Research in Corporate Sustainability: The Evolving Theory and Practice of Organizations in the Natural Environment, edited by Sanjay Sharma and Mark Starik. Cheltenham, UK: Edward Elgar, 2002, 352 pp., ISBN 1840649062, $100.00.

What We Learned in the Rainforest: Business Lessons from Nature, by Tachi Kiuchi and Bill Shireman. San Francisco: Berrett-Koehler, 2002, 256 pp., ISBN 1576751279, $27.95.

From Heresy to Dogma: An Institutional History of Corporate Environmentalism, by Andrew J. Hoffman (expanded edition). Stanford, CA: Stanford University Press, 2001, 287 pp., ISBN 080474503X, $27.95.

Metaphor, history, institutional theory, and empirical studies illuminate the practice of corporate environmentalism in these three books. Each offers new insights into why and how businesses pursue positive environmental strategies. Each cites examples of major corporations that see business value in environmental programs that go beyond basic compliance with law.

The message of Kiuchi and Shireman's imaginative work, *What We Learned in the Rainforest*, is that natural systems grow and change according to principles that provide a model for sustainable business. The process of succession in nature, for example, offers parallels to the phases of businesses and products defined as innovation, growth, improvement, and release. The authors note that managers who seek and listen to feedback can avoid the "release" or disintegration phase of succession for their organizations by adaptation to new conditions. This reassuring observation illustrates Ehrenfeld's (2003) point that human beings as active agents can change the rules and that an analogy to ecological systems is problematic in that respect.

This book is full of ideas, some explored in depth and some left for others to develop. Key elements and management principles of the "four seasons" of the organization's life cycle are explained, citing the success of 3M in avoiding the commodification of its products by creating new products and varieties at the end of the cycles of the old. Examples from the evolution of the information industry are described at length in the chapters on information, profit, and innovation. The authors deplore the dominance of Windows and Intel technologies, believing that it is suppressing innovation in the "infosphere." They assert that after the energy crisis of the 1970s, "information surpassed fossil fuels as the primary catalyst for economic growth" (p. 132). Confirming this contention with solid empirical data that decouples economic growth and fossil fuel consumption could transform the existing debate over the costs of reducing greenhouse gas emissions' impact to moderate climate change.

Hoffman's *From Heresy to Dogma* looks at the period from the late 1960s to the early 1990s and asks why and how industry moved from a posture of resistance toward environmentalism to one of proactive environmental management. Focusing on the chemical and petroleum industries and specifically on two companies, Dow Chemical and Amoco, Hoffman presents a chronological history. He begins with the stage of "industrial" environmentalism (before governments weighed in strongly around 1970), works through the phases dominated by regulatory concerns (1970–1982) and social responsibility drivers (1982–1988), and arrives at the latest stage of "strategic environmentalism." Hoffman's interesting analysis of environmental coverage in *Chemical Week* and the *Oil and Gas Journal* shows how the issues for those industries changed from 1960 to 1993 and how strategies aimed at internal management goals (i.e., pollution prevention and the chemical industry's Responsible Care initiative) grew over the years.

Hoffman's book examines corporate behavior through the lens of institutional theory, with emphasis on how corporations have responded to other actors in their environment. In the strategic phase, industry sets its own environmental agenda, as it did in the 1960s; but this agenda is more progressive because investors, insurance companies, and competitors have joined governments and environmentalists in influencing internal goal setting and in diffusing responsibility more broadly within the corporation.

Buyers, suppliers, and shareholders became more influential in the 1990s, Hoffman notes in the new afterword to his volume (which was originally published in 1993). He correctly points out that the objectives of corporate environmental practice are increasingly seen by some business leaders in terms of operational efficiency, risk management, capital acquisition, market demand, and strategic direction through identifying relevant trends affecting products and services. These objectives go beyond the traditional categories of regulatory compliance or social responsibility alone. Hoffman concludes by asking whether corporate environmental practice has run its course and whether a broader sustainability agenda is now center stage. His answer is no, because all relevant actors in the institutional context, such as banks, have not incorporated environmental concerns.

Sharma and Starik's volume, *Research in Corporate Sustainability*, contains ten studies chosen to reflect the focus of theoretical and empirical inquiry in scholarship in organizations and the natural environment. Bracketed by excellent introductory and concluding chapters by the editors summarizing current research trends and proposing future directions, the chapters range from an analysis of the impact of globalization using The Natural Step framework to a study showing how use of the U.S. government's Toxic Release Inventory (TRI) as a teaching aid can raise environmental consciousness among business students (but only when coupled with data on the potential health effects of the materials in the inventory).

