

Appendix

Project History and Acknowledgements

In mid 2001, after sitting on the fence for way too long, I stopped business consulting and switched to working on the global environmental sustainability problem full time, self-funded, self-managed, and alone. The problem was clearly more important than any my clients ever had. I was fooling myself to think that solving business management, process, and information technology problems really mattered. They did not, compared to the sustainability problem. After reading Bill Joy's essay on *Why the Future Doesn't Need Us* and watching the success a good friend and neighbor (Curt Smith) was having in frontline activism with the Sierra Club, I committed myself.

The first thing I did was develop a project plan. It had these phases:

1. The 1st and 2nd years were for *becoming familiar with the problem*.
2. The 3rd and 4th years were for *developing novel contributions* that could make a critical difference.
3. The 5th and 6th years were for getting right in there, elbow to elbow, and *working with others*. (This took 5 years instead of 2 to start in earnest. After the third phase I couldn't see what would come next.)

Imposed on this was a second strategy: *to work in deliberate isolation for the first 4 years*. Normally this is a surefire recipe for professional disaster. But when I begin looking around to survey the problem, what I saw made me gasp. Everyone who had a solution was certain they had the right solution or were close to it. But because the solutions were all about the same at the high level and none had succeeded for decades, something was terribly amiss. I concluded that the real issue here, the bogeyman in everyone's closet, was a massive case of group think. Essentially they were all living in the same paradigm and that paradigm was failing. Unless I isolated myself I would soon be living and breathing and thinking their paradigm, and would be unable to conceive of any other.

In late 2004 *The Death of Environmentalism* memo¹⁷⁹ validated this strategy and made the need for isolation perfectly clear. At least to me, because the memo said point blank that:

Modern environmentalism is no longer capable of dealing with the world's most serious ecological crisis.

What a sobering assessment. I read that sentence over and over. Each time my resolution to somehow help grew stronger. So did my resolve to continue to go it alone, because obviously “modern environmentalism” needed reinvention.

Progress was slow at first. That was expected. One does not rush into a problem that's defied solution for decades and expect to solve it right away. So I patiently started at square one. But where exactly was square one?

About a year later I figured that out. I stopped studying what environmentalists had been doing and started studying *why* they were doing what they were doing, and *why* the opposition was doing what it was doing. This led to the conclusion that driving the behavior of both groups was... the evolutionary algorithm.

So I dived into study of evolutionary theory. I read Darwin. I devoured Carl Zimmer's *Evolution: The Triumph of an Idea*. I pondered Ernst Mayr's *What Evolution Is*. I pounded out a succinct definition of the evolutionary algorithm. It has three key steps: replication, mutation, and survival of the fittest. Moving up to bigger systems, I studied game theory and then ecology. Chapman and Reiss' *Ecology: Principles and Applications* had a lot of clues. Then I hit the jackpot with Mackenzie's *Instant Notes: Ecology*. There, boiled down for all to see, were the principles of the field. Page 108 had the Principle of Competitive Exclusion. That began to explain *why* the forces trying to solve the sustainability problem were encountering such fierce opposition. The two sides were locked in a battle of competitive exclusion for the same niche!

That insight and a close rereading of *The Limits to Growth* and Axelrod's *The Evolution of Cooperation* convinced me I needed modeling skills. Otherwise I would not be able to model how the two sides were competing against each other for the same niche. I would never be able to model down to structural root causes, as the System Improvement Process required.

So I tackled Sterman's *Business Dynamics: Systems Thinking and Modeling for a Complex World*. Its 982 pages were overwhelmingly difficult, so after a first read I put it aside. I couldn't understand it. It just wouldn't click. But after almost a year I was getting nowhere, due to not being able to model system behavior like *The Limits to Growth* and Axelrod had done. So I picked up *Business Dynamics* with new determination.

This time my brain was ready. Sterman's well written words started seeping in. I chose Vensim as my modeling tool and started doing practice models. Lots of them. My goal was to be able to quickly rough out a model of anything. That

was impossible at first. But with long practice it became easy. I had learned a new language.

