

Remarks at NCSE conference 1/21/10—Herman Daly

I am very grateful to the National Council for Science and the Environment for magnanimously conferring on me their “lifetime achievement award”. The achievement award is a great encouragement to me, even though the adjective “lifetime” inevitably evokes the preview of an obituary—a kindly intended yet sobering *memento mori*. More than an encouragement for my remaining years, however, I believe this award will be an encouragement to those younger people to whom the real work of building the green economy will fall.

There are many friends and collaborators with whom credit must be shared for any achievement that somehow gets credited to my account. First and foremost is my life partner and wife of 46 years, Marcia Damasceno Daly. Next my co-authors: Robert Costanza, John Cobb, Robert Goodland, Josh Farley, Brian Czech, and my colleagues Salah El Serafy, David Batker, Peter Victor, and Peter Brown. And thanks to Louisiana State University, the World Bank, and the University of Maryland for employment and support.

What I like best about this conference is that it focuses on important questions too often avoided. I’d like to take this occasion to say a few words about just one of the questions raised by the organizers, namely:

What does economic growth mean in a green economy?

Let me first consider the meaning of “economic growth”; next the meaning of a “green economy”; and then try to put them together.

The term “economic growth” has two distinct meanings. Sometimes it refers to the growth of that thing we call the economy (the physical subsystem of our world made up of the stocks of population and wealth; and the flows of production and consumption). When the economy gets physically bigger we call that “economic growth”. This is normal English usage. But the term has a second, very different meaning—if the growth of some thing or some activity causes benefits to increase faster than costs we also call that “economic growth”—that is to say, growth that is economic in the sense that it yields a net benefit or a profit. That too is accepted English usage.

Now, does “economic growth” in the first sense imply “economic growth” in the second sense? No, absolutely not! Economic growth in the first sense (an economy that gets physically bigger) is logically quite consistent with uneconomic growth in the second sense, namely growth that increases costs faster than benefits thereby making us poorer. Nevertheless, we assume that a bigger economy must always make us richer. This is pure confusion.

That economists should contribute to this confusion is puzzling because all of microeconomics is devoted to finding the optimal scale of a given activity—the point beyond which marginal costs exceed marginal benefits and further growth would be uneconomic. Marginal Revenue = Marginal Cost is even called the “when to stop rule” for growth of a firm. Why does this simple logic of optimization disappear in macroeconomics? Why is the growth of the macroeconomy not subject to an analogous “when to stop rule”?

We recognize that all microeconomic activities are parts of the larger macroeconomic system, and their growth causes displacement and sacrifice of other parts of the system. But the macroeconomy itself is thought to be the whole shebang, and when it expands, presumably into the void, it displaces nothing, and therefore incurs

no opportunity cost. But this is false of course. The macroeconomy too is a part, a subsystem of the biosphere, a part of the Greater Economy of the natural ecosystem. Growth of the macroeconomy too imposes a rising opportunity cost that at some point will constrain its growth.

But some say that if our empirical measure of growth is GDP, based on voluntary buying and selling of final goods and services in free markets, then that guarantees that growth consists of goods, not bads. This is because people will voluntarily buy only goods. If they in fact do buy a bad then we have to redefine it as a good. True enough as far as it goes, which is not very far. The free market does not price bads, true—but nevertheless bads are inevitably produced as joint products along with goods. Since bads are un-priced GDP accounting cannot subtract them—instead it registers the additional production of anti-bads, and counts them as goods. For example, we do not subtract the cost of pollution, but we do add the value of the pollution clean-up. This is asymmetric accounting. In addition we count the consumption of natural capital (depletion of mines, well, aquifers, forests, fisheries, topsoil, etc.) as if it were income. Paradoxically, therefore, GDP, whatever else it may measure, is also the best statistical index we have of the aggregate of pollution, depletion, congestion, and loss of biodiversity. Economist Kenneth Boulding suggested, with tongue only a little bit in cheek, that we re-label it Gross Domestic Cost. At least we should put the costs and the benefits in separate accounts for comparison. Not surprisingly, economists and psychologists are now discovering that, beyond a sufficiency threshold, the positive correlation between GDP and self-evaluated happiness disappears.

In sum, economic growth in sense 1 can be, and in the US has become, uneconomic growth in sense 2. And it is sense 2 that matters.

Enough on economic growth. What then is a green economy? It is an economy that imitates green plants as far as possible. Plants use scarce terrestrial materials to capture abundant solar energy, and are careful to recycle the materials for reuse. Although humans are not able to photosynthesize we can imitate the strategy of maximizing use of the sun while economizing on terrestrial minerals, fossil fuels, and ecological services. Ever since the industrial revolution our strategy has been the opposite. Fortunately, as economist Georgescu-Roegen noted, we have not yet learned how to mine the sun and use up tomorrow's solar energy for today's growth. But we can mine the earth and use up tomorrow's fossil fuels, minerals, and waste absorption capacities today. We have eagerly done this to grow the economy, but have neglected the fact that at some point economic growth in sense 1 becomes uneconomic growth in sense 2.

In spite of the fact that green plants have no brains they have managed to avoid the error of becoming dependent on the less abundant source of available energy. A green economy must do likewise—seek to maximize use of the abundant flow of solar low entropy and economize on the scarce stock of terrestrial low entropy. Specifically, a green economy would invest scarce terrestrial minerals in things like windmills, photovoltaic cells, and plows (or seed drills)—not squander them on armaments, Cadillacs, and manned space stunts. A green economy can be sufficient, sustainable, and even wealthy—but it cannot be a growth-based economy. A green economy must seek to develop qualitatively without growing quantitatively--to get better without getting bigger.

There is another kind of green economy that seeks to be green after the manner of greenback dollars, rather than green plants. Green dollars, unlike green plants, cannot photosynthesize. But dollars can miraculously be created out of nothing and grow exponentially at compound interest in banks. However, Aristotle noted that this kind of growth is very suspect, because money has no reproductive organs. Unlike green plants, green money seeks to grow forever in the realm of abstract exchange value, even as we encounter limits to growth in the realm of the concrete use values for which money is supposed to be an honest token and symbol.

Recently we have grown, or rather “swollen”, by expanding the symbolic realm of finance. Debt is a mere number (like negative pigs) and can easily grow faster than the real wealth (positive pigs), by which it is expected to be redeemed. Wall Street has bought and sold an astronomical number of negative pigs-in-a-poke—they have “sold bets on debts and called them assets”, as Wendell Berry succinctly put it. We have recently experienced the failure of this fraudulent attempt to force expansion. Yet we have so far been unable to imagine any policy other than restarting the old growth economy for another round. After the next crisis we should try to avoid the Ponzi scheme of growth and build a steady-state economy—a green economy that is sustainable, just, and sufficient for a good life.

For more on that subject, and for serious intellectual and political efforts on its behalf, by people who I hope will be receiving your lifetime achievement award in the not too distant future, please google the Center for the Advancement of the Steady State Economy, the US Society for Ecological Economics, and Solutions.org.---Thank you!