

Advances in Historical Ecology

Edited by William L. Balée

429 pages

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Historical ecology is the label for the latest approach to human ecology in anthropology and kindred disciplines. This volume of twenty contributions grew from a conference in 1994 at Tulane University intended to explore recent work attempting to develop this approach. The editor and contributors are to be commended for producing an unusually rich and well-integrated volume that serves as a good introduction to the historical ecology approach. In addition, they provide a number of careful theoretical arguments and detailed case studies that clarify the benefits of the historical ecology approach.

What is historical ecology? While a number of the papers engage this question, for readers of *Human Ecology Review* the clearest explication may be found in the chapter by Bettinger who places historical ecology in its historical context. For Bettinger historical ecology is an effort to preserve some of the best insights of the cultural ecology of Julian Steward while moving beyond some of the unrealistic equilibrium assumptions of what has come to be called "evolutionary ecology." Steward emphasized the idea of a culture core and thus the importance of technology in understanding human ecology. The evolutionary ecology school takes from Steward the importance of subsistence activities, but adds assumptions from sociobiology that observed human behavior is an optimal foraging strategy for finding the most nutritional reward for the least effort. The problem with the evolutionary ecology approach is that it assumes a sort of "ethnographic present." The human adaptations observed in the field are assumed to have been in place long enough that natural selection has yielded an optimal strategy, and thus we can understand variation in adaptive strategies across human groups by understanding how differing environments will favor different strategies. In this regard, evolutionary ecology is quite coherent with conventional micro-economics that assumes rational choice based on perfect information and markets in equilibrium.

Such an ahistorical approach cannot be justified. Things change. A central theme in most of the papers is that current modes of living are contingent on the history of the group being studied. It may be unusual for a human group to live

in the same place using the same mode of adaptation for centuries let alone millennia. Of course, the spread of trade and colonialism may have accelerated these changes over the last five centuries, so it is hard to know if earlier history, for which data are quite limited, was more stable and more likely to approach an equilibria.

Historical ecology focuses on the complex history of the interactions between human groups and their environment. In his introduction, Balée notes that the historical ecology approach emphasizes that humans have routinely reshaped the biophysical environment—sometimes intentionally and sometimes not. Sometimes this interaction leads to stable, sustainable systems, sometimes it leads to environmental changes that are not sustainable. Non-industrial societies cannot be assumed to be either, as Balée puts it, *Homo destructivist* or Ecologically Noble Savages. The task of historical ecology is to understand the human environmental dynamic in a particular landscape over time, influenced as it will be by local environmental conditions, large scale environmental change (especially climate changes), local human actions and the larger human systems that impinge on the local group and its activities.

Thirteen of the chapters treat a local or regional case in some detail, drawing as appropriate on archaeological, historical and contemporary ethnographic data. These case studies provide a nice balance with the chapters that are largely theoretical or literature reviews and show how the historical ecology approach can yield important insights. Seven of these chapters deal with Amazonia, making the book useful to specialists in that region even if they are not especially interested in historical ecology. Two more chapters deal with Central America and two with North America, one with India and one with Thailand. I found the geographic focus an advantage of the book, as it reinforces a rather consistent picture of an important region. There is a tendency in much writing on the Amazon basin to assume that current adaptive patterns stretch far into the past and represent some sort of equilibrium that is being disturbed only in recent decades. This is a mistake. As the excellent analyses in this volume demonstrate, the region was radically transformed by European contact and the resulting influx of disease, markets, slavery, colonialism and iron. It may be that many of the vegetation patterns often assumed to be limiting human adaptive strategies in the Amazon are at least in part a result of human action. Many chapters in the book also make clear that the border between food foraging and horticulture is a fuzzy one, that local populations may mix the two modes of subsistence, and may move in historic time from food foraging to horticulture and back again (or more correctly, that the relative importance of foraging and horticulture in subsistence strategies shifts back and forth).

I would recommend this book most highly to any human ecologist who draws on the anthropological literature. It is a strong corrective to ahistorical over-generalization. I found only two major points of disagreement with the volume. One—too much attention to post-modern rhetoric—results from the current state of anthropology. The other—a neglect of the new evolutionary theory—makes me hopeful for further synthesis.