Many of the chapters dig deeper into the internal management and decision making of corporations. These chapters take Hoffman's proposition about the trend toward strategic environmental management to the level of a statistical analysis of factors influencing manufacturing facilities to implement positive changes, such as the adoption of environmental audits or design for environment programs. Another study examines how inclusion of environmental objectives and criteria in human resource management practices can advance organizational performance. A chapter on success factors in integrating company systems during mergers analyzes how combined environmental capabilities can be strengthened, even while half to two-thirds of deals are reported to fail to realize their intended business objectives.

For the corporate environmentalist, the question of greatest interest is posed in the introduction: Does it pay to be green? The moral and ethical dimensions of environmentalism do matter to most executives and managers in major corporations. But making a profit from the sale of goods and services is still the primary goal of business, and financial accounting is its language and its scorecard. Making the case for moving a company's performance beyond compliance is much easier when the financial stakes are clear.

For example, the large and well-recognized financial impacts of environmental releases and wastes were the strongest driver toward internal corporate programs for pollution prevention and waste reduction during the 1980s. The forces of values and stakeholder expectations cited by Hoffman did not operate alone, but included cost and liability factors that were dominant, as he acknowledges. The disaster at Bhopal, the resulting enactment of the U.S. Toxic Release Inventory, and the acceleration of waste-site cleanups under governmental mandates during this period vastly increased the reality and the visibility of costly environmental liabilities and contributed to a huge increase in the direct costs of waste management, especially at (unpopular and scarce) waste disposal sites. These developments did not go unnoticed by corporate financial and operating managers.

The chapter by Schumann, Steingard, and Fitzgibbons on sustainable stakeholder accounting provides a valuable discussion of the growing pool of literature; it also offers a set of reengineered financial statements showing how the addition of environmental damages assessed against Exxon for the Valdez oil spill would alter its income statement and balance sheet negatively, even though the $5 billion assessment might not be material for a company of its size in terms recognizable by the U.S. Securities and Exchange Commission (SEC). The authors conclude that "by embedding the financial impact of corporate environmental performance, both positive (such as cost savings and eco-efficiencies) and negative (such as environmental degradation) in the financial statements, a more comprehensive evaluation of true liquidity, solvency, and profitability can be made" (p. 269).

To reach this desirable outcome, much more research is needed to help generate the numbers. The work of identifying and disclosing environmental costs and benefits for *internal* operations is still at an early stage. As for costing *external* environmental and natural resource impacts, the development and adoption of full cost pricing and greater reflection of environmental resource use in Standard National Accounts (as urged more than ten years ago by the World Business Council for Sustainable Development [WBCSD], among others) has gained even less traction, as its business advocates candidly concede. Referring to such measures in its assessment at the time of the Johannesburg Conference in 2002, the WBCSD (2002) observed that "there has been very little political support for such moves from governments, civil society organizations, or frankly, most of business" (p. 185). Action on the part of companies to define and display cost estimates on their external impacts seems highly unlikely without external requirements in the form of governmental regulations or binding accounting standards.

In sum, these three books deepen our understanding of how business responds to environmental issues and provide encouraging evidence that some forward-thinking companies are incorporating environmental considerations into their broader business strategies. Hoffman's prediction that environmentalism "should ultimately disappear into the cultural foundations of the corporation," like the drive for profit and quality, is an appealing goal. But his optimism does not alter the fact that only a small fraction of the world's businesses have reached the stage of adopting strategic environmental practices.

What is missing in these books is an acknowledgment of the continuing weakness of incentives for business to make major investments in environmental improvement beyond legal requirements, much less to underwrite the technology turnover needed to address large, long-term risks such as climate change. If you believe as I do that the degradation of the natural environment is accelerating in much of the world, it is wishful thinking to expect market forces or social responsibility motivations to move industry to adopt a sustainability agenda, especially when the financial accountability system does not strongly reinforce such a direction. Recognizing and analyzing corporate environmentalism as a positive development is certainly important. Yet, even more important is providing the research that would help build social consensus on what must be done to arrest environmental decline and what inducements to industry are needed to enlist the power and creativity of corporations in achieving the level of change required.

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