

fined Japanese culture. "Environmental activists, local PTA's and city dwellers," the authors note, "began actions in the early 70s to prompt local governments to support restoration projects and environmental laws; more recently, newly-formed NPO's have joined with government agencies and local village elders to work on local restoration projects."

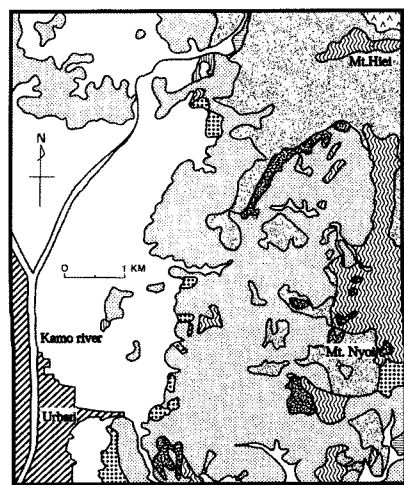
Some small-scale success stories are highlighted in the book, all brought about by the efforts of educational institutions and government researchers. The modern satoyama movement in Japan seeks to connect environmental education and social networking, to focus volunteerism on helping to revitalize degraded forests, and to encourage the creation of park-like areas near cities where people can become part of the social movement to save the environment. Human beings, the current satoyama movement acknowledges, are central to the picture; it is essential for restoration work to involve the communities in which it is to take place.

This book may inspire environmental groups both locally and worldwide to analyze forestry conservation in new ways. Viewing them through the lens of current conservation practices one might reject the traditional Japanese forestry model: Japanese forests are clearly not as healthy as they should be. However, some international experts are embracing the concepts put forth in the Japanese government's Autonomous Environmental Planning Law of 1999, which urges local authorities to "go back to the basics and re-examine how to appropriately manage and use the woodland and agricultural lands, while improving the health of local economies and minimizing impacts on the natural environments." These principles reverse nationally-administered agricultural programs that focused on field crops without taking into consideration the wider satoyama watershed component. If implemented, not only in Japan, but in other countries, these principles would help to minimize destructive human activities and provide a means to stimulate rural economies.

Late in the book the authors describe some potential ways to recharge rural economies by fostering local micro-industries. These would be modeled on components of traditional local satoyama economies that were sustainable for centuries. The book's intention, though, is not to suggest individual satoyama designs. Rather, used as a broad guide to policy, it aims to establish an atmosphere conducive to change in long-held political attitudes regarding forestry practices.

One way the authors approach the crucial issue of the cost of maintaining a neatly coppiced forest is to link the green har-

vest with rural energy independence. Methane digesters, co-generation power plants and other technologies are discussed as potential generators of revenue. "Japan's satoyama forests are estimated to contain 6,300,000,000 cubic meters of forest biomass," the authors note, "enough to provide 6,000,000 households with power." In the book's last chapter the authors cite a report from the Forest Bio-mass Research Association (APAST) that focuses on average yearly harvest capacities. These figures bring the economic potential into clearer focus: "1000 tons of yearly harvest capacity . . . (or 15 forested hectares) would provide 500 households with elec-



FOREST IN KYOTO DURING THE MEIJI PERIOD
Satoyama: The Traditional Landscape of Japan

tricity and modern cogeneration furnaces would collect enough energy for local home heating equal to 450kW." Further, "one long-term sustainable feature shows local production can eliminate 1300t of CO₂ emissions and the importation of 450kL of heavy oil while providing 10-12 local part-time jobs." The potential of satoyama to save rural areas is tremendous.

One comes away from the reading with questions:

- What is the future of agriculture in Japan without innovative forest practices?
- How will Japan's past and future policy toward satoyama influence the preservation of watersheds worldwide?
- How can local watershed preservation, biodiversity and cereal production be seen as more interrelated, and as such, deserving of special government support?

—Karl Bareis

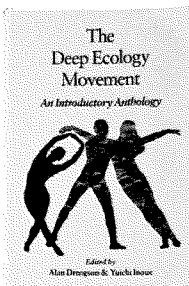
Basics of Deep Ecology

The Deep Ecology Movement: An Introductory Anthology, edited by Alan Drengson and Yuichi Inoue. Berkeley: North Atlantic Books, 1995, 293 pp.