Many of the authors in the volume feel it necessary to deal with the “post-modern” turn that is popular in most social science disciplines. I found these discussions to be distractions from their main arguments. Some theorists labeled post-modern have important ideas to offer. For example Foucault’s notions of power embedded in language has helped shape my view of cultural selection processes (Dietz and Burns 1992). But too often, what is called post-modern is at best an assertion that things are complex and culturally and historically embedded. Of course, this is a useful point. But at its worst, what passes for post-modern theory is a naïve critique of a sort of positivism that is seldom practiced in the social sciences or human ecology. And, as Posey notes in his chapter, there is an unfortunate tendency for textual exegesis to substitute for field work. The contributors to this volume offer something far richer than the typical deconstructionist critique and need not, I think, justify their work vis a vis the excesses of post-modern theory.

A more serious shortcoming, but one that makes me hopeful for more synthetic work, is the weak handling of evolutionary ideas in the volume. Some contributors view evolution as a developmental or stage model, and strongly reject it noting the contingent character of history. They are rejecting a pre-Darwinian view of evolution and miss a real opportunity to move toward a more synthetic, historically grounded theory. For example, Whitehead (36) suggests that “Systems, distributions and phenomena show processual or evolutionary change; humans show historical change. To try and mix these metaphors is to confuse types of analysis. In any case, it seems doubtful that the scientific representation of ‘natural systems’ requires in any sense an appreciation of their particular historical characteristics, for this would completely contradict the nomothetic ambitions of a generalizing endeavor.” This is a reasonable statement if one assumes that physics, chemistry and the other experimental disciplines are the only models for science. Balée and T. R. Kidder seem to share this assumption in the epilogue. But with the Darwinian revolution, we have a way of thinking that is both historical and scientific. Certainly disciplines such as evolutionary biology are as essentially historical as the work presented in this volume. As Graham notes in her chapter (123) “Our mistake as anthropologists now would be to emphasize history at the expense of evolution.”

The authors of this volume seem unaware of the new evolutionary theory. For example, only Bettinger cites the key work of Boyd and Richerson on the dynamics of cultural evolution. His use of what he terms “evolutionary cultural ecology (cultural-transmission version)” provides one of the richest chapters in the volume. Rival (245) suggests that “...we need a concept of culture that emphasizes the practical engagement of people in the world.” I believe the new evolutionary theory provides such a concept. It views culture as a system of information that is subject to selective pressures in historical time. (Boyd and Richerson 1985; Burns and Dietz 1992; Eder 1996; Epstein and Axtell 1995 and Richerson and Boyd 1997 are examples of the new evolutionary theory.) This emerging work explicitly distances itself from stage theories and developmental approaches of which the historical ecologists are properly critical. The new evolutionary theory emphasizes micro-level processes, is comfortable with non-equilibrium dynamics and draws attention to the interplay between the material and the symbolic. It could provide a useful theoretical framework for historical ecology. In turn, historical ecology provides the rich and detailed narratives that are lacking in most of the new evolutionary work—a body of literature that can be criticized as too abstract in its concerns with conceptual frameworks and analytical models. Just as modern evolutionary theory grows from the linking of Fisherian population genetics and Darwinian natural history, so a better human ecology might emerge from the new evolutionary theory and historical ecology.

But I don’t mean to criticize a volume as well crafted as this for what it does not do. *Advances in Historical Ecology* is strong in its theoretical analyses, its synthetic reviews of the literature and its careful cases studies. I highly recommend it to all human ecologists who draw on theory and evidence from anthropology and archaeology.

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Full House: The Spread of Excellence from Plato to Darwin

By Stephen Jay Gould

New York: Harmony Books, 1996

ISBN 0-517-70395-7 (\$25)

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Full House, more than any other work by Gould, offers ideas and perspectives that inform human ecological thinking. Many human ecologists read books based on Stephen Gould's column in *Natural History*. *Full House* is not one of those collections. Rather it is a monograph—a genre all too rare in the Gould opus.

Full House makes two basic points.

First, when looking at changes over time we have an unfortunate tendency to focus on either means or extreme values. (Since the mean is not robust with regard to outlying data points, means and extremes will tend to move in tandem. The mean is pulled towards the extreme point in a distribution.) Gould offers an admonition that is understood by quantitative analysts, but is more honored than adhered to: changes (or lack thereof) in the full shape of a distribution are more telling than changes in summary statistics such as the mean. Gould doesn't acknowledge the problem that in examining the whole distribution we abandon our ability to conduct statistical inferences. In the face of measurement or sampling error, I can estimate the mean and the probable error of my estimate. But in most circumstances I cannot estimate, let alone put error bars on, the shape of a distribution (although resampling techniques like bootstrapping may change this in the near future). Still the general point is well taken: means and extreme values may change over time with little concordant change in the bulk of a distribution. Thus conclusions based on means or extremes, while technically correct, can be misleading. Chapter 4: Case One: A Personal History offers a poignant tale of how Gould, faced with an usually fatal cancer, took solace in the fact that the median survival time from diagnosis for this type of cancer was 8 months. This meant not that he was doomed, but that half of all victims survived longer, and some very long indeed. (Gould is still working productively more than 15 years later, much to the delight and enlightenment of his readers.)

