

Book Reviews

Ecology, 98(6), 2017, pp. 1731
© 2017 by the Ecological Society of America

The new ecology

Schmitz, Oswald J. 2017. **The new ecology: rethinking a science for the Anthropocene**. Princeton University Press, Princeton, New Jersey. xiii + 236 p. \$35.00 (hardcover), ISBN: 978-0-691160566 (alk. paper).

Key words: Anthropocene; biodiversity; ecosystem services; hubris; humility; resilience; socioecological systems; stability; sustainability.

The framing of *The new ecology* occurs about two-thirds of the way through the book (p. 146), where Os Schmitz updates Aldo Leopold's land ethic: "A thing is right when it tends to preserve the integrity, stability [resilience and sustainability], and beauty of the biotic community. It is wrong when it tends otherwise." The three-word, bracketed clarification represents two pivotal shifts in thinking that distinguish the "new" ecology from the old. The first—resilience—focuses attention away from a fixed point of stability and onto the dynamic and ever-changing nature of ecological systems. The second—sustainability—brings people and the "services" that we derive from ecosystems fully into the purview of ecological science.

Neither of these "new" emphases will come as a surprise to academic ecologists or practitioners of adaptive management, but those people are not the intended audience for this slim, highly readable, and well-written book. Rather, this book is aimed at a literate audience of nonspecialists who are predisposed to learning what "ecology" is and how people can live responsibly on a planet that is filling up quickly with more of us, while losing much of its nonhuman biological heritage. So do whatever you can to get your friends and neighbors to read this book and talk about it. For example, buy a case of *The new ecology* and hand out copies or offer to facilitate a discussion of it as part of the regular book group hosted at your local library.

Each of the eight chapters in *The new ecology* provides ample fodder for eye-opening and thought-provoking discussions not only about the nitty-gritty details of the science of ecology that we all hold dear but also about our place in the world. For example, Schmitz leads us to "Ecologies by humans for humans" (chapter 7) by way of personal anecdotes about how playing in the woods and cultivating natural history leads to biophilia, and then through clear-headed

economic analogies describing ecosystem services in complex socio-ecological systems. Throughout, classic ideas about, for example, competition and trophic cascades in "undisturbed" environments coexist comfortably with restoration, urban ecology, and ecotourism. Discussion of these (and many other) themes of *The new ecology* with different audiences assuredly will go in many different and constructive directions.

Reading *The new ecology*, I found myself nodding in agreement about ideas reflecting a shift in disciplinary emphasis from studies about sustaining "nature" for itself despite people to those aimed at sustaining a nature that includes people (Chapter 8, "The ecologist and the new ecology" wraps this theme up nicely). Like Schmitz, I find myself spending a lot of time talking to non-ecologists about the difference between a static stability and a dynamic resilience (fans of 350.org's prelapsarian days should take note). Unlike Schmitz, though, I resist the metaphor of ecosystem health that Schmitz finds in the operationalization of restoration via Leopold's integration of environmental science and practice (p. 159). Although this metaphor, and the idea that the "New Ecology is devising the scientific means to practice curative as well as preventative medicine for [the] new human/nature intertwinement" (p. 203) may be a good way to engage a broader audience in environmental stewardship, such conversations often lead rapidly to fruitless discussions of Gaia.

In a similar vein, the extension of cross-system subsidies to long-distance telecoupling to "everything is indeed connected to everything else" (p. 158) seems both facile and unnecessary. Knowledge of connections at small and large scales is critically important and emphasizes the aptness of thinking globally and acting locally (p. 151), but it also can lead one to despair that no single (or even a small group) of actions can make a difference in altering the trajectory of a complex system (p. 134) in the as-yet-undefined Anthropocene. Schmitz argues that complex does not mean complicated, but rather that as a society we need to move beyond top-down (command-and-control) policies for environmental management and instead focus attention on feedbacks, slow and thoughtful actions, and humility. In this he is surely right, but do we really need everything connected to everything else to get there?

But all of us, myself included, should avoid frustration with analogies and metaphors that reflect our backgrounds steeped in the academic theories of the

“old” ecology. Schmitz has done a remarkable job weaving together threads drawn from classical ecology, economics, and environmental studies and science into a wide-ranging yet coherent whole that should serve as a blueprint for 21st century research and praxis in ecology writ large. In returning humans to the fold of nature, Schmitz also avoids grounding the new ecology in a utilitarian cul-de-sac.

Finally, his writing is accessible to a very wide range of potential readers. *The new ecology* is a model of clarity and of how to communicate scientific concepts of general importance to a broad audience. Simultaneously,

Schmitz invites readers to become participatory citizens by encouraging action and avoiding proscriptions. It is indeed an exciting time to be an ecologist (p. 203) and *The new ecology* provides a wealth of opportunities for ecologists to engage with anyone interested in leading the societal transition to sustainability.

AARON M. ELLISON

Harvard Forest
Harvard University
Petersham, Massachusetts 01366 USA
E-mail: aellison@fas.harvard.edu

Ecology, 98(6), 2017, pp. 1732–1733
 © 2017 by the Ecological Society of America

Societal transformation and climate adaptation

Orr, David W. 2016. **Dangerous years: climate change, the long emergency, and the way forward.** Yale University Press, New Haven, Connecticut. xix + 300 p. \$28.50 (hardcover), ISBN: 978-0-300-22281-4 (alk. paper).

Key words: economics; education; politics; society; sustainability.

Dangerous years succeeds as a thoughtful collection of a dozen essays on the state of relatively affluent, ostensibly democratic societies. Its central topics range from compassion to urban planning to pedagogy. Orr is extraordinarily well read, and his prose draws from literature, economics, and political theory. The book's consistent voice and generally professional presentation is a welcome departure from the proliferation of contributed volumes that seem to have been hastily compiled and cursorily edited.

I found *Dangerous years* to be less successful as a call to arms or guide to counteracting the undesirable ecological and social effects of climate change. In all probability, no reader of this journal questions the veracity of climate change or the likelihood that climate change will affect public health, agricultural production, societal stability, or ecological functions. Few individuals who question the reality of climate change are likely to read such a book in the first place, let alone change their perspective. *Dangerous years* might be best suited to a course on environmental history, ethics, or philosophy, or to reading when one is reflective rather than agitated about the state of civil liberties and civic infrastructure.

Orr aims to address potential transformations of “governance, economy, education, and heart” (p. x) that are necessary for society to persist given the trajectory of climate change. Early, relatively brief chapters in the book cogently examine clichéd concepts such as sustainability, resilience, and climate-change denial. Scattered stock criticisms of the chattering class and hyperbolic characterizations of environmental state notwithstanding, the focus on empathy and community-level action is refreshing and lucid. Perhaps ironically, I found longer essays on the economy and governance to be most compelling when they veered away from climate and instead considered constructs such as personhood, the organization of Anabaptist societies, or the nature of representative democracy.

Similarly, climate change seemed peripheral in expositions of education and philanthropy. Orr argues for, in essence, a liberal arts education that promotes creativity and emphasizes integration of sciences with humanities and humanity. Prompted by a quotation from E.M. Forster's book *Howard's end*, “only connect,” he dedicates three pages to the nature of affection and its potential to inspire change. The chapter “Heart” discusses gifts and charitable giving, and investigates why relatively few foundations and programs concentrate on what Orr calls “climate destabilization.” For example, it notes that foundations often are risk-averse and hesitant to question the societal status quo, and that many trustees and foundation staff have limited knowledge about climate and the ecological and social effects of climate change.

Orr seems to believe that global society will, however clumsily, “transition to environmental sustainability”