

Herman Daly's Ecological Economics

An Introductory Note

by John Attarian, Guest Editor

Mainstream opinion has it that economic growth, the democratization of affluence, and ever-increasing consumption are the formula for individual and social happiness. A thoughtful and well-informed minority emphatically disagrees. Few have contributed more to this dissent than Herman E. Daly, widely regarded as the founding father of ecological economics.

Born in 1938, Daly earned his B.A. at Rice University (1960) and Ph.D. at Vanderbilt University (1967). From 1968 to 1988 he taught economics at Louisiana State University. Then he served as Senior Economist in the World Bank's Environmental Department until 1994, when he became a professor at the University of Maryland's School of Public Affairs, his current position.

As a graduate student, Daly believed that growth would solve mankind's problems, but three experiences radically transformed his outlook. He studied under the economist Nicholas Georgescu-Roegen (1906-1994), whose book *The Entropy Law and the Economic Process* (1971) explained the decisive economic importance of the second law of thermodynamics (the entropy law): in a closed system, the availability of useful energy always declines. Georgescu-Roegen argued that the economic process transforms natural resources into waste — that is, transforms matter-energy from a state of low entropy into a state of high entropy. Georgescu-Roegen's great contribution, Daly observes, was “reuniting economics with its biophysical foundations.” Teaching in Brazil in the late 1960s, Daly observed explosive population growth firsthand. Reading Rachel

Carson's *Silent Spring* was also influential.

Daly maintains that the economy is a subset of an ecosystem which is finite, non-growing, and materially closed (i.e., no matter enters or leaves it) and that it uses the environment as a source for material inputs and as a sink for wastes. Unfortunately, he argues, the economy has become so large relative to the ecosystem that human activity is undermining the ecosystem's ability to support human life. Resource finitude and the entropy law make perpetual economic growth impossible. Accordingly, we must abandon growth (quantitative enlargement) in favor of development (qualitative improvement), and of a “steady-state economy” which can be sustained long-term (though not forever), in which population and capital stocks are constant, and throughput (the flow of low-entropy matter and energy which is taken from the environment and transformed into high-entropy wastes) is minimized.

Equally committed to social justice, Daly favors narrowing income inequality with a negative income tax and limits on the largest incomes, which he argues will help reduce drawdown of finite resources, make society more equitable, help the poor more effectively than does today's welfare state, and help shift our politics from a plutocracy to a democracy. One of his criticisms of the obsession with growth is that it enables society to evade tough questions about wealth redistribution and population control.

Daly argues that society should set overall limits on the scale of economic activities and the distribution of incomes, but allow markets free play within those limits. Thus he endorses, for example, population control through the system of tradeable birth licenses propounded by the economist Kenneth Boulding.

As a serious Protestant Christian, Daly grounds both his socioeconomic liberalism and his environmentalism in the Christian injunctions to love one's neighbor and God's Creation.

Daly's vivid awareness of the reality of limits is

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sharply at odds with mainstream economics, which lives in an artificial alternative universe of abstract economic models and treats limits as fictions and resources as unimportant. Sharply criticizing these failings, he is especially devastating about the “flat-earth” perspective of the late Julian Simon.

Daly's first book-length statement of his ideas, *Steady-State Economics: The Economics of Biophysical Equilibrium and Moral Growth* (1977), attacks the ideology of economic growth and argues that biophysical limits to growth make shifting to a steady-state economy imperative. He describes a steady-state economy and offers proposals for creating and maintaining it. A second edition in 1991 adds many later essays and book reviews on growth and sustainability. Daly and Protestant theologian John B. Cobb, Jr. co-authored *For the Common Good: Redirecting the Economy toward Community, the Environment, and a Sustainable Future* (1989), which calls for replacing the conventional economic assumption of man as “economic man,” a utility-maximizing, isolated individual, with an assumption that man is a whole person who lives in a community and whose happiness depends somewhat on the welfare of others; and offers many specific policy changes in trade, population, land use, agriculture, industry, labor, and taxes to restore community, protect the environment, and promote a way of life which is sustainable long-term. It also presents an “Index of Sustainable Economic Welfare” as a better measure of economic well-being than “Gross Domestic Product.” Updated in a second edition (1994), *For the Common Good* is the most comprehensive and accessible presentation of Daly's thought and an excellent choice for general readers.

Also highly recommended is Daly's rigorous but readable *Beyond Growth: The Economics of Sustainable Development* (1996), which covers the theory of ecological economics, measures of sustainable economic output, sustainable development policy, population, international trade, pioneering thinkers in the economics of sustainable development, and the religious and ethical groundings of ecological economics. A more recent collection of short articles and book reviews, *Ecological Economics and the Ecology of Economics* (1999), mixes polemical but justified digs at flat-earth economics and critics of the environmental movement, sophisticated criticisms of mainstream economic growth

theory, and searching reflections on human nature and the human purpose.

In addition, Daly edited three volumes of essays criticizing growth ideology and presenting central ideas in steady-state economics. *Toward a Steady-State Economy* (1973), his first anthology, featuring essays by C. S. Lewis, Cobb, E. F. Schumacher, Boulding, Garrett Hardin, and Georgescu-Roegen, addresses biophysical, social, and ethical constraints on growth and the political economy of the steady state. Daly expanded it into *Economics, Ecology, Ethics: Essays Toward a Steady-State Economy* (1980), with additional essays by Georgescu-Roegen, Schumacher, Hardin, and Boulding, and more essays on limits, affluence, and energy use. An introductory essay by Daly helpfully surveys the entire subject. *Valuing the Earth: Economics, Ecology, Ethics* (1993), which Daly co-edited with economist Kenneth Townsend, retains Daly's excellent introduction and adds still more essays to reflect a shift in the focus of steady-state thought from economizing on resources to economizing on waste sinks.

Only Beyond Growth, Ecological Economics and the Ecology of Economics, the 1994 edition of *For the Common Good*, and *Valuing the Earth* are still in print. Hopefully, Island Press, publishers of the second edition of *Steady-State Economics*, will bring it back.

Daly co-founded the scholarly journal *Ecological Economics* in 1989 and still serves as an associate editor. His thought is slowly attracting appreciative notice, and some honors have come his way. *For the Common Good* won the 1991 Grawemeyer Award for Ideas for Improving World Order, and in 1996 Daly received the Honorary Right Livelihood Award and the Royal Netherlands Academy of Arts and Sciences Heineken Prize for Environmental Science.

Integrating theology, ethics, science, and economics, Daly's ecological economics is the kind of comprehensive vision we too seldom see, and one of the most important and promising intellectual developments of our time. Our selection of Daly's works is a concise yet comprehensive introduction to his thought. May he find the audience he deserves. •