The second major point is that the focus on means and extremes leads to visions of "progressive" change where none exists. (The term "progressive" is used to describe increases in the complexity of a system.) This general argu-

ment is developed around two examples: the disappearance of 0.400 hitting in professional baseball and the emergence of ever more complex life forms over evolutionary history.

In the early years of professional baseball, a season batting average of 0.400 was not uncommon. But over the last half century it has become very rare, perhaps to the point where it may have disappeared altogether. The explanations offered for this all have the same theme: things have somehow gotten worse. But Gould argues that what has really happened is a decrease in the variance of player quality. There are fewer weak players than in years past. Since batters are in competition with pitchers and fielders, fewer weak players makes things harder on hitters, and produces the decline of 0.400 hitting. In a system involving competition, experiments over time with equipment, training, and strategies (the technology and techniques of the system) will lead to a general improvement that precludes both abysmal and stellar performance. (Gould suggests that the increased excellence most important for hitting is primarily in fielding quality rather than pitching quality. If that is so, then we would not expect exceptional levels of home run hitting to decline in the same way that exceptional batting averages would. Home runs are not fielded but are the result of the pitcher-batter duel. Thus this year's new records for season home runs is not inconsistent with his argument.)

Gould then turns to the history of life on earth. There is a pervasive sense that progressive evolution has occurred in that the complexity of organisms has increased over evolutionary time. Gould wants to show that the trend towards more complex organisms does not result from a progressive force. He begins by noting that life must begin with simple organisms—what in the vernacular are called bacteria. He offers evidence that by any reasonable measure bacteria have always been the dominant mode of life on earth and still are. There has been no change in complexity of the typical living organism because the typical organism is now and always has been a bacteria—what Gould calls "the modal bacter." But even if the mode hasn't shifted, is there nonetheless a progressive pattern in the emergence of ever more complex forms?

Gould's answer assumes that there is some minimal level of complexity that can be labeled as living and that bacteria represent this level. If we plot complexity with low levels on the left and high levels on the right, then there is a "left wall" to biological complexity. Bacteria are at that left wall but we have not yet approached an upper limit to complexity. The historical emergence of increased complexity can be described as a random walk. From a starting point at some level of complexity above the bacterial minimum, any lineage is as likely to become less complex as more complex. That is, local conditions at a particular moment in time may create

a selective regime favoring greater complexity or less complexity and over evolutionary time either direction is equally likely. Increased complexity comes from repeated random moves to the right—like a long sequences of tails in repeated coin flips. Long sequences towards less complexity also occur (like runs of heads) but the “left wall” limits moves in this direction. Some lineages get more complex, some get less complex. None can get less complex than bacteria, but some can become more complex than whatever is currently most complex. Thus a random process produces what seem like a progressive trend towards more complexity. (Gould discusses the evolution of parasites that are less complex than their ancestors to illustrate the point that within a lineage, species may become less complex. If we think of viruses as a kind of parasite, and assume that viruses must have emerged after bacteria, then we have an example of the random walk moving the wall of simplicity further left. The emergence of viruses may be a case where the left wall was moved towards further simplicity.)

Both of these discussions are of interest to human ecologists because they help us think through issues of variation and trend. The core idea of focusing on variation rather than extremes and averages is not new to Gould. It is at the core of the Darwinian revolution. Mayr (1959) called this “population thinking” and Sober (1980) provided a wonderful explication of it. Paul McLaughlin (1996) has shown the implications of population thinking for social theory. But as always, Gould is lucid, entertaining and able to show new applications of evolutionary ideas.