FIFTEEN YEARS after its publication this comprehensive anthology still provides one of the best introductions to the deep ecology movement. Whereas "shallow" ecology sees nature primarily in terms of the resources it provides for humans and believes that a high-growth, consumer-oriented society can be made more "environmentally friendly" through technological innovation and the reform of existing political-economic structures, deep ecology regards nature as having value in itself, apart from any value it may have for humans, and aims, as the editors write in the introduction, "to achieve a fundamental ecological transformation of our socio-cultural systems, collective actions, and lifestyles" (p. xix).

The term *deep ecology* was coined in 1973 by the Norwegian philosopher, Arne Naess. Section I of the book includes four papers by Naess, outlining the main tenets of deep ecology and explicating Naess's own specific approach to ecological philosophy, which he labels "Ecosophy T." Starting from the premise that the ability of individuals to fully realize their own potential is dependent upon the self-realization of all living beings, Naess suggests that diverse and complex natural environments can best be preserved through the creation of decentralized, autonomous communities, which exploit neither humans nor nature.

Naess is careful to point out, however, that Ecosophy T is but one route to a deep ecological perspective, which can be arrived at from a variety of philosophical and religious traditions (Naess lists Buddhism, Christianity, and Spinoza as examples). What needs to be agreed on, in Naess's view, are not ultimate premises or specific strategies for implementing them, but rather a platform of basic principles, which themselves are open to debate and revision. The book includes two such platforms (the original by Naess and George Sessions, and a revised version by David Rothenberg), both of which emphasize the intrinsic value of nature and the objective of meeting human



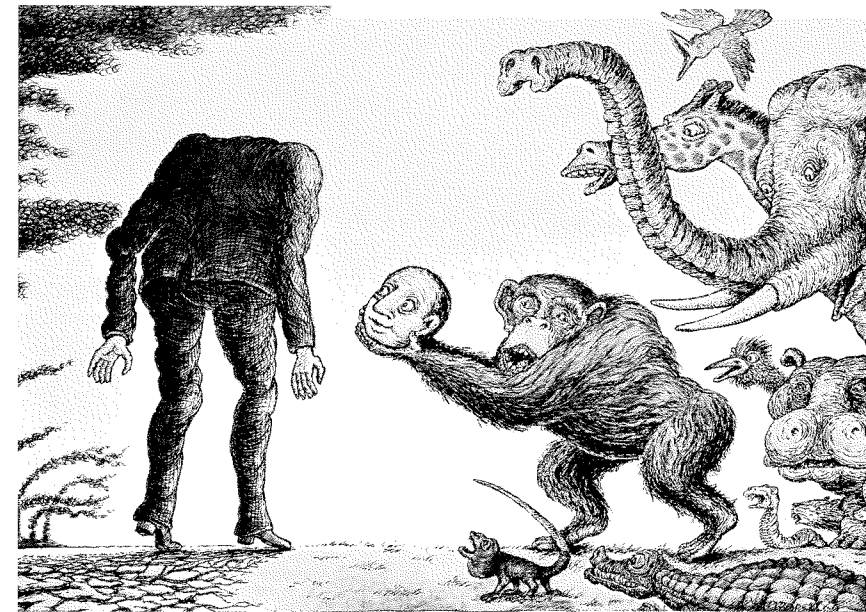
needs in ways which are genuinely ecological.

The second section of the book provides an elaboration of deep ecology from a variety of perspectives. Included here is an essay by Gary Snyder, which links deep ecology to the bioregional program of creating "ecosystem cultures" based on local self-sufficiency rather than "biosphere cultures" that plunder resources around the globe for the benefit of a wealthy minority (see page 64); and an article by Alan Drengson, which advocates a paradigm shift away from the idea that humans can technologically master nature for their own ends towards the goal of creating more symbiotic societies which provide for a high quality of life within limits set by nature.