Now, in 2005, I was able to return to an earlier insight and do something with it. Two groups, environmentalists and the opposition, were locked in a battle of competitive exclusion for control of the same memetic niche. (I had also by now read Richard Dawkins' *The Selfish Gene* and had become hooked on the usefulness of memes in explaining human behavior.) So I began modeling how these two groups were interacting. Sketch after sketch in my notebook appeared. Once the rough model solidified I turned to Vensim to bring it alive. A dozen or so iterations later the Dueling Loops of the Political Powerplace model gelled. This was tremendously exciting, because now I had a model that explained *why* the world was having so much trouble solving the sustainability problem. Without ever knowing it, activists were pushing on the *low leverage point* of "more of the truth." They were blind to the true reality of the system.

So I wrote up the model in my first (still unpublished) paper. Once the simulation run scenarios were listed, the paper wrote itself. It spoke. It explained. It showed *why* environmentalists had been failing, and would continue to fail, unless they changed to pushing on *high leverage points*. Up went the *Dueling Loops of the Political Powerplace* paper on Thwink.org.

Time for a pause. I need to backtrack a little to describe how so many fine people were helping me the best they could, as I struggled to move forward.

One prerequisite for all transformations is a core group of innovators that can see, *using logic alone*, that there is a better way. I have been fortunate enough to work with such a group.

The second member of that group was, quite naturally, my editor in chief, who is also my beloved wife Martha. Without her continuing emotional and intellectual support, as well as her handy red pen and logical cutlass that slashed entire bad ideas out of existence and prodded other good ones onto the page, this ambitious endeavor would have gone the way that most such foolishness goes.

The third and fourth members were George and Wilma Turner, for whom I worked thirty some years ago to turn their dream into reality. They have since achieved that dream and retired, just in the nick of time to take up several new ones. George not only offered numerous early suggestions, but was adventurous enough to dive into a manuscript that was tottering on the brink of literary catastrophe and turn it into something more accessible, and better yet, more correct. This became the little Dueling Loops book, my first book.

The fifth member of this tiny group was Curt Smith, who I've already mentioned. After he converted to the new way of thinking expressed in the new ideas I was developing (like the Dueling Loops) it was Curt who first asked the question, "How can we implement these ideas?"

The sixth member was Rick Krause, a retired hydrologist from the US Geological Service. He and Curt caused a small explosion of these ideas within a typical environmental organization: the Sierra Club. This led to the first tangible change project involving these concepts. The project failed to change the organization, but as an experiment it made the concepts stronger and was thus a success.

Along the way, as these ideas metamorphosed from mud and sticks to a habitable dwelling that no longer fell down every time you open the door, there have been many people who helped to build it.

Certainly the core members of the Sierra Club's Gwinnett County group of Georgia played an important early role. These include the group's leader, Curt Smith, plus Rick Krause, Sandy Krause, Terry Jones, Annette Gelbrich, Lydia Pochatko, and Nancy Brideau.

There have been others over the years whose gentle push here and there made all the difference in keeping this long project on course. There was Kathy and Jim McLaughlin. It was Jim who blurted out the insight that "We've got to figure out a way to make them work for the system instead of against it," referring to what this book now calls the New Dominant Life Form, but was then called the modern corporation. And then there was Leo Razaitis, a wise ole codger who when things were looking bleak, reacted so positively to a demonstration of the simulation model of The Dueling Loops of the Political Powerplace, and in particular to **The Age of Reason** feedback loops in it, that he gave me hope. Finally, in 2005, I started to work with Rhonda and Scott Durlacher.

In 2005 I applied to join the US branch of the Club of Rome. Murv Sears, admissions chairman, reacted warmly to my application. What a fine fellow. Based on samples of my work, soon I was accepted.

But I was a reformer. The international Club of Rome's March 2006 newsletter published a long piece by me on how the club could go about reforming itself, mostly by using a better problem solving process. Self-reform was something the organization had been trying to do for years, since it had not hit any more home runs since *The Limits to Growth* in 1972. The secretary-general, Joerg Geier, was very supportive and gave me four internal documents on which to base my analysis. One was Dennis Meadows's incisive *A Future for the Club of Rome*. My contribution ran 26 pages and was titled *Can These Best Practices Make the Club Effective Once Again?*

Unexpectedly, the article ruffled the feathers of the chairwoman of the US branch of the Club of Rome. I had not run my communications with the international group through her. Plus over half the board was against reform. The rest wanted it desperately but were in the minority. The minutes showed that at the board meeting where I was approved there had not been a quorum. So I was booted out and my application fee refunded.

