problems and to generate our concern and action. Among a host of available resources, we have transformative environmentalism and we have environmental science fiction to direct our attention toward what we are doing and what we need to be doing. In the case of the works reviewed in this final chapter, *The Space Merchants*, *The Word for World Is Forest*, and the *Mars* trilogy can help us overcome the obstacles to our full understanding of capital’s role in environmental crisis, as well as lead us to a full appreciation for an as yet unrealized mode of ecologically responsive and democratic economic production.