

OD Seasonings

Volume 7, Number 2 • Spring 2010

The Next 20 Years Will Be Nothing Like the Last 20 Years

By John Adams

It is Natural to Protect the Status Quo

We all should know by now that real change in large social systems almost always occurs from the outside in. At the level of community or national society, social change driven from the inside is extremely difficult, if not impossible. This same challenge is true in changing practices of governance and operations at national, local, corporate, and nonprofit organizations.

If there hadn't been extensive civil rights demonstrations and even riots, people of color might still be using separate drinking fountains and toilets. If there hadn't been extensive feminist demonstrations, women might still be unable to vote. Repetitions preserve the status quo. As Ferguson wrote (1980),

'If I (we) continue to think as I (we) have always thought, I (we) will continue to act as I (we) have always acted. If I (we) continue to act as we have always acted, I (we) will continue to get what we have always gotten.

The first priority of autopilot thinking, from the individual thinking level to the national culture level, is to maintain the status quo. Repetitions that reinforce the autopilot status quo orientation are happening minute-to-minute everyday. Attempts to change the autopilot messages almost always are aborted as failures long before they have created enough repetitions to be successful. So change from the grassroots – from the outside in – is still

the path to follow. And major change to the status quo is needed now!

Inter-section convergence of challenges

Economists have their differential equations that “prove” the necessity for never-ending growth for our economy to operate. But we all know, at some level, that *infinite growth on a finite spherical planet is impossible*. The Federal Reserve, which is owned by large private banks, is charged with printing money out of thin air and loaning it to the government with interest. This means that the debt levels must increase. Over the past 20 years, we have created more debt in the US than in our entire previous national history. All money is created from the creation of debt. This reality necessitates continuous growth, since the economy must grow exponentially to pay off exponentially growing debt plus interest.

Energy experts give us an array of confusing information about reserves of oil, coal, and uranium. There is much current debate about when peak oil occurred or will occur. While it is no secret that our daily lives are entirely dependent on energy – especially in the USA, where we consume 20% of all the oil produced in the world – the closely held secret is how much oil is *really* left and how much it costs to extract. The same is true for coal and uranium. We have pretty much completely used up all the hard, high BTU Anthracite coal, and most of the softer, lower BTU Bituminous coal. Increasingly we are relying on sub-Bituminous coal and lignite. All of the large uranium producing mines are declining rapidly in output, indicating that we are past peak uranium at a time when many are advocating building hundreds of new nuclear power plants in the USA.

Environmentalists and “deniers” squabble about whether or not climate change and ocean acidification are happening and whether or not there is anything to be concerned about. A vast majority of serious scientists agree that the climate is changing and the ocean is acidifying, due to increasing levels of carbon dioxide. Sea levels can be expected to rise significantly as the terrestrial icecaps (Greenland, Antarctica, Chile, Himalayas) *continue* to melt, threatening the safety of coastal human habitation all around the world.

For more information on connecting these dots, and what we need to be preparing for, go to www.chrismartenson.com and take the free 20 lesson "Crash Course" (Martenson, 2010).

The Loss of Civil Society

Our society is presently extremely polarized over: left and right politics, rapidly growing separation of rich and poor, rights issues being debated in both gay and straight communities, and the growing divide between Christian and non-Christian societies. Willis Harman (Personal communication, June, 1995) used to say that increasing societal anxiety drives people to take more extreme positions. Each of these growing chasms can be viewed as horizontal extremes subject to the polarity dynamics so beautifully articulated by Johnson (1992), and there is no evident way out of these infinity loops of polarization.

Many years ago, while formulating *The Natural Step*, Robèrt (2002) referred to the dissensions and unrest such as those indicated in the previous paragraphs, as monkeys up in the branches, chattering about the leaves falling off the tree. While this loud chattering proceeds endlessly, Robèrt asked if anyone was looking into the disease in the roots of the tree that was actually causing the leaves to wither and drop.

Necessity For Systems Thinking

We in OD must provide deeper systems thinking to transcend these polarities and engage each other and our communities in longer-term bigger-picture views of what the "right things to do" are. Perhaps this is the vertical axis for each of the horizontal polarizing axes suggested above.

We need systems thinking that connects the dots across the economy, our energy needs, and resource depletion (i.e. rapidly rising costs of extracting progressively lower grade oil, coal and minerals). Once we understand how these sectors interact, we in OD need to be fostering *grassroots explorations and preparations* for a future that has a growing probability of not being anything like the recent past. Certainly the big money organizations, and the government officials lobbied by these big money organizations, are not going to initiate or welcome the changes needed. The prevailing systems, at all

levels, will not change themselves so long as they are controlled by those few who are benefitting dramatically by the status quo.

As stated above, we cannot, by definition, have infinite growth on a finite planet. Our present economic system requires the impossible – it assumes the possibility of infinite economic growth, and infinite energy being available (most often from non-renewable sources). It requires new money created by additional debt to pay off ever soaring existing debt.

Our Failure to Understand Exponential Growth

A. A. Bartlett, a physicist and emeritus professor at the University of Colorado, has stated that 'the greatest failing of the human race is our inability to understand the exponential function' (2004). I share his belief that it is essential that we all learn the implications of those ubiquitous "hockey stick curves" that we see in the media everyday, and how they apply to our present situation (Adams, 1993, 2000). I think most of us are already aware that we are well around the corner and moving steeply up *interacting* exponential curves describing: debt level, population growth, oil consumption, and mineral depletion (and also at unprecedented levels of water use, topsoil loss, forest loss, species extinction, fish depletion).

