

WATER, PLACE, & EQUITY

edited by John M. Whitely, Helen Ingram, and Richard Warren Perry; MIT Press, Cambridge, MA, 2008; 318 pp., \$25.00 paperback (ISBN 978-0-262-73191-1)

Water, Place, and Equity, written by three political scientists with extensive experience in natural resources management and social justice, explores the theme of equity's place in the management and allocation of water resources. The authors argue that water will dominate world resource politics—even more than oil—in the future. In light of water's continued importance, its fair allocation could create a more equitable society; conversely, its mismanagement could have far-reaching consequences.

This important and most needed selection of essays grew out of the 2004 National Academy of Sciences's conference, Challenges of a Transboundary World, honoring Helen Ingram, professor emerita at University of California, Irvine. Professor Ingram's unique focus on often ignored values, especially environmental, in water development and the potential impacts of climate change on vulnerable humans and ecosystems is reflected in every essay in the book, which would be of interest to everyone interested in water policy from academics, water managers, and those involved in resolving specific conflicts.

Equity is an elusive concept, but in *Water, Place, and Equity*, its definition is drawn out through case studies of the problems facing two communities, poor rural areas and indigenous populations and flora and fauna, whose interests are often given insufficient weight in water use and management decisions. The first section explores the human community; it examines how cohesive social groups and communities rooted in a particular landscape often lack the political power

or legal rights to make their voices effectively heard in water decisions that may adversely affect their way of life. The second section discusses the values of conserving and restoring functioning aquatic ecosystems.

These case studies range from the San Luis Valley of Colorado and New Mexico to Cochabamba, Bolivia, arid northeastern Brazil, and Catalonia. Both large, contested basin-wide projects and smaller scale conflicts are studied. Some, such as the privatization of Cochabamba's water system, chronicle how undemocratic processes can victimize local populations; others, such as the San Luis Valley, show how local communities can organize and seek higher-level government help to prevent unwanted change. Insightful discussions of broader cross-cutting themes, such as the effectiveness of public participation opportunities, is woven into these specific examples.

The three authors end the book with an essay that reaches back to the Biblical covenant between God and the Israelites—suggesting our obligation to future generations—and propose we practice good aquatic ecosystem and watershed stewardship by adopting similar water covenants and practicing dynamic, not static water management.

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GLOBAL ENVIRONMENTAL HISTORY

by I. G. Simmons; University of Chicago Press, Chicago, IL, 2008; 288 pp., \$49.00 hardcover (ISBN 978-0-226-75810-7)

With the publication of *Global Environmental History*, pioneering environmental historian I. G. Simmons offers a capstone treatise, the final installment in

a trilogy that ranges in scale from local to global, that is sweeping in its temporal (the last 10,000 years) and geographic scope. It follows *The Moorlands of England and Wales* and *Environmental History of Great Britain*. Within the confines of this slim volume, the author is selective and does not pretend to treat all places throughout the 10,000-year panorama systematically. Nonetheless, he rigorously adheres to his goal of providing a history and not a prognosis of environmental issues.

He organizes his treatment chronologically. Main chapters consider gatherer-hunter societies, pre-industrial agriculture, the industrial world, and the post-industrial world. Within these substantive chapters, Simmons contemplates how society has changed, particularly with reference to energy use and environmental impacts. Over several chapters, for example, he traces the transition from solar-powered agriculture to cultivation assisted by fossil fuel-driven machinery along with chemical inputs. Traditional society made a modest impact on the land where its members lived. More recently, Simmons notes, the reach of human impact encompasses the earth's atmosphere. Yet this is not a narrow critique of increasing environmental degradation unleashed by progressively more powerful societies. Each chapter begins with an overview of the era's ecology and human population. The balance of each chapter seeks to “tease out any signs of the two long-term interactions of nature and society which can be realised as fragmentation and coalescence.” The rise of political nation-states provided a framework for fragmented regulation of impacts, while the spread of technology enabled rapid dissemination or coalescence of human abilities to impact the environment.

Simmons shows off his career-

spanning attention to human-environment relations with the rich array of sources that he draws on. Not only does his reach for documentation include older works by George Perkins Marsh and Karl Marx, but his awareness of recent developments in climate change, global demographics, and agriculture is impressive and amply illustrated. He has not limited his research to human impacts and environmental change. Throughout this work, and especially in *Global Environmental History's* closing chapter, Simmons draws on the works of philosophers, artists, and literary figures to provide insight into society's points of view as it transformed its landscape. Indeed, the final chapter focuses on language, emotion, religion, myths and symbols, and the nature of human consciousness. By emphasizing these aspects of society and its relationship to nature, he truly humanizes this work.

This volume would be ideal to help frame either an undergraduate or graduate course on environmental history or historical geography of the environment. Beyond such specific use, specialists in the environmental sciences would benefit from Simmons' longer term and humanistic perspective.

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THE DOMINANT ANIMAL: HUMAN EVOLUTION AND THE ENVIRONMENT

by Paul R. Ehrlich and Anne H. Ehrlich; Island Press, Washington, DC, 2008; 428 pp., \$35.00 hardcover (ISBN 978-1-597-26090-6)

In the *Dominant Animal*, biologist Paul Ehrlich and conservationist Anne Ehrlich weave the threads of a sweeping range of scientific and economic disciplines into an intricate tapestry on the evolution of our planet and the rise of humans to dominance. Their book is a high-decibel wake-up call to humanity that brilliantly outlines both the severity

and the complexity of our current predicament, from climate change and loss of biodiversity to economic disparity and resource depletion.

