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Ecology (Re)Defined

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ECOLOGY (RE)DEFINED

Ecology: A Pocket Guide. Ernest Callenbach. 1998. University of California Press, Berkeley, CA. 154 pages. \$9.95 (paper).

This slender, well-written volume is a compendium of terms, 60 altogether, purportedly intended to introduce the layperson to the discipline of ecology. With encyclopedic listings from “Air” to “Zoos,” we learn that potential effects of global warming include the spread of malaria and other tropical diseases to previously uninfected areas, and that the world’s six billion humans consume 40% of the planet’s photosynthetic output. It is clear from the first entry that the book is as much an environmental primer as a science-based one. For example, we read under the topic “Air” that “We should not continue human activities that cause it to bring death and disease.” As a biologist I was initially dismayed by the advocacy of a book I presumed would be more science-based. However, after accepting the book’s dual nature as a handbook for both environmental activists as well as for those interested in a general introduction to the field of ecology, I was better able to enjoy its value-laden text.

Callenbach’s selection of terms to include is somewhat puzzling. Whereas common ecological terms such as “Community,” “Predation,” and “Carrying capacity” made the list, other basic ecological concepts such as “Competition,” “Climate,” and “Adaptation” did not. The inclusion of sociological terms, such as “Environmental justice” and “Values” underscores the book’s emphasis on anthropogenic effects on the environment. Other terms, such as “Quarantine,” appear to have been misapplied; this selection would have been more aptly titled “Exotics” because of its focus on the problems associated with non-native species. To his credit, the author tells us in his postscript that “vocabularies ... are never neutral.” He then goes on to defend his selections as an attempt to focus public discourse on “an ecological view of the world,” as embodied in his vocabulary.

Errors are uncommon in the book. In defining bioregional scale, Callenbach lists the planet’s inhabitants as including “plants, animals, birds, insects, fish,” evidently restricting “animals” to be mammals. More problematic are opinions delivered as fact. In the section defining “Ecology,” we read that corporations bear no legal or financial responsibility for causing deleterious environmental effects such as pollution or gross deforestation. Although much of the world lacks sound environmental legislation, the United States is renowned for such landmark laws as the Clean Air Act and the Endangered Species Act, among others. Successful prosecution of environmental crimes may be rare, but it does happen.

In several places, Callenbach suggests that people in America are trying to live lives that are less damaging to the planet by such practices as limiting the number of children they have, eating less meat, relying less on cars, and living communally.

Though there are many people (but not enough) who embrace such practices, Callenbach would serve us better by clearly endorsing and justifying these lifestyles, rather than vaguely stating that some people are exploring such possibilities. In other places, the author seems unnaturally optimistic about the extent to which Americans are willing to give up their possessions and technology-based lifestyles. Callenbach defines a bioregion as a large geographic area where the environment and inhabitants differ significantly from those in adjoining areas. He then predicts that selective pressures on a bioregional scale will cause us to plant heirloom fruit and vegetable varieties more suited to local environments than are the commonly planted hybrid varieties, and to live in homes adapted to our bioregions, such as straw-bale or earthen houses in the Southwest or wooden houses in the Northwest.

Humor is a welcome addition to the book, as in: "If microbes could spray paint, their graffiti would say, 'Microbes rule'." The emphasis in the text on the contributions and roles of microscopic organisms is a refreshing and valuable one. Bacteria, protists, and microbes appear frequently throughout the volume.

The use in the text of all capital letters for any terms that are defined as a separate entry was annoying (e.g., seeing the word "carbon" or "air" capitalized repeatedly in a paragraph). A better solution might have been a list of the terms in a short table of contents. But perhaps Callenbach purposely omitted such a table to encourage readers, as he states in his introductory text, to "dip into it, lay it down or put it in a pocket, or come back to it later." A helpful index is included, welcome because many common ecological terms are not primary entries in the vocabulary. Several pen-and-ink sketches enhance the introductory material, and the book is well-designed, with a smooth cover and small size so as to slip into a pocket.

Callenbach succeeds in his objective to make the reader "appreciate the awesome complexity of the great network of life." For the general reader wanting a glimpse into the terminology of environmental advocacy, this book is a good starting point. For someone interested in the basic foundations of the science of ecology, however, the book falls short and is not recommended. Too many basic terms are inadequately described or represented, if not totally missing. And for those readers who already have training in science, the book will not offer much new knowledge, but perhaps a different slant on the world.--*Mary Rowland, USDI Bureau of Land Management, Forestry and Range Sciences Laboratory, La Grande, Oregon 97850.*