Unfortunately, the last chapter of the book, “An Epilog on Human Culture,” is disappointing for human ecologists. Gould notes that culture changes by mechanisms that differ from the mechanisms of genetic systems. But he takes no note of the work by Boyd and Richerson (1985), among others, to explicate how culture can be modeled as an evolutionary system. Instead, he argues the term evolution should not be applied to culture. He then discusses why cultural change might be progressive and thus reinvents some ideas from recent work on cultural evolution, though he is not clear on the possible relationship between progressive trends and human agency (Dietz and Burns 1992). The argument that culture might be progressive and that cultural change comes quickly leads Gould to examine where we might come to a “right wall” of limitation. He suggests that in music we may be at the wall. A century and a half spans the lives of Bach, Handel, Haydn, Mozart, Beethoven and Schubert. He asks: “Where is such genius to be found now?” (I suspect Gould’s taste in music would preclude his accepting a response that lists Ellington, Lennon and McCartney, Parker, Stockhausen, Stravinsky, and Zappa.)

The most disappointing part of this final chapter is the brief treatment of ethical issues. Gould argues, quite properly I think, that we should value both diversity and excellence within diversity. Yet there is more to be said. On my bookshelf, just past the foot and a half of Gould’s books is another foot and a half devoted to Habermas. Gould, in *Mismeasure of Man* and elsewhere, has proven himself a careful thinker about ethical issues. I wonder what he would have to offer if he examined Habermas’ arguments regarding the evolution of moral competence? Somewhere in the meter of my bookshelf that spans evolutionary thinking and critical theory there may be ideas that we badly need in dealing with the 21st century.

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Environmentalism and Economic Justice: Two Chicano Struggles in the Southwest

By Laura Pulido

Tucson: University of Arizona Press, 1996

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Laura Pulido examines how culturally and economically marginalized groups gain institutional access and political leverage to reform ensembles of oppressive power relations. Specifically, Pulido analyzes the appropriation of the mainstream environmental discourse by what she refers to as “subaltern” groups. “Subalterns” do this to gain standing and influence in legal and bureaucratic institutions. This tactic is essential to their success, she argues, because they have limited resources to effect political change, in addition to facing exclusion from cultural norms and economic relations. Pulido suggests such findings have important implications for both modern and postmodern theory. The question that arises from Pulido’s analysis is “are all environmental struggles struggles over the environment?” According to Pulido, no. She suggests that before we can truly understand the nature of a social struggle we must position others and ourselves in relation to the struggle. If we do not we run the risk of unconsciously reproducing oppressive social relations and making incorrect interpretations about what the struggle is about. To craft such a story and maintain its richness and nuance is no small undertaking even for the seasoned academic — never-mind a book based upon the author’s dissertation. And Pulido does not disappoint, this book is both analytically rigorous and well-written.

The author’s goal is accomplished through two engaging case studies based on Chicano ‘environmental’ struggles in the United States. These cases provide compelling support for Pulido’s argument that environmental concerns of some groups are actually surrogates for underlying issues (e.g., racism, and an exclusionary political system). The first case depicts the struggle of Cesar Chavez, Dolores Huerta and the United Farmworkers Union (UFW) to win recognition and power over their material work conditions. By leveraging the issue of pesticide use to sully the image of the California agribusiness the UFW was able to negotiate with the industry and the state for better working conditions. The second case study focuses on a group of pastoral ranchers in New Mexico (the Ganados) and their efforts to obtain grazing rights on

federal lands. The Ganados are a group of low-income Hispanos who sought to change their impoverished lifestyles by developing a vertically integrated business based on sheep, wool, and woven products. Their struggle began when they sought grazing rights on federal lands, which were opposed by the government, environmentalists, and hunters.

The book consists of five chapters. The first two chapters are dedicated to linking struggles for recognition, which are often considered to be post-material or quality-of-life issues, with struggles for social and economic equity. These chapters provide excellent reviews and analyses of the “social movement” and “identity politics” literatures as well as her conceptual framework as to how these concepts are linked (the concept of the subaltern which is discussed below). Chapters three and four, which make up the bulk of the book, consist of the case studies. In chapter five, Pulido brings these ideas together and explicates the implications of her findings for a post-modern left-wing politics.

The basis of her analysis is the concept “subaltern.” A subaltern group is one that is alienated from mainstream social and economic relations based on traditions of racism and/or religious intolerance that become naturalized by a cultural system of meaning and institutionalized in law (Guha 1990). Pulido argues that because of their subordinate position, subalterns have fewer opportunities to achieve recognition of their problems. Both institutional and structural forms of domination may be the source of the obstacles. However, “[m]ost groups... [who] wish to change power relations in which they are embedded, must mobilize, engage in direct action, garner widespread public support, and develop moral authority” (p. 192). Garnering widespread public support? Developing moral authority? Such tasks may seem insurmountable from the perspective of the subaltern. And this is where Pulido’s argument is strongest: the issue whether it be poverty, structural inequality, or patriarchy does not decide character of the struggle such as preventing environmental degradation. Instead, Pulido discovers that subalterns leveraged the issue that provided the greatest access to a remedy. As such, Pulido argues, subaltern struggles are not merely environmental in orientation, rather, in her cases, environmentalism provided the most socially acceptable opportunity for subalterns to challenge various forms of domination. For example, environmentalism can purchase subalterns institutional access. It is for these reasons, Pulido argues, that all environmental disputes should not be seen as struggles over environmental amenities or quality of life issues.