The book begins with a discussion of the evolution of life on Earth, differentiating between genetic mutation and selection as driving factors. For readers unfamiliar with the dynamics at work, the authors present a clear and readily accessible primer, illustrating the positive and negative feedback loops that influence the direction of evolution and shape our biological and physical environment.

Building on this framework, they launch into a multidisciplinary outline of the ecological, cultural, and technological rise of our species that has enabled us to manipulate every aspect of our global environment. At the same time, however, the evolution of our cultural norms has not kept pace. We remain mired in belief systems and social structures—like the widespread belief that concern for the environment is a luxury of the rich—that are better suited to small-group animals than to a global population. As ideologies move beyond local or continental influence, “established ideologies—the prevailing strong cultural beliefs of individuals, groups and government officials about what is good, true, and important—frequently conflict with potential solutions to environmental problems.”

The authors argue vigorously that our social perceptions and small-group culture must be modified if a sustainable global society is ever to be achieved. They suggest restructuring and increasing the UN's regulatory authority and engaging in a vigorous global dialogue that tables the interests of individual nations in order to achieve greater global equity and sustainable resource management.

Much of the core material presented will be familiar to environmentalists interested in evolution and population studies. However, the manner in which the material is presented offers a beautifully compiled and intricate study on the state of ecological science and the

present human predicament.

Although *The Dominant Animal* stresses that at 7.5 billion people we have overshot the planet's capacity to support our rising numbers, the book refrains from the type of bell-tolling prognostications of Paul Erhlich's 1968 work, *The Population Bomb*, which forecasted an unavoidable famine due to rapid population growth.

The book may have benefited from greater restraint in its attacks on former President George W. Bush. These attacks emphasize the former president's damaging actions with respect to national and international family planning programs and environmental initiatives and disregard for scientific evidence, but ignore the faults of previous administrations (except for one reference to Ronald Reagan) and reflect only the last eight years in a century of industrialization that has led us to our present state—and arguably a punctuation in the millennia-long march of humans toward global dominance.

The clearly hostile tone in these areas may serve to alienate *The Dominant Animal's* more skeptical readers, throwing a pall of perceived bias over the rest of their arguments for those who need to hear their message most. Nonetheless, this book deserves to be read by everyone and should be added to required reading lists for undergraduates regardless of their course of study.

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GLOBAL CATASTROPHES AND TRENDS: THE NEXT FIFTY YEARS

by Vaclav Smil; MIT Press, Cambridge, MA, 2008; 307 pp., \$29.95 hardcover (978-0-26219586-7)

On my refrigerator is a cartoon of a couple reading a newspaper with the caption, “If you use up your worry today, what will you have tomorrow?” To worry may be distinctively human, but what to worry about is surely deter-

mined by a mixture of many things, including genes, culture, current notoriety, and even science. All of these factors enter into Vaclav Smil's new book on worrisome discontinuities and trends, but he would think, and I would agree, mainly science should inform our worries.

It is science that he emphasizes in Chapter 1, "How (Not) to Look Ahead," as he distinguishes himself from Francis Fukuyama's *The End of History...* (1992), Paul and Anne Ehrlich's *One with Nineveh* (2004), and the many doom futures, best illustrated by Jared Diamond's *Collapse: How Societies Choose to Fail or Succeed* (2004). But he also rejects the many, specific point, quantitative trend projections for population, economy, environment, and the like as "unrealistically static," and the alternative technique of scenarios as creations by "inventive fabulists." How, then, do we gauge the likelihood of these potentially catastrophic trends? Smil firmly believes "that looking far ahead is done most profitably by looking far back and that this approach works both for natural catastrophes and socio-economic trends." And he also adds, if we are to worry, at least, we could focus on those events and trends that can shape the course of world history over the next 50 years.

He divides these concerns between singular discontinuous events and accumulating trends. For his discontinuous events capable of changing world history, he examines the past history of known catastrophic events, estimating probabilities for asteroids, influenza pandemics, megawars, volcanoes, and tsunamis, while rejecting extremely low probability events of supernovae or extensive lava effusions. Along the way he considers plausible catastrophes that have never occurred before, such as nuclear war and abrupt human-induced climate change, as well as speculative surprise catastrophes that seem credible enough to him to mention, such as global cooling or mutant bacteria, viruses, or yeasts. Smil concludes: surely worry about a nearly certain influenza

pandemic over the next 50 years, be somewhat worried about the 20 percent chance of a megawar (on the scale World Wars I and II), and probably do not worry over a history-changing volcano, tsunami, or asteroid or a singular terrorist event. But worry as well about the plausible catastrophes, and consider that surprises will surely occur.

Under unfolding accumulative trends, Smil sorts out a series of major world trends marked by transitions in population and energy; changes in the regional directions of Europe, Japan, Russia, and China; the growth of Islamic fundamentalism; and centrally the United States' decline amidst globalization and pervasive inequality. The current global financial crisis only reinforces his analysis. His environmental analysis of worry goes beyond global warming to include water and nitrogen cycles, bugs, bees, biodiversity, and the biosphere. On the whole, this section is an assemblage of good trend data, plausible catastrophes, and much informed speculation.

Smil is a global scientific treasure, living, thinking, and writing in Winnipeg, Canada, and author of 23 other books on China, energy, environment, food, and biogeochemical cycles—many with the status of "if you want to get started in a subject, begin with this." But like all worriers, professional or otherwise, genes, culture, and current notoriety creep into Smil's scientific discussion. For example, he discounts optimistic European scenarios by substituting his own "perspective offered by the author, a skeptical European who understands the continent's major languages, who has lived and earned money on other continents and who has studied other societies." Realistic or otherwise, if you want to get started on the big worries of the first half of the twenty-first century, start with this book.

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