

## CHAPTER 27

### Preserving the Present Biosphere Requires Steady State Economics

*First a preliminary point. The verb 'to grow' has become overladen with positive value connotations that we have forgotten its first literal denotation, namely, 'to spring up and develop to maturity.' Thus the very notion of growth includes some concept of maturity or sufficiency, beyond which point physical accumulation gives way to physical maintenance; that is growth gives way to a steady state. It is important to remember that 'growth' is not synonymous with 'betterment.'*  
Daly 2010

*We [humans] are the giant meteorite of our time.*  
E. O. Wilson 2007

*If it is agreed that economic output is a good thing it follows by definition that there is not enough of it.*  
The US President's Council of Economic Advisors  
1971, p. 92

*The existing propensities of the population and policies of the government constitute claims upon GNP that can only be satisfied by economic growth.*  
The US President's Council of Economic Advisors  
1971, p. 88

#### **The Basic Situation**

Humanity occupies a finite planet with finite resources. Nonrenewable resources (e.g., metals) are clearly finite but can be recycled. Even renewable resources are finite because they are regenerated by a finite biosphere. Finite resources limit the growth of the human population because it has been growing exponentially, and neither nonrenewable nor renewable resources are. In fact, climate change is, at least temporarily, reducing agricultural productivity and, thus, is also reducing Earth's carrying capacity for humans. If ecological overshoot continues, more humans will be forced to live in misery.

The Biosphere is a dynamic system and varies within limits. So, a steady state human economy would have to be based on the reality that the availability of renewable resources would not be constant. Inevitably, a temptation would be to use natural capital when the availability of renewable resources diminished, but this lure would be a fatal, unsustainable error.

#### **Steady State is Not Stagnation**

Humanity would do well to emulate nature, i.e., a comparatively short period of rapid growth is followed by a much longer period of maintenance. This situation is not stagnation but rather a model of efficient use of resources, especially energy. Humankind copies nature in only one major way — once a human has completed the rapid growth phase and reaches maturity, every effort is made to increase that individual's longevity. Until recently, the results have been remarkable because human life expectancy in developed countries nearly doubled in the 20<sup>th</sup> century. Inhabitants of third world countries are still likely to have a short life.

The prospects for sustainable use of resources for the remainder of the 21<sup>st</sup> century do not look good. Humanity has badly neglected maintenance of societal infrastructure during a period of rapid economic growth. Dams, roads, and municipal water treatment and delivery systems are badly in need of repair or replacement; the same is true of waste treatment systems and some coal-fired electricity generating plants that are very old. If old, coal-fired plants are replaced with more coal-fired power plants, runaway climate change will be the result. This threat could also be increased if more carbon is released into the atmosphere by the thawing permafrost and/or frozen hydrated methane on the ocean floor.

## The Decline of the “Shop ‘Til You Drop” Mentality

Humanity has already entered the era of resource scarcity, or, as Garret Hardin frequently stated: “There is an overage of demand.” This situation is the result of both exponential human population growth and increased individual consumption of resources. Hardin (1972) used a spaceship, named Beagle (the ship that took Charles Darwin to the Galapagos Islands was the HMS Beagle), as a metaphor for the problem of finite resources and finite space that are similar to those of Spaceship Earth. The major difference is one of scale. On a spaceship, space and resources are finite and growth is limited. Humanity is either unwilling or unable to admit that the same limits operate on “Spaceship Earth.”

*In this country [the United States], shopping is not just a national pastime. Consumer spending . . . is a sort of patriotic duty — never more so than in the last four years of economic malaise. . . . But what if all roads to prosperity don't lead to the shopping mall, as most economists would have us believe? What if, in fact, all that shopping — and the imperative to grow corporate profits quarter after quarter and continuously expand the economy — was actually the root of many of the problems we face today? (MacDonald 2011).*

What about finite resources on a finite planet with an increasingly damaged Biosphere?

*The problem . . . is that the economy [human economy], once an inconsequentially small part of the natural world, has become so supersized that — sort of like an ingrown toenail or an evasive Japanese knotweed bush — it's now growing into the remaining ecosphere [Biosphere] and jeopardizing our ecological life supports: things like drinkable water, fresh air and stable climate (Daly as quoted in MacDonald 2011).*

The human economy is a subset of the Biosphere rather than the Biosphere being a subset of the human economy, which is the unstated but acted upon belief of the perpetual economic growth advocates. Both renewable resources and ecosystem services are generated by the finite Biosphere and are essential for human survival. The human economy could not survive without humans who are, like it or not, one of the millions of species that are the basic components of the Biosphere. However, humans almost certainly could not survive without the present Biosphere in which they evolved.

## Will the Real Renegades Please Stand Up?

The general public cannot determine whether economists or ecologists are accurately predicting the future of life on Earth if “business as usual” continues.

