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Book Reviews

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FINALLY, A BONA FIDE ECOLOGICAL ECONOMICS TEXTBOOK

Daly, Herman E., and Joshua Farley. 2003. **Ecological economics: principles and applications**. Island Press, Washington, D.C. xxvii + 454 p. \$40.00, ISBN: 1-55963-312-3 (alk. paper).

Having recently developed an ecological economics course for Virginia Tech, I can empathize with the growing number of ecological economists who have looked far and wide for a bona fide textbook that is at once introductory and comprehensive. Look no further, for *Ecological economics* by Daly and Farley is it! In the great tradition of the 19th century classical economists, Daly and Farley begin by wrestling with the moral philosophy of economics. In the other corner of the ring the opponent demands, “Why study economics? To whose gain? What are the criteria of success?” This challenging “opponent” had pinned many conventional, neoclassical economists of the 20th century who abandoned their classical roots and could muster little more than Pareto optimality to their defense.

Pareto optimality exists when no other allocation of resources could make at least one person better off without making someone else worse off. If I inherit all the capital and you work for the minimum wage, my making of an additional million dollars per year is likely to be Pareto optimal, as long as you retain your job. As Daly and Farley point out, however, the Pareto optimum may occur no matter how much the environment has degraded and no matter how skewed the distribution of wealth has become. Every economy has its Pareto optimum, but “Some Pareto optima are heavenly, others are hellish.”

This realization distinguishes the normative stance of ecological economics from that of natural resource economics, “environmental economics,” and other forms of neoclassical economics. Daly and Farley waste no time in elaborating that distinction. From beginning to end they emphasize that the first concern of ecological economics is “scale,” the size of the economy relative to the ecosystem that supports it. The criterion for successful management of scale is sustainability. The second concern of ecological economics is the distribution of wealth and income, for which the criterion of success is justice. The third concern is the efficiency with which resources are allocated among producers and consumers, *given* whatever distribution of wealth exists. In stark contrast, neoclassical economics ignores scale because, overlooking much of the physical and natural sciences, it recognizes no limits to growth. Neoclassical economics also tends to conflate distribution with allocation, relegating it to the invisible hand of the market.

Daly (an ex-World Bank economist) and Farley have tremendous expertise in neoclassical as well as ecological economics, which lends their comparison clarity and credibility. Rather than recklessly bashing neoclassical economics, they embrace many outstanding neoclassical contributions to mi-

croeconomics and market analysis. Nor do they shrink from identifying crucial oversights and weaknesses of the neoclassical tradition, especially economic growth theory and the allocation of non-market goods. They are emphatically not Marxists, but to the extent Marx is credited with the “critical theory” tradition in political science, they cross paths with the “angry oracle.” As a result, *Ecological economics* is no dry, autistic exercise in econometrics. It is replete with observations on political economy, namely, the influence of politics on economic theory and vice versa.

Minor weaknesses (which may be more attributable to publishing than authoring) include a modest number of editorial errors and a mediocre index. To help compensate for the index, however, is an outstanding five-page table of contents. A comparison with the corresponding table from a neoclassical textbook would be a good way to introduce students to the ecological/neoclassical distinction. Therefore, it is well worth listing at least the section and chapter titles: Part 1, “An introduction to ecological economics,” contains three chapters (“Why study economics,” “The fundamental vision,” and “Ends, means, and policy”). Part 2, “The containing and sustaining ecosystem: the whole,” contains four chapters (“The nature of resources and the resources of nature,” “Abiotic resources,” “Biotic resources,” and “From empty world to full world”). Part 3, “Microeconomics,” contains five chapters (“The basic market equation,” “Supply and demand,” “Market failures,” “Market failures and abiotic resources,” and “Market failures and biotic resources”). Part 4, “Macroeconomics,” contains four chapters (“Macroeconomic concepts: GNP and welfare,” “Money,” “Distribution,” and “The IS-LM model.” Part 5, “International trade,” contains three chapters (“International Trade,” “Globalization,” and “International flows and macroeconomic policy”). Part 6, “Policy” contains four chapters (“General policy design principles,” “Sustainable scale,” “Just distribution,” and “Efficient allocation”). The aptly titled conclusion is “Looking Ahead.”

Ecological economics is fully capable of serving as a textbook in *conventional* economics as well as neoclassical economics. With crystal clarity it covers, for example, the nuances of marginality, pricing theory, and market principles of microeconomics, then the national income accounting, monetary theory, and traditional policy issues of macroeconomics. The section on international trade is not only descriptive but interpretive, and includes the heaviest dose of political economy. Daly has focused on globalization in recent years, and provides a breath of fresh air on this timely topic.

