Strange hypotheses turn up in Barlow’s travels down this path of ideas, but they all have claim to the ring of truth and they are all worth investigating.

Most important, if the anachronistic hypothesis is correct, it has implications for both ecological theory and conservation practices. For example, plants bereft of dispersers are limited in their range. They may have formerly contributed in important ways to the diversity of, say, a forest. Indeed, as ecologist Richard Corlett says, the “loss of dispersal agents may, in the long term, be as serious a threat to tropical plant diversity as deforestation” (p. 211).

Fortunately, science is a creative enterprise, for the reconstruction of evolutionary and ecological history requires imagination—imagination tempered, of course, by deep understanding of existing ecological mechanisms and the fossil record. The historical vision conjured up by Daniel Janzen and Paul Martin informs the present and suggests important strategies for the future management of finite biological resources. The great insight of these creative scientists is that extant organisms live not only in ecological time but also in evolutionary time. Understanding those organisms—and those now alive—requires an understanding of evolutionary history, which Connie Barlow’s work supplies.

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MARKET-BASED CONSERVATION: IRONIC, OXYMORONIC, AND PLAUSIBLE


Nature and the Marketplace is a mixed blessing. Although it contains little that is new, few books have synthesized the literature on sustainability and markets as forthrightly and, more important, at a level of complexity conducive to undergraduates as well as graduate students. It comes from a reputable source in the depths of neoclassical economics, which is a compliment not only to Geoffrey Heal but also to the ecological economists whose labors are bearing fruit in the contested terrain of sustainability studies. It represents a limited, market-oriented perspective on sustainability, but then Heal doesn’t claim to have all the answers.

Heal’s goal is “to share a vision of how humans can manage their interactions with the natural environment on which their prosperity and well-being are ultimately based” and to “examine how natural systems and processes benefit human societies and seek to identify the economic policies and institutions needed to maintain their integrity” (p. x). In public policy circles, Heal’s work would be classified as public choice theory. Public choice theorists analyze policy under the assumption that human beings are self-interested utility maximizers and that maximization may be measured economically. They support the free market as the dominant form of socioeconomic organization, and privatization is the natural prescription.

For those who have become cynical about free-market approaches to environmental problems, Nature and the Marketplace is somewhat refreshing. Heal begins with an overview of the ecological underpinnings of the human economy rather than discussing them in passing, like so many others. He states, “The scale of the human endeavor has grown so large that it is affecting even basic planetary systems that have been in existence for hundreds of millions of years” (p. 4). Heal even takes a step further than most of the ecologists who write about ecological deterioration by specifying that “it is these complex systems that human economic activity is now, for the first time, affecting significantly” (emphasis added; p. 5). Ecologists tend to shun the word “economic,” which conceals the fact that solutions must be sought in the economic policy arena.

Chapter 1, on the ecological foundation of the human economy, draws heavily on Daily’s (1997) Nature’s Services. Heal’s overview is so basic that many ecologists would overlook the necessity of composing it. That, however, is their oversight and to Heal’s credit, because students entrenched in economics curricula need just such a basic overview. Chapter 2 complements chapter 1 by providing an equally basic overview of market principles that will be useful to ecologists and natural resource policy students hoping to enter the all-important economic policy arena.

Chapter 3 is where Heal begins to synthesize and, unsurprisingly, where weaknesses begin to appear. Some of these weaknesses are common even in the non-synthesized writings of economists and ecologists, however, and do not negate the value of Nature and the Marketplace as an introductory text on sustainable markets. The first weakness appears as a bias toward privatized market interests. Heal does a fine job of describing how New York City—more specifically its public water agency—invoked market forces in conserving (to some extent) its watershed. In other words, he demonstrates how a public agency can function in the market. Inexplicably he summarizes, “It may be possible to privatize the conservation and management of watersheds by giving corporations the right to manage them and sell the water they provide” (emphasis added; p. 60).

A more serious weakness surfaces in chapter 4, which places a great amount of hope in ecotourism as a replacement for extractive economic activities. This is where Heal’s shortcomings in ecological economics appear. By employing the concept of trophic levels (as existing in the economy of nature), it becomes clear that increasing levels of tourism ultimately require increasing levels of agricultural and extractive activities (Czech 2000). In other words, at the base of a cash economy, agricultural surplus must be produced to free the hands for the division of labor and for the doing out of
money. Heal provides nothing to educate readers on this structural aspect of economics that is so important to sustainability discourse.

Another common weakness of public choice theory arises in chapter 6, where Heal speaks of “privately produced public goods, such as atmospheric composition” (p. 74). Nothing is more revealing of the public choice paradigm than attributing forests, wildlife, and even the air we breathe—all of which would do quite well in the absence of humans—to “private producers.” From this perspective a corporation is considered a “provider” of clean air if it keeps itself from polluting! The esoteric nature of this perspective does not negate the logic of establishing tradable pollution permit systems, but deriving such logic by ascribing clean air to polluters makes this perspective seem like a political ploy.