*Broadly stated, most ecological problems reduce to the single problem of balancing supply and demand. That may sound simple enough, but the two words supply and demand stand for utterly disparate things. Supply is strictly limited, though we often cannot state the limits with any precision. Demand, however, is essentially unlimited, because the word implies demands made by human beings. There is no intrinsic limit to the demands that can be made by people (Hardin 1993, p. 3).*

Uncertainty in science has been used to delay action on reduction of anthropogenic greenhouse gas emissions in the United States despite the fact that uncertainty exists in all aspects of life — politics, football, the stock market, retirement, longevity, and even the supply of food. Scientists have been accused of conspiracy, perpetuating a hoax, misuse of research funding, altering data, and so on (e.g., Oreskes and Conway 2011). Such assaults would not be possible if the general public, their elected representatives, and the news media were more literate about the way scientists work, the scientific process of quality control, and the careful monitoring of research funding. The anti-science movement, reductions in funding for education, decline in human values, and obsession with economic growth have kept environmental literacy at bay.

“. . . a society's overall happiness is linked to income equality. . . . less equal societies like the United States have higher rates of anxiety and illness, violence, teenage pregnancies, obesity, drug abuse and eroding public trust. And they tend to consume excessively, among other negative effects” (Wilkinson and Pickett 2009). “In a world of finite resources, constrained by strict environmental limits, still characterized by ‘islands of prosperity’ within ‘oceans of poverty,’ are ever-increasing incomes for the already-rich really a legitimate focus for our continued hope and

expectations? Or is there perhaps some other path towards a more sustainable, a more equitable form of prosperity?" (Jackson 2011, p. 4).

## Accepting a New World View

*Well some people believe in climate change, but the main thing is they don't believe that humans have anything to do with climate change. And it isn't about the science, because when you delve deeper into it and ask why people don't believe in it, they say that it's because they think it's a socialist plot to redistribute wealth. . . . But something very different is going on on the right, and I think we need to understand what that is. Why is climate change such a threat? I don't believe it's an unreasonable fear. I think it's unreasonable to believe that scientists are making up the science. They're not. It's not a hoax. But actually climate change really is a profound threat to a great many things that right-wing ideologues believe in. So, in fact, if you really wrestle with the implications of the science and what real climate action would mean, here's just a few examples what it would mean (Klein 2011) [list condensed].*

*(1) It would mean upending the whole free trade agenda, because it would mean that we would have to localize our economies, because we have the most energy-efficient trade system that you could imagine.*

*(2) You would have to deal with inequality. You would have to redistribute wealth. . .*

*(3) You would have to regulate corporations. . . . You would have to subsidize renewable energy, which also breaks their worldview.*

*(4) You would have to have a really strong United Nations, because individual countries can't do this alone. You absolutely have to have a strong international architecture.*

*So when you go through this, you see, it challenges everything that they [the deniers] believe in. So they're choosing to disbelieve it, because it's easier to deny the science than to say, 'OK, I accept that my whole worldview is going to fall apart,' that we have to have massive investments in public infrastructure, that we have to reverse free trade deals, that we have to have huge transfers of wealth from the North to the South. Imagine actually contending with that. It's a lot easier to deny it (Klein 2011).*

The denial of scientific evidence also includes evolution. Almost certainly, a religious component exists to the denial of scientific evidence on evolution.

## Can the Worldview be Changed Before Runaway Climate Change Occurs?

Any prospect of developing a sustainable worldview must include

- (1) a steady state economy
- (2) a reduction in human population size to fit Earth's carrying capacity
- (3) a rapid transition to non-carbon energy sources
- (4) an acceptance that the Biosphere is humanity's life support system and the source of the renewable resources essential to the human economy
- (5) an acceptance of science as essential to humanity's future and an expression of public disapproval of both individuals and corporations that attack scientists and scientific evidence without robust scientific evidence of their own
- (6) an overturn of the US Supreme Court's ruling that corporations should be regarded as human although they do not belong to the genus *Homo* or the species *Homo sapiens*
- (7) an acceptance that global problems cannot be resolved by individual nations — a global political organization with more authority than the United Nations is essential

## Conclusions

"A new politics of the common good isn't only finding more scrupulous politicians. It also requires a more demanding idea of what it means to be a citizen, and it requires a more robust public discourse — one that engages more directly with moral and even spiritual questions" (Sandel 2009).

"Society is faced with a profound dilemma. To resist growth is to risk economic and social collapse. To pursue it relentlessly is to endanger the ecosystems [i.e., the Biosphere] on which we depend for long-term survival" (Jackson 2011, p. 187). "We've seen how a faulty economics drives and is driven by a distorted social logic. But

we've also seen that a different economics is achievable. A better and fairer social logic lies within our grasp. Neither ecological limits nor human nature constrain the possibilities here: only our capacity to believe in and work for change" (Jackson 2011, p. 204).

The denial of science and scientific evidence may really be a rejection of the worldview that will be essential to reduce the risk of collapse of the present Biosphere. The polarization of political ideologies is a major obstacle to reaching the worldview that might save the present Biosphere. Uncertainties abound, but one thing is abundantly clear — "business as usual" is unsustainable.

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