Whenever there is a specified growth rate, the growth follows an exponential path, eventually turning a sharp corner and soaring steeply. For example, electricity consumption grows in the USA at approximately 7% per year. The important thing to understand about this seemingly innocuous percentage is the time it takes to double the base amount. Whenever you see the percentage growth rate, divide that number into 70 to find the doubling time. A 7% annual growth rate in electricity consumption means that the amount of electricity consumption doubles every 10 years. (*70 is 100% growth [i.e. double the previous amount] divided by the logarithm of 2 [a little over 1.4]*). Just remember the number 70!

Now it is 2010. In our electricity example, this means that the amount of electricity consumed would double by 2020, be *four* times as great as today in 2030, *eight* times as great as today in 2040, ... *128* times as great as today in 2080 – within the lifetimes of young children alive today. It's going

to take a lot of energy to do that!!! Another way of “getting” how fast things add up when there is exponential growth is to consider that it took many millennia, until about 1960, for the earth to have three billion people alive at the same time. *Only 35 years later*, there were six billion people on earth (a seemingly harmless 2% growth rate).

Let’s consider one more example. The coal industry tells us there are up to 500 years (depending on the reporting source) of coal remaining *at present rates of consumption*. This seemingly endless supply prediction is true *only* if we freeze consumption at today’s levels; and is incredibly misleading when one considers that the annual increase in coal production has averaged 2.86% over a recent 20-year period (Bartlett, 2002). Further, the Department of Energy states that half the known coal reserves are not recoverable (Bartlett), so let’s use 250 years’ supply – still seemingly huge. Dividing 70 by 2.86 indicates that production would double every 24.5 years if the growth rate continues (consider the demands, just described above, for generating huge additional amounts of electricity and our present reliance on coal-fired power plants). This means the annual coal production would be *four times greater* than today by 2059 – 400% of ‘*present rates of production*’! Bartlett uses a freshman calculus equation to determine that presently known coal reserves will actually last a maximum of 72 years.

So when is the last moment we can respond to all the aforementioned exponential convergences? Martenson (2010) likes to use an illustration that involves a magic drop of water that doubles each minute. Let us place this magic water drop on second base in Fenway Park at noon. If you are chained to the highest bleacher seat and the park has been made water tight, how long do you have to escape? A month? A week? A day? At 12:44 there will be about five feet of water on the field – how much longer do you have to escape? At 12:48, Fenway Park will be half full! This means that you now have only one minute (12:49) until the water flows over your head and over the wall into the streets. At 12:50, the equivalent of two full Fenway Parks of water will be created! By 12:55, 64 Fenway Parks will overflow. Note that if the amount of water needed to fill Fenway Park is miscalculated by 100%, the above outcome is only off by one minute!

So now, given the rapidly rising exponential curves of economic debt,

resource depletions, and energy consumption, how far in the future can we wait to take these things seriously and take serious grassroots actions to support people in making preparations for life that may be nothing like the past 20 years?

OD Involvement Needed Now!

How can OD Practitioners get involved? I suggest that we urgently need to:

- Use the same strategies and skills we used in advocating for race and gender equality – get involved and take a stand!
- Educate ourselves deeply about the real functioning of the economy, energy generation, and the implications of resource depletion.
- Join local nonprofit grassroots groups and help them organize and function effectively (these are everywhere – see Hawken, 2007)
- Create educational support for individual and community preparation– emotional, financial, food and water security, physical security, energy security, shelter security, travel and transportation security
- All grassroots organizations need our skills and knowledge today!

How deep is the water in your favorite stadium?

References

Adams, J.D. (1993). Working today as if tomorrow mattered. *OD practitioner*, 26(3).

Adams, J. (2000). *Thinking today as if tomorrow mattered: The rise of a sustainable consciousness*. San Francisco: Earthheart Enterprises.

Bartlett, A.A. (2004). *The essential exponential (For the future of our planet)*. Lincoln, NE: University of Nebraska.

Ferguson, M. (1980). *The Aquarian conspiracy*. Los Angeles: J.P. Tarcher.

Hawken, P. (2007). *Blessed unrest: How the largest movement in the world came into being and why no one saw it coming*. New York: Viking Press.

Johnson, B. (1992). *Polarity management: Identifying and managing*

unsolvable problems. Amherst, MA: HRD Press.

Martenson, C.M. *The crash course*. Retrieved 02/04/10 from www.chrismartenson.com.

Robèrt, K.-H. (2002). *The natural step*. Gabriola Island, B.C., Canada: New Society Publishers.

About the Author

John D. Adams, PhD has been at the forefront of the Organization Development and Transformation profession for over 40 years. John served as the Chair of the Organizational Systems Ph.D. Program at the Saybrook University for 10 years, and also as a guest faculty member at The Bainbridge Island Graduate Institute in the MBA in Sustainability program. He is currently Director of Education for Foothill Collaborative for Sustainability (FoCuS) and administrative director for Prevention International: No Cervical Cancer in India (PINCC-India). His book (2000), *Thinking Today as if Tomorrow Mattered: The Rise of a Sustainable Consciousness*, is the culmination of several years' research, speaking, and writing. John can be reached at: Jadams2212@comcast.net