Appropriating the environment discourse can provide institutional access and popular recognition for subalterns, it cannot, however, mobilize collective action. Mobilization is the second obstacle of the subaltern struggle, social move-

ment mobilization. Pulido writes, “[s]ubalternity by definition includes the denigration of one’s identity. In conditions of subordination, the very symbols, things, beliefs, and the way of life that help define an individual may be outlawed” (p. 52). It is not enough for their cause to be marginalized, subalterns hold a subjugated status by a social and cultural hierarchy. For example, Pulido argues that while US environmentalism, though once generally seen as outside the dominant discourse, can be seen as increasingly an inclusive history — meaning that environmentalism has been incorporated to the mainstream. Subalternity should not be confused with pre-1970 environmentalism. “Though it is true that environmental activism may be marginal at times, the voices carrying them are not” (p. 192). In both of these cases, cultural emblems, viewed by outsiders as evidence of inferiority, became icons of resistance, symbols of solidarity for the UFW and the Ganados. Subalterns, then, must turn the notion of hierarchical culture (the notion that the dominant culture is “the best”) on its head. “In both case studies Chicanos became aware of how their culture not only differed from, but was maligned by, mainstream Anglo-America. They chose to use this difference as a form of resistance” (p. 53). So, while in both cases culture was a catalyst for the group’s subaltern status, it played a role in their collective mobilization efforts.

Chapters four and five detail the two case studies. In addition to demonstrating the fundamental connection between the environment, economic activity, social relations, and material well-being, these cases develop the concept of the subaltern environmental struggle by showing the positionality of these groups to mainstream environmentalism, environmental groups, and regulatory institutions. In the UFW case, for example, Pulido shows that the worker experience with pesticides was shaped by “power and economic relations that served not only to expose workers to hazards but to present them with a limited range of options to effect change” (p. 123). The case studies are compelling evidence for Pulido’s claims of a distinct class of subaltern environmentalism.

In both of these case studies, a marginalized group, confronted with various forms of “structural or institutionalized inequality,” including racism, economic inequality, and, in some cases, lack of legal status, construct their social movement around an environmental cause. According to Pulido, these groups leverage whatever means they have to change the power relationships that support and reproduce the source of their oppression. In these cases the environment was appropriated. It is important to underscore that the idea of the “subaltern environmentalist” does not suggest a similar connection to those issues of institutional problem accommodation that environmental “radicals” faced in the 1960s and 1970s, rather the concept implies the presence of multiple forms of domination of which ecological crisis may be a part, in no way does this define a movement’s intent. Pulido argues “[t]hat the issue of positionality is most important in distinguishing mainstream and subaltern environmentalism” (p. 24). As such, Pulido calls for a relational approach to analyze subaltern environmentalism arguing the issue that decides the nature of the struggle is one’s position to the problem: “[But] I am less interested in how definitions of environmental issues vary than in how people intersect with them in the context of larger social and political relations, and how they go about organizing around them” (p. xiv). This is a lesson we can all learn from. Social movements, like the environmental movement, and the labels we place upon them, such as “new,” “post-material,” and so forth, can, when left unchecked, reproduce new forms of social, cultural, or institutional hierarchy. Moreover, if it is rigidity that carries the day, we may miss out on the insights brought forth from the margins.

