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Eco-Pioneers
Practical Visionaries Solving Today's Environmental Problems
Steve Lerner
The MIT Press 1997

Eco-Pioneers is an inspiring book. In the introduction the author, Steve Lerner, says that he began this book upon returning from the Earth Summit in Brazil in 1992. He and his family “packed up [their] pickup truck and began a 10,000-mile trip meandering across the country looking for people who were involved in the nuts and bolts of sustainable development.” (pg 2). Eco-Pioneers is a book about the people – the “eco-pioneers” – he met along the way that have “taken on a discrete environmental dilemma and immersed himself or herself in the mechanics of solving it.” (pg 2)

Lerner says that he specifically focuses on “the practical solutions to environmental problems because Americans are at heart a practical people and [he] believes they can be convinced to adopt eco-friendly technologies if they are convinced that these strategies will both work and save nature at the same time.” (pg 16) Lerner believes that the stories of these eco-pioneers, and therefore this book, could be useful in making the idea of eco-sustainability more realistic in the minds of Americans.

If the introduction had not quite peaked my interest than the first sentence of chapter one did: “There is a hint of the mad scientist about Pliny Fisk III.” (pg 19) Potential literary genius aside, this sentence is just a hint of how engaging Lerner’s writing style is throughout the book. Pliny Fisk III turns out to be a middle-aged man interested in alternative construction materials. He is passionately involved in using

materials that come strictly from the region in which the house or structure is built. In order to help others build in this manner Fisk is involved in putting together a “toolbox” of resources which are available sustainably within different regions and climate types around the country. One of Fisk’s most intriguing inventions is “AshCrete”, an alternative to concrete composed largely of “fly-ash” and “bottom ash” from aluminum smelters. This idea of transforming an environmental liability into a social asset is a recurring trait of the eco-pioneers throughout this book.

Eco-Pioneers is laid out such that each of the 25 chapters is an account of the work done by an individual or group to improve ecologically their community, industry, region or culture, and ultimately their planet. The fact that this book is essentially just multiple independent stories about the efforts of these eco-pioneers makes a book report very difficult and a summary nearly impossible, for this reason I digress briefly to explain how I chose to approach this report. Instead of redundantly summarizing each chapter, I mention those accounts which interested me most, and those that included a particular insight which I saw as valuable. However, in order to supply the reader of this report with some kind of summary of this book, I have included most of Lerner’s Table of Contents – which is probably the most concise while still informative summary possible – in *Appendix A*. Because each chapter was immensely interesting for an array of reasons, I highly recommend that you refer to this appendix to see what Lerner has written that might be of interest to you.

In chapter three Lerner explains John Todd’s work in researching and developing “the new science that uses what [Todd] calls ‘living machines’ to treat sewage.” (pg 47). These “living machines” are systems for removing waste from sewage that rely primarily

on a sequence of micro-ecosystems that include micro-organisms, small plants, fish, larger trees, and snails. Todd has spent a great deal of time looking for new species that are effective at filtering out various toxins while not upsetting the biological balance that already exists within his “living machines”. As Todd does this his living machines are beginning to become more effective, when it comes to many of the toxins, than traditional treatment facilities that use chlorine and other chemicals. In addition, the trees and fish that are a by-product of this system can be sold to subsidize the process and enrich the community. Furthermore, because the living machines don’t have a foul odor, Todd believes that they could become a central part of small communities around the country where people enjoy working and children could learn to appreciate the work nature does for us. Todd’s focus on finding ways his ideas can be integrated into society, and seeking to maximize positive side-effects and by-products is an example of the comprehensive approach that many of the eco-pioneers in Lerner’s book take.

Because so many of the people in the world live in cities, and therefore many of our ecological problems are related to these densely populated areas, many of the chapters in this book are solutions to ecological problems within cities. In Chapter five, Scott Bernstein is finding solutions to problems in Chicago ranging from energy conservation and making housing affordable to setting up food co-ops and roof-top greenhouses on schools. Like other eco-pioneers, Bernstein sees our social problems as integrated and looks for solutions that could alleviate many of them at once. Toward this end, Bernstein combined the co-ops with the school-top greenhouses to bring the freshest produce to areas that need food, and jobs most. In chapter eleven Paul Mankiewicz takes urban rooftop agriculture a step further. The problem with rooftop agriculture in the past

was that the dirt was too heavy for the roofs to support, but Mankiewicz developed a mix of styrofoam and soil that is light enough for most rooftops. Mankiewicz also developed a relatively odorless method of rapid composting that cuts the volume of biological waste in half in four days, and after two weeks the compost could be used as fertilizer on the styro-soil rooftop gardens. Unfortunately, Mankiewicz's ideas had not been put into practice on a large scale at the time this book was written, an unfortunate characteristic of some of the ideas of the eco-pioneers in this book.

Chapter eight describes Daniel Knapp's Urban Ore, a recycling marketplace, in west Berkeley, California that has become a 1.4 million dollar business. "Our long-term vision at Urban Ore is that we want to do our part to end the age of waste." (pg 115) Later Knapp says, "I truly believe that you can reuse or recycle nearly everything, what is truly unrecyclable should be banned." (pg 117). At Urban Ore, products are bought and sold for a small profit. This small markup creates a high turn-over rate which is equivalent to high volume recycling, but is also responsible for the profitability and therefore the sustainability of the company. In chapter sixteen Daniel Einstein and David Eagan are working with college students to make real changes on their campuses. One thing Lerner points out in this chapter is that this generation of students is less interested in organizing protests than their parents, and is more interested in being active in smaller projects where they can get positive results more quickly and directly. Einstein and Eagan see this as a good thing in terms of creating a society that changes by actively finding solutions to problems rather than simply opposing the changes offered.

