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Natural Patterns of Living

Living Within Limits

By CARL N. McDANIEL

Every important environmental trend today is negative: growth of population and consumption, global warming, mounting pollution, loss of soil, declining biodiversity. Our modern world is headed toward the same place as old civilizations that overreached their ecological means: collapse -- only this time on an unprecedented scale.

Yet we press on. Why?

Evolution selects only for behaviors that are successful in the present. That includes our brain, which evolved to fit small hunter-gatherer societies. First in Africa and then as we migrated some 100,000 years ago into Earth's vast ecosystems, our species' behaviors evolved in response to apparently boundless frontiers.

Our senses permitted us to know vanishingly little of why the biological-physical world works as it does. Try yourself to explain, without scientific insight, how a plant's fundamental elements make stems, leaves and flowers. You can't. The microworld of cells, genes and chemical signaling is too removed from our direct experience.

Our ancestors adapted by filling this gaping knowledge void with stories, imagined explanations of the natural world. Believing strongly, even to death, became a dominant element of human nature.

Hunter-gatherer cultures gave rise to a handful of agricultural societies. Middle Eastern agriculture birthed European scientific and economic culture. In the past 200 years it became phenomenally successful and global.

The problem is that we don't accept limits. Rather, our in-the-present perspective and capacity to believe anything combine with technological competence and economic ingenuity to unintentionally foster global climate change, mass extinction of species and catastrophic life-support loss.

A Cathy cartoon says it all:

A few people gather around as one woman says, "I quit dieting and lost 25 pounds!"

More women gather as another woman says, "I quit dieting and lost 35 pounds!"

Then Cathy says, "I quit dieting, gained 15 pounds and went up three jean sizes."

Cathy stands alone and says, "Hope attracts a crowd. Truth makes it disappear."

Earth is replete with groups undone by hope for the essentially impossible.

We won't make it on this blind optimism. We need true hopefulness. True hopefulness in dire straits means first recognizing odds are heavily against us, believing those odds, and then doing everything possible to beat them.

What are we up against? Human population size and consumption today are beyond what Earth can durably support. Human industry is forcing global climate change. We are fouling our nest everywhere. And biodiversity loss is accelerating toward the level of past mass extinctions.

Trends are clear. Most ocean fisheries are fished out or in decline. Many fish in our rivers are too contaminated to eat. Iowa's topsoil is half gone in 150 years. Katrina-intensity storms are increasing. Species extinction rates are up at least a thousandfold.

To assess the meaning and then act on the distant consequences of these data is extremely hard for an animal that evolved to act in the present. And it will take monumental changes in belief. But it comes down to this question: Is it possible to create a worldwide culture adhering to the lessons of biology and ecology?

Contrary to the perception of boundlessness that drives economic growth, the human economy ultimately will be constrained by the ecosystems that support it. Earth was not made for us -- we evolved for it. We are but one species among millions. Natural principles need to guide our actions, since they supersede human conventions.

Our challenge, if we are to maintain a pleasant and livable world for our grandchildren, is to create patterns of living grounded in biology and abiding by limits. We must scale back our impact: Kick fossil fuel addiction, stabilize and then reduce human population and consumption, preserve and restore habitats, stop releasing toxins, and create ecology-based local agricultures. We know how to do these things. And they can be done, but we must act out of hopefulness that is realistic and true.

Making global culture consistent with what the natural sciences teach us just might enable global civilization to avoid collapse -- what the theologian Thomas Berry calls "The Great Work." It is time to roll up our sleeves and get on with it.

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