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Briefly Noted

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Stewardship Across Boundaries

Edited by Richard L. Knight and Peter B. Landres
 Washington D.C.: Island Press, 1998
 ISBN 1-55963-516-9

In Robert Frost's poem "Mending Wall" two neighboring farmers mend a wall that joins their parcels of property. During the poem the narrator comments about the boundary: "Something there is that does not love a wall ... that wants it down. In a chapter by Eric Freyfogle, he illustrates how this phrase captures what Richard Knight and Peter Landres reveal in *Stewardship Across Boundaries*. Though the stone wall represents a boundary between the farmers, it also unites them in community. It forces them to cooperate with each other and to put back the stones that nature has disturbed during the winter. Dedicated to their own properties, the hope is that the duty will spill over into the land beyond their own. Even though every piece of land, no matter how remote or how untrammelled, has a boundary, the goal is to show land managers how they can work together to be stewards for the land. Land boundaries take many forms. Some are topographical or biological, such as mountain ridges and rivers, but many follow the straight lines of political dictate and compromise in the form of fences and walls. Most of these administrative boundaries fragment the land, which results in the loss of species that must disperse or migrate across the borders, the increased likelihood of threats such as alien species or pollutants, and disruption of natural processes. *Stewardship Across Boundaries* presents a new land perspective emphasizing that managers are involved with users and individuals beyond the boundaries they are responsible for. They now realize what occurs beyond their borders directly and indirectly affects what occurs within their borders. *Stewardship Across Boundaries* includes contributors such as natural resource managers, historians, environmentalists, political scientists, and legal scholars. Within their essay they:

- develop a framework for understanding administrative boundaries and their effects
- examine issues related to different types of boundaries
- present a series of case studies illustrating efforts of those who have cooperated across boundaries
- synthesize the broad complexity of issues and offer and integrated strategy for achieving regional stewardship

Stewardship Across Boundaries addresses the complex biological and socio-economic impacts of both public and private land boundaries in the United States. It demonstrates how legal, social, and ecological conditions interact in causing boundary impacts and how integration is necessary for improving land management.

Richard L. Knight is professor of wildlife conservation at Colorado State University in Fort Collins, Colorado. He is co-editor of *Wildlife and Recreationists* (Island Press, 1995) and *A New Century for National Resources Management* (Island Press, 1995). *Peter B. Landres* is a research ecologist at the USDA Forest Service Aldo Leopold Wilderness Research Institute in Missoula, Montana.

Which World? Scenarios for the 21st Century

By Allen Hammond
 Washington D.C.: Island Press, 1998
 ISBN 1-55963-575-4

Visionary thinker and scientist Allen Hammond imaginatively probes the consequences of present demographic, economic, environmental, and security trends to examine possible scenarios that analyze how the future may unfold. *Which World? Scenarios for the 21st Century* is based on a 5-year long research program on long-term sustainability, jointly conducted by the Brookings Institution, the World Resources Institute, and the Santa Fe Institute and uses data from the World Bank, the United Nations, and other such organizations. To frame the debate, Hammond illustrates three possible worlds: *Market World*, *Fortress World* and *Transformed World*. *Market World* is a future in which economic and human progress is driven by the power of free markets and human initiative. *Fortress World* presents a grimmer future in which unattended social and environmental problems diminish progress creating poverty, despair, conflict, violence, and social chaos. *Transformed World* offers a future in which fundamental social and political changes offer hope of fulfilling human aspirations. *Which World?* offers provocative views of the future and, in the process sheds new light on the present. The book moves beyond the economic analyses to take into account environmental and demographic trends, offering vivid descriptions of the choices that human society faces and opportunities for shaping a more hopeful future. Its insights make it invaluable to anyone interested in destiny of the human enterprise or the challenges facing particular regions — from political leaders to global business executives, from educators, scholars, and students to a concerned general audience. *Which World?* is a book that will be at the center of the debate on some of the most important issues of our time. Which regions of the

world will survive and which will not? Which world do we want? And what kinds of changes are we willing to make to achieve that world? Accompanying the book will be a web site available to readers in late August located at <http://www.hf.caltech.edu/WhichWorld/>.

Allen Hammond is a senior scientist and director of Strategic Analysis for the World Resources Institute, a non-profit, non-partisan policy studies center in Washington, DC. He received his Ph.D. in applied mathematics from Harvard University and has published nine books and many scientific articles, as well as numerous articles and columns in newspapers and popular magazines.

To Heal the Earth: Selected Writings of Ian L. McHarg

Edited by Ian L. McHarg and Frederick R. Steiner

Washington, D.C.: Island Press, 1998

ISBN 1-55963-573-8

"The conception that we should design with nature is deeply rooted in the Western arts and sciences; some would argue it is a universal theme underlying all cultures." Frederick Steiner refers to this concept brought forth in Ian McHarg's groundbreaking work *Design with Nature*, which changed the face of landscape architecture and planning by promoting the idea that the design of communities should reflect ecological principles. *To Heal the Earth* brings forth a valuable cache of McHarg's writings produced between the 1950's and the 1990's providing a larger framework and a new perspective on the growth and development of his key ideas. McHarg has joined with Frederick Steiner, a noted scholar and landscape architect to reveal how theories and writings were later applied to his professional practice. Steiner provides new essays and McHarg offers new introductory material for each piece that place the writings within the historical context of planning design work and within the larger field of ecological planning as practiced today.