One of the strengths of chapter 5, on the other hand, is that Heal deftly uses it to introduce the issue of global equity. In particular, he asks, who should be allocated the most pollution permits: developed countries with the most to lose or developing countries with the most to gain? Heal alludes to the answer in chapter 8, where he points out that “$5 saved in India will lead to a far greater increase in social well-being than $10 saved in the United States” (p. 152).

Heal’s bias toward the market is again revealed in chapter 6, on biodiversity, and the revelation is quite ironic. Heal refers to Blockstein’s (1998) hypothesis on the increasing incidence of Lyme disease—a hypothesis pointing to the extinction of passenger pigeons—to caution readers of the complex and unpredictable ramifications of human-induced ecological change. Could Heal not know that nothing in the annals of wildlife ecology was more linked to the market than the extinction of the passenger pigeon? Perhaps he would argue that what was lacking was ownership of live passenger pigeons (at least until he thought about the institutional challenges to establishing and enforcing ownership over the unpredictably migratory). Yet Heal would be just as astute to note that, after the lessons of market hunting, government regulations came to the rescue effectively and decisively (Czech and Krausman 2001).

In chapter 7 Heal distinguishes between price and value, equating the latter with importance. “Going back to diamonds, in a world without affluent people the prices of luxury goods such as diamonds would be a lot lower” (p. 114). This all-important point should be made in all economics texts. On the other hand, Heal failed to go the next step and relate this principle to ecotourism. He failed to say, “Going back to ecotourism, in a world without agricultural and extractive surplus the prices of luxury services such as ecotourism would be a lot lower.” Instead, Heal leaves the sustainability of ecotourism shrouded in mystery.

Heal would have done well to specify that the market he touts is hardly a free one. For example, on page 116 Heal notes that “we could value the carbon sequestration services of forests or the water purification services of watersheds by setting market prices for them.” What Heal and public choice theorists conveniently overlook is that “setting market prices” requires the same type of political stamina and institutional reform as does the establishment of new regulations. Public choice theorists tend to portray marketization as much more palatable and operational than regulation, yet industry would wage the same campaign against price foisting as it does against regulation. Heal’s “market” is oxymoronic in that it owes much of its existence to government. Heal promotes fishing permits as long as they are tradable; tradability makes them a “market” solution. He proffers “Lindahl markets,” in which prices can depend on such features as the nationality of the consumer. And, in an astonishing flash of irony, he even refers to taxes as “market-oriented” (p. 148). The market prescribed by Heal is all tool and no ideology, not a bad
thing but worth noting for its nontraditional bent. In political economy all is relative, and to died-in-the-wool public choice theorists, perhaps Heal is a radical.

What stands out in chapter 8 is an unbalanced presentation of the issue of monopoly. Heal favors the saying “The monopolist is the conservationist’s best friend” (p. 143). The notion that ownership of all resources in an area by a monopolist will result in comprehensive care taking by the monopolist is quite an example of oversimplification. Absent is even a basic list of the pitfalls—including the obvious conservation pitfalls that Theodore Roosevelt railed against—of monopoly.

Chapter 9 provides an excellent review of the concept of discounting, the rate of which tends to be correlated with the rate of natural capital liquidation. When Heal starts to invoke market mechanisms to solve this problem, he doesn’t get far and concludes, to his credit, that “the answer seems to be that...using markets to provide conservation incentives where possible...is a necessary step in attaining sustainability but is not on its own sufficient” (p. 176).

While Heal’s writing is crystal clear and invokes confidence, mistakes occur in Nature and the Marketplace that tend to undermine its representation of the facts, albeit to a relatively minor extent. For example, Heal attributes enforcement of the tuna permit system to the US Fish and Wildlife Service, when in fact tuna permits are handled by the National Marine Fisheries Service. He later attributes tradable wetland permit administration for purposes of implementing the Clean Water Act to the Fish and Wildlife Service, when in fact the Army Corps of Engineers is the relevant agency.

The most disappointing aspect of Nature and the Marketplace, however, is that Heal fails to even acknowledge the many contributions of prominent leaders in ecological economics, which has distinguished itself as a leading movement in the quest for sustainability. For example, although Heal recognizes the problem of perpetually expanding economic scale, he neglects Herman Daly’s (1973) steady-state economy, which by now should be standard fare in any discussion of the economics of sustainability. Although he acknowledges the need for reforming national income accounting (particularly gross national product), he likewise fails to mention Daly and Cobb’s (1994) Index of Sustainable Economic Welfare. Although he acknowledges the work of Robert Costanza, a prolific provider of sustainability prescriptions, it is only to denigrate Costanza’s most controversial publication, “The Value of the World’s Ecosystem Services and Natural Capital” (Costanza et al. 1997). He totally disregards the work of Nicholas Georgescu-Roegen, Richard Norgaard, William Rees, and the late Kenneth Boulding.

The harshest appraisal would be that Heal’s focus on market solutions leaves him “clean” in corporate eyes while leaving the dirty work of sustainability to the heavy lifters in ecological economics. The greatest praise would be that Heal has done what few other economists or ecologists have done, that is, produced a coherent synthesis of important ecological and market principles replete with a clear set of policy recommendations. One thing is certain: For the many students—especially in business schools—whose instructors are predisposed to public choice theory, Nature and the Marketplace is a major improvement over traditional versions.

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