Given the emphasis on scale and distribution, it comes as no surprise that the policy recommendations of Part 6 are progressive and may seem radical to conventional economists and policy advisors. Caps on wealth, minimum incomes, and the taxing of “bads” not “goods” will raise some eyebrows, not because they have not been proposed before, but because

the ecological economics paradigm provides the technical cornerstones such policies have heretofore lacked. Unconventional eyebrows will be lifted as well. For example, "Georgists" (followers of Henry George) will find a welcome ally in their long-running but largely unsuccessful effort to promote full taxes on Ricardian land rents.

Daly and Farley do not extend themselves on the furthest limb of the Georgist tree, however. They do not entertain an orchestrated corruption of economics (as others have) by land barons and economists to defeat the Georgist movement at the dawn of the 20th century. Keeping closer to the trunk is probably wise when exposed to the diplomatic winds of textbook-writing. *Ecological economics* is neither a manifesto nor a conspiracy theory, nor does it cite many of either.

Perhaps the most compelling and important policy recommendation in *Ecological economics* is the establishment of a steady-state economy at the optimum scale. Throughout his career, Daly has done more than anyone to demonstrate how growth beyond that scale is not economic growth after all, but "uneconomic growth." If there was ever a blueprint for the steady-state economy, it is found in the policy recommendations of *Ecological economics*.

In my opinion, there are no glaring weaknesses of *Ecological economics*, and certainly no fatal flaws. A lesser weakness stems from neglecting some ecological principles highly relevant to the scale issue, especially trophic levels and the principle of competitive exclusion. When we place the human economy in the context of the "economy of nature" (as Daly and Farley clearly do), we note that economic growth simply constitutes the trophic usurpation of the latter by the former. After all, the human economy represents the "supercarnivore" trophic level occupied in nature by the likes of bears, wolves, and eagles, and its expansion entails a trophic compression of the lower levels. In other words, economic growth proceeds at the competitive exclusion of non-human species in the aggregate. I have found these principles invaluable in ecological economics instruction, especially among ecology students.

In any event, *Ecological economics* is so superior to neoclassical texts in incorporating ecology that it is almost beyond reproach in that regard.

An intriguing aspect of *Ecological economics* is its critical analysis of the American monetary system, most notably the Federal Reserve System and fractional reserve banking (in which banks maintain only a fraction of their deposits on demand, loaning the rest in the form of fiat money). Neoclassical textbooks usually describe the basic procedures of money creation and leave it at that or, at best, relate these procedures to monetary policy in the service of economic growth. Daly and Farley, on the other hand, point out the inherent unsustainability of fractional reserve banking, which commits society to an ever-expanding treadmill of debt repayment. Here again, they are diplomatic and demonstrate

the reasonableness of their critique, not going nearly as far as those who view the Fed as a conspiracy of central bankers and insider politicians. (For the conspiracy theorists, who argue that historical events involving big money seldom redound to chance, the Fed ostensibly fights "everyday inflation" while surreptitiously plotting economy-busting episodes of inflation to redistribute wealth from the public to the insiders.)

Daly and Farley recommend a return of seigniorage (the right to issue money) to governments as opposed to bankers. Bankers may still make a prosperous living charging fees for money-handling services, as they did at the dawn of banking. Pure government seigniorage is a technically feasible policy reform but, as with many policies stemming from ecological economics, will be politically daunting.

Daly and Farley also distinguish themselves from the neoclassical school by pointing at the problem of conspicuous consumption in a "full world," and once again the distinction is diplomatically deployed. They do not, for example, tout the "steady state revolution" in which conspicuous consumers are castigated by the "steady state class" of responsible consumers. The steady state revolution has been proffered as a proactive yet peaceable alternative to armed conflict in a world of depleted natural capital (see www.steadystate.org), but no one wants to be suspected of promoting class warfare in a textbook, much less a post-9/11 textbook.

I highly recommend *Ecological economics* to economics instructors of all persuasions, including neoclassical. It is extremely well written, flows smoothly, and has just enough "attitude" to overcome the attention deficits populating classrooms today. In addition to economics courses, *Ecological economics* will serve well in most courses falling under that expanding rubric of "sustainability science." Furthermore, I urge all ecologists to keep a copy as a reference book. Ecologists justifiably complain about the lack of ecological considerations in economics, but if the ball has been dropped by neoclassical economists, ecologists have yet to recover the fumble. *Ecological economics* will give them the eyes to find the ball. (For the legs to run with it, manifestos may yet be required.)

Finally, and I save my strongest urging for last: economic policy makers, national security advisors, and politicians across the spectrum, if you read one new book in 2004, please make it *Ecological economics*. Reading time is scarce, and if our primary concern is posterity's prospects, *Ecological economics* offers the highest marginal product from the available literary resources.

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