Among the topics discussed in the book are:

- the link between ecology and design
- ecological planning on a regional scale
- education and training necessary to develop the field of ecological planning
- how to organize and arrange biophysical information to reveal landscape patterns
- the importance of incorporating social factors into ecological planning

To Heal the Earth presents McHarg's principles of planning and landscape architecture and shows us how to best live on earth in a sustainable manner. The book strives to help us heal the planet by making better decisions about how we plan and design our surroundings. It is essential reading for stu-

dents and scholars of ecological planning, as well as for professional planners and landscape architects.

Ian L. McHarg is a professor emeritus and founding chair of the Graduate School of Fine Arts at the University of Pennsylvania. Frederick R. Steiner is professor and founding director of the School of Planning and Landscape Architecture in the college of Architecture and the Environmental Design at Arizona State University in Tempe, Arizona.

With People in Mind: Design and Management of Everyday Nature

By Rachel Kaplan, Stephen Kaplan and Robert Ryan

Washington, D.C.: Island Press, 1998

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As people seek out relaxation in today's high-tech world, nature and "natural spaces" become more and more important. People have learned that natural space is vital to well being, be it a personal garden or the state forest. For successful natural space design and management, it is necessary to have knowledge of people, environments, and the relationship between the two. *With People in Mind: Design and Management of Everyday Nature* explores how to design and manage areas of "everyday nature" — in ways that are beneficial to and appreciated by humans. Rachel Kaplan and Stephen Kaplan, leading researchers in the field of environmental psychology, along with Robert Ryan, a landscape architect and urban planner, provide a conceptual framework for considering the human dimensions of natural areas and offer a new perspective on open spaces. Kaplan, Kaplan and Ryan present detailed recommendations for designing and managing natural areas, with expansion and exploration encouraged. These "patterns," as termed by the authors, take into account various aspects of the environment and how people react to them. Topics examined in *With People in Mind* include:

- physical aspects of natural settings that enhance preference and reduce fear
- ways to facilitate way-finding
- how to create restorative settings that allow people to recover from the stress of daily demands
- landscape elements that are particularly important to human needs
- techniques for obtaining useful public input

Enhanced by a wealth of illustrations and images, *With People in Mind* translates the results of many years of empirical studies into practical design and management approaches. Filling a gap in planning literature, this book offers accessible solutions, coding for easy reference, an extensive

bibliography and list for further reading. It is a readable, useful, and flexible guide for practitioners, teachers, and students in landscape architecture, planning, resource management, environmental psychology, and other fields.

Rachel Kaplan is a professor of environmental psychology in the School of Natural Resources and Environment and professor of psychology at the University of Michigan in Ann Arbor. *Stephen Kaplan* is a professor of psychology and professor of computer science and engineering at the University of Michigan in Ann Arbor. They have for more than a quarter of a century played a key role in the field of environmental psychology, and have co-authored three books including *The Experience of Nature* (Cambridge, 1989). *Robert L. Ryan* is an award-winning landscape architect who recently completed his doctoral dissertation on people's attachment to natural areas.

Green versus Gold: Sources in California's Environmental History

Edited by Carolyn Merchant

Washington D.C.: Island Press, 1998

ISBN 1-55963-579-7

The ongoing struggle between environmental and economic concerns plagues every state in the country, but perhaps the results of that struggle are no more evident than in California, a state that has seen monumental change since European settlers first arrived two centuries ago. Events which had an enormous impact on California's environment, such as the Gold Rush, irrigation, and urbanization — in addition to the development of environmental organizations and movements to protect the environment — have created a complex history worth documentation and exploration. *Green Versus Gold: Sources in California's Environmental History* is the first book to provide a compelling survey of California from its Native American past to current movements and conflicts. Acclaimed environmental historian Carolyn Merchant has brought together documents and essays — literary, factual, critical, and theoretical — to create a comprehensive picture of the history of ecological and human interactions in one of the nation's most resource-rich states. Each chapter contains original documents that give readers and eyewitness account of the relationship between humans and nature during specific historical periods. A sample of the documents include: Mark Twain on Tahoe and Mono Lakes; Cesar Chavez on pesticide risks; Yosemite Indians recounting their original story (1927); The California Environmental Quality Act (1973); Ernest Callenbach on population in Ecotopia; and Irene Diamond and Gloria Orenstein on the emergence of Ecofeminism. The documents are followed by essays from

historians, scientists, geographers, and other experts that provide context for the documents. Merchant also include a reading list at the end of each chapter with recommendations of books for research or enjoyment.