Sigh. Could this be one more example of paradigm change resistance combined with deep frustration due to endless problem solving failure?

While all this was underway a process that fit the problem was developed. *This was the third and most important strategy.* It started in year two and began to pay large dividends right away. The process took years to mature but made all the difference. Every time I was stuck, all I had to do was go back to the process and either re-execute a step or improve the process. So I was never stuck for long.

This has happened before. The American pioneer and explorer Daniel Boone was once asked if he was ever lost in the wilderness. He thought a bit and replied, "I can't say as ever I was lost, but I was bewildered once for three days."

That's the back story. Let's return to the birth of the Dueling Loops model and paper, which went up on the Thwink.org site on December 7, 2005.

Next I added a section to the Wikipedia entry on sustainability. Below is the original version. The italicized phrases had links to different Thwink.org pages.

The Phenomenon of Change Resistance

The above concepts focus primarily on the proper practices required to live sustainably. None, however, analyze why there is such strong resistance to adopting sustainable practices. One of the few that does is the work at *Thwink.org*.

This site argues that if enough members of the environmental movement adopted a problem solving process that fit the problem, the movement would make the astonishing discovery that the crux of the problem is not what it thought it was. It is not the proper practices or *technical side* of the problem after all. Any number of these practices would be adequate. Instead the real issue is why is it so difficult to persuade social agents (such as people, corporations, and nations) to adopt the proper practices needed to live sustainably? Thus the heart of the matter is the change resistance or *social side* of the problem.

The section on *The Phenomenon of Change Resistance* no longer exists. It's been mangled by "helpful" contributors adding their own thoughts, such as the importance of Marxist philosophy in solving the sustainability problem. Eventually someone noticed the section looked bad and deleted it. Someone else asked why. The answer was "It was unfocused." Sigh.

But until it was deleted the section worked wonders. Many activists clicked on the links to Thwink.org. I began to get a few contacts. In mid 2006 I was contacted by Philip Bangerter of Hatch, a global engineering consultancy that's employee owned. Andrew Murphy had found the Dueling Loops paper. He passed it to Philip who wrote me that "I was enlightened." He, Andrew, Steve Gale, and I started working together. Later that year Joe Starinchak of US Fish and Wildlife contacted me and joined in.

Then there was a lull. New paradigms take time to catch on. I continued working patiently. Finally in January 2010 the first Thwink.org paper, *Change Resistance as the Crux*, was published with crucial help from Steve Wehrenberg (a stellar thwinker who suggested a model, the first draft had none), Philip Bangerter (who painstakingly edited the paper twice), Markus Schwaninger (editor of the *Systems Dynamics Review*), and two anonymous referees (who I hope to meet someday). A few days later Joe Starinchak forwarded a copy to Michael Collins, who read it, grasped the new paradigm in record time, and contacted me. We talked. I could see Michael's project had potential but needed help. So in March I drove up from Atlanta to Virginia and worked with him for ten days. The goal was to integrate Common Property Rights (CPR) into his project. CPR was a solution element in a chapter I'd written in 2006 and put on the shelf. The idea languished for years. But now it was the perfect fit.

The day before I left Michael's house we called up Philip Bangerter and told him what we'd been doing. Michael suggested that Philip talk up a parallel project in Australia "over coffee." A few days later he did just that. This ignited interest in a CPR project in Australia. That project is now going full speed ahead thanks to the skill of Philip, its project manager. John Hale, director of the Australian Centre for Sustainable Business and Development at the University of Southern Queensland, has taken the project under his wing. Regular virtual project meetings are moving things along. Shuddha Rafiq, Shahbaz Mushtaq, Joseph Mula, and Geoff Slaughter have stepped forward to help. More papers are in progress. Initial funding is underway. And then there's Robert Gowans with TruthTest.org in Sweden, Tommy Topmiller in Atlanta, Mike Hutchins and Lisa Drewe from the UK, and Lyndyl Greer in Australia.

The rolling stone is gathering moss.