Naess's concept of self-realization is expanded on in essays by Bill Devall, who suggests that self-realization can best occur in the context of local bioregional communities; Warwick Fox, who develops a "transpersonal" perspective in which humans can identify themselves not only with others whom they have personal relationships with but also with the world as a whole; and Freya Mathews, who argues for a relational view of humans and nature based on the fact that the two are mutually interconnected.

Part III explores several "major topics" relevant to deep ecology, including an essay on the place of ritual in the deep ecology movement by Dolores LaChapelle; a description of the "Council of All Beings" by Pat Fleming and Joanna Macy; and two articles on consciousness-raising, by Gary Snyder and John Rodman. Essays on the relationship between deep ecology and ecofeminism by Michael E. Zimmerman and Patsy Hallen make a clear connection between the domination of humans over nature and the domination of men over women. Andrew McLaughlin's concluding chapter goes even further by arguing that domination in all its forms — classism, imperialism, racism, and sexism — must be overcome to achieve a truly ecological society.

Although deep ecology is sometimes accused by both social ecologists and ecological Marxists of emphasizing changes in personal lifestyles and values at the expense of articulating a coherent political alternative to capitalism, in fact McLaughlin, much like Drengson, sketches out a paradigm which goes beyond the industrialism of both capitalism and classic Marxism. McLaughlin seeks to preserve the progressive movement's emphasis on the full and equal development of each individual human while simultaneously maximizing non-human flourishing. As agents of change McLaughlin places some hope in direct action groups such as Earth First!,



VLADIMIR KAZANEVSKY, THE 9TH KYOTO INTERNATIONAL CARTOON EXHIBITION "WHAT IS THE BEST WAY TO DEVELOP OUR PLANET?"

Sea Shepherd, and Greenpeace, many of which have been inspired by deep ecology, and also in the growing global Green political movement.

For readers who want to delve even deeper into deep ecology, an extensive bibliography is provided at the end of the book. For a good general introduction, however, the book itself is an excellent place to start.

—Richard Evanoff

Biodiversity & Human Health

Sustaining Life: How Human Health Depends on Biodiversity. Edited by Eric Chivian and Aaron Bernstein. Oxford: Oxford University Press, 568 pp., \$34.95 (cloth).

"An object seen in isolation from the whole is not the real thing."

—Masanobu Fukuoka, *The One-Straw Revolution*

LIFE ON EARTH is undergoing a sixth great extinction, a massive and rapid loss of species biodiversity. The previous five, ranging chronologically from 440 million to 66 million years ago, were most likely due to volcanism or meteorite strikes. The mass extinction we are living through is the first one to have as a cause human agency, and it is to human agency that we must address the effort to stop and, where possible, to remedy the staggering destruction of the environment which engendered and nourishes us.

There is a tendency, perhaps predominantly Western and modern, to view humans as somehow outside nature. This is a dangerous illusion, owing mostly to ignorance of the ecosystem services we critical-

ly depend on, and of the role biodiversity plays in creating and maintaining ecosystems. We are familiar with simple images of linear food chains, but to understand better the relatedness of all life, we need to situate these chains within four-dimensional networks of relationships in real locations with fertile histories and — today — increasingly sterile futures. It is never a single species that is lost, but an entire world of interactions and actors who keep in balance a slice of the biosphere. Lost once, it is, in its unique genetic and ecological identity, lost forever.

Of the mass of recent popular material detailing our environmental crisis, none is more attractive than the large, richly illustrated tome, *Sustaining Life: How Human Health Depends on Biodiversity*, edited by Eric Chivian and Aaron Bernstein, and authored by a host of life scientists and biomedical researchers. The stress is placed on the material benefits human health reaps from preserved biodiversity: the innumerable examples of natural pharmacopoeia and other organism-derived compounds used in medicine, and how undamaged ecosystems stem human infectious diseases, ensure the quality of our food and water, and regulate climate. The major factors leading to biodiversity loss — habitat destruction, overkill, introduction of exotic animals and disease vectors, chemical and genetic pollution — are repeatedly explicated and explored through examples (terrestrial, freshwater and marine) drawn from domains ranging from agriculture to medicine.

The concluding chapter offers suggestions for individual action in conservation. The authors don't dwell much on the cultural and spiritual effects of the impoverishment of the environment, but rightly