Among other topics, *Green Versus Gold* examines:

- California's natural environment and Native America lands
- the Spanish and Russian Frontiers
- environmental impacts of the gold rush
- the transformation of forests and rangelands
- agriculture and irrigation
- urban issues
- energy battles
- the rise of environmental science and contemporary environmental movements
- environmental ethics and California's future

The selections are well rounded and present a unique view of decades of environmental change and controversy. *Green Versus Gold* is a valuable addition to literature on our nation's history and will add enlightening thoughts to the debate over our nation's environmental past. This book is an important resource for a wide audience: historians, environmentalists, scientists, writers, policy makers, students, educators and others who have an interest in the history of California and the country.

Carolyn Merchant is a professor of environmental history, philosophy, and ethics at the University of California, Berkeley. She is the author of numerous books including *The Death of Nature* (Harper San Francisco, 1990) and *Earthcare* (Routledge, 1995).

Planning For Biodiversity: Issues and Examples

By Sheila Peck

Washington, D.C.: Island Press, 1998

ISBN 1-55963-401-4

A significant consequence of the development of natural landscapes is habitat loss and fragmentation that results in widespread loss of biological diversity. While scientists have made great strides in determining principles and concepts fundamental to preserving biodiversity, their work will have little impact unless it is understood and implemented by those who are making on-the-ground decisions about land use. *Planning for Biodiversity: Issues and Examples*, provides an accessible introduction to ecological concepts for planning professionals and students. Sheila Peck explains why planners should be concerned with habitat preservation and presents practical approaches to incorporating conservation principles into planning efforts.

Planning for Biodiversity:

- Introduces a clear framework for understanding biodiversity
- Explains concepts related to ecosystem structure and function
- Discusses the effects of size and connectivity on habitat quality and species movement
- Suggests conservation priorities at different scales
- Presents elements of reserve design
- Examines types and sources of information
- Considers the cause of uncertainty in biodiversity planning and the need for monitoring and adaptive management

In each chapter, Peck presents case studies that explore the practical implications of the concepts examined, and provides contact information for each group involved in the case. Case studies include the Beaverhead/Deerlodge National Forest, Montana; pinhook Swamp Linkage, northeastern Florida; National Gap Analysis Program; CALFED Bay-Delta Program, California; and numerous others. In addition, she includes planning guidelines which summarize the main points of the chapters, and a useful glossary of ecological terms. *Planning for Biodiversity* synthesizes and explains important ecological concepts and represents the first guide for planners that clearly details how to incorporate conservation plans into their work. Planners, landscape architects and designers, planning and design students, developers, local officials, and anyone interested in designing and developing more ecologically sound land-use projects will find the book an invaluable resource.

Sheila Peck is an environmental consultant based in Santa Cruz, California.

Coming Home to the Pleistocene

By Paul Shepard

Washington, D.C.: Island Press, 1998

ISBN 1-55963-589-4

Coming Home To The Pleistocene is the culmination of Paul Shepard's Work examining human relationships wit the natural world, how that relationship has deteriorated, and why it must be reestablished. In this book, completed just before his death, Shepard presents his most mature thinking on the central theme that guided his life work: that our essential human nature is a product of our genetic heritage, formed through thousands of years of evolution during the Pleistocene epoch. The Pleistocene, sometimes called the Age of man because the earliest humans are believed to have evolved during this time, is the earlier of the two epochs that divides the Quaternary Period. In *Coming Home To the Pleistocene*, Shepard describes with a poet's touch and a scholar's precision how our human minds and bodies were shaped by evolution and particularly by hunter-gatherer life during the Pleistocene. The book explicitly addressed the fundamental question raised throughout Shepard's work: how can we recreate a life that is more in tune with our genetic roots? *Coming Home To The Pleistocene* weaves together the threads of Shepard's vision, considers new research and thinking that expands upon his own ideas, and integrates material within a new matrix of scientific thought that both enriches his original insights and allows them to be considered in the broader context of current intellectual controversies.

Until his death in 1996, *Paul Shepard* was Avery Professor Emeritus of Human Ecology at Pitzer College and the Claremont Graduate School.