Chapter twenty-one is an account of Kenny Ausubel's work in preserving important agricultural plant seeds which have begun to become extinct in the face of

corporate mono-crops. Lerner points out that these corporate crops are being engineered for appearance and durability more than taste, nutritional value, or agricultural sustainability and that the biological information stored in the seeds Ausubel is preserving is irreplaceable. Lerner notes that fewer than twenty plants provide ninety percent of our food, and suggests that such a lack of diversity erodes the agricultural security that technology has been providing. For if one of these twenty crops was damaged on a large scale widespread hunger, mostly among the poor, would result. For now Kenny Ausubel's work has supplied a source for organic seeds and many small farmers are using them to sustain their agriculturally based lifestyle by filling the niche organic market. In the future, if mono-crop agricultural becomes unsustainable, we may owe Ausubel and other seed-savers a debt of gratitude.

In his conclusion, Lerner says that even the inspiring hard work of these eco-pioneers will remain relatively ineffective within the framework of our consumer society. Lerner believes that, "two significant changes must take place if we are to establish a more sustainable culture in the United States." Lerner's two changes are: a re-pricing of goods to reflect their environmental costs, and development of a "green plan" that creates a legal context for business to operate sustainably. He backs this up by pointing out that green plans have already been effective in other countries such as the Netherlands, New Zealand, and to a certain extent Canada. Lerner concludes by saying that though under the current political climate a "Green Plan" may not be possible it could be in the future, and that when the time comes the eco-pioneers will be ready with many of the solutions society will need.

Perhaps my only minor criticism of this book is that it is overly optimistic about the solutions it explores. Indeed the author states in the introduction that he includes some ecologically controversial characters because “at a minimum they are improving environmental practices within their industry.” (pg 6) Throughout the chapters, Lerner does mention some concerns about the various practices in question, but under-emphasizes these concerns rather than pointing to potential solutions or improvements in the practice itself. On the other hand, after reading this book, one can see how inspiring it must have been to talk with these people and can hardly blame the author for wanting to give the reader and the eco-pioneer the most positive possible account.

In Eco-Pioneers Lerner is immensely effective in creating a book that inspires the American imagination. His focus on practical solutions is particularly effective because, as S. David Freeman put it, “Folks like a challenge, but Mission Impossible is hard to sell.” (pg 100) Even in the cases where the systems became somewhat technologically intricate Lerner did not get into their technical details, but rather focused on their general mechanics and ecological implications. This has the effect of making these ideas seem reasonable, thereby encouraging Americans to take the increasingly mandatory step of embracing them. This book is a must read for anyone who feels hopeless about our current eco-political situation. For one with a strong imagination he or she will not only find hope and inspiration but ideas for things he or she can do to help his or her community, friends and planet.

Appendix A

- 1 **Pliny Fisk III**
The Search for Low-Impact Building Materials and Techniques
- 2 **Lorrie Otto**
Bringing Native Plants Back to the American Lawn
- 3 **John Todd**
Greenhouse Treatment of Municipal Sewage
- 4 **Vicki Robin and Joe Dominquez**
The New Frugality Movement Promotes Living Better by Consuming Less
- 5 **Scott Bernstein**
Environmental Solutions to Inner-City Problems
- 6 **S. David Freeman**
A Utility Company Switches from Nuclear Power to Energy Conservation, Renewable Energy,
and Electric Vehicles
- 7 **Sally Fox**
Breeding Naturally Colored Organic Cotton Eliminates the Need for Toxic Dyes and Pesticides
- 8 **Daniel Knapp**
Mining the Discard Supply
- 9 **Walton Smith**
Returning to Selective Forestry after the Failure of Clearcutting
- 10 **Christopher Nagel and William Haney III**
Transforming Hazardous Wastes into Useful Industrial Materials
- 11 **Paul Mankiewicz**
Urban Rooftop Agriculture
- 12 **David Crockett**
Transforming Chatanooga into an Environmental City
- 13 **William McDonough**
Redesigning Buildings and Building Materials for Environmentally Intelligent Architecture
- 14 **New Pattonsburg, Missouri**
Moving Out of the Flood Plain and Designing an Environmentally Sustainable Community
- 15 **Alana Probst**
Promoting Ecologically Sustainable Business in West Coast Temperate Rain Forests
- 16 **Daniel Einstein and David Eagan**
Students Swap Protests for Practical Work Building an Ecologically Sustainable Campus
- 17 **Jack Turnell**
Western Cattle Rancher Experiments with Sustainable Techniques
- 18 **Juana Beatriz Gutierrez**
The Mothers of East Los Angeles Conserve Water, Protect the Neighborhood and Create Jobs
- 19 **Ron Rosmann**
Sustainable Agriculture Takes Root among Family Farmers in Iowa
- 20 **James Enote**
Zunis Launch a Sustainable Action Plan to Manage Tribal Resources
- 21 **Kenn Ausubel**
Saving the Seed: Rescuing Important Foods and Medicinal Crops from Extinction
- 22 **Eco-Justice Activists**
Cleaning Up and Reusing Abandoned and Contaminated Industrial Sites
- 23 **David Gershon**
Helping Families Minimize Environmental Impact One Household at a Time
- 24 **Thomas Schueler and Robert Boone**
Two Approaches to restoring Trashed Urban Rivers
- 25 **The Reverend Jeffrey Golliher**
A Green Priest Preaches about the Need to Protect God's Creation
- 26 **Conclusion**

(The information in this appendix is taken directly from the table of contents in [Eco-Pioneers](#), pages vii-ix)