



whole resource can be managed. That could be either a common shared vision which will guide all individual actions, a measurement system that somehow accounts for the collective effect (and makes it “visible” to each player), or a final arbiter who controls and allocates the resource based on the whole system.

One way of creating an overarching vision to guide a project is to apply Quality Function Deployment, which translates customers’ needs into a matrix that provides a blueprint of what the customer values most. This way, even as each team tries to optimize their part by using the common resource, the matrix shows which ones should get higher priority.

One example of a final arbiter is the heavy-weight program manager common in car product development programs in Japanese companies. He or she has a great deal of authority for making decisions about design and resource allocation issues.

Empowerment

How many times have decisions been made at a higher level in an unrecognized “Tragedy of the

Commons” where individual morale and empowerment suffer as a result, even though the decision was the “correct” one? Recognizing a “Tragedy of the Commons” at work can be an empowering experience. When people realize a particular problem cannot be “solved” at the individual level, they will feel much more comfortable about the decisions being made at higher levels and also understand at what level the decisions need to be made. ■

The “Tragedy of the Commons” example used above is based on “Learning to Learn: A New Look at Product Development” in the February 1993 issue of *The Systems Thinker*™

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VIEWPOINT

FROM “LIMITS TO GROWTH” TO “LIFE BEYOND GROWTH”

BY DOMINIC STUCKER



Photo by Clemens-Kalischer

The Club of Rome and the Smithsonian Institute hosted the symposium Perspectives on Limits to Growth: Challenges to Building a Sustainable Planet in Washington, DC, on March 1 to celebrate the 40th anniversary of the publication of *The Limits to Growth*. This book, which sold over ten million copies in more than 25 languages, was one of the earliest scholarly works to recognize that the world was fast approaching its sustainable limits.

The symposium was divided into two sessions.

The morning session focused on the lessons of *The Limits to Growth* and included presentations by two of the original authors, Dennis Meadows and Jør-

gen Randers. Donella (Dana) Meadows, who passed away in 2001, was the third author. These talks were complemented by a perspective from Lester Brown, president of the Earth Policy Institute. The afternoon session addressed the difficult challenges of preserving biodiversity, adjusting to a changing climate, and solving the societal issues now facing our world.

[View video footage from the full event here.](#)

Too Late for Sustainable Development

I was particularly interested in Dennis Meadows’ speech, “It Is Too Late for Sustainable Development,” which I watched live-streamed from Brazil. Though my Internet connection was not perfect, I wrote up these notes:

Dennis started with describing his feelings: gratitude to the organizers, a sense of privilege to be here 40 years after making the first public presentation on *The Limits to Growth*, and apprehension

TEAM TIP

Use the principles in Dana Meadows’s article “Dancing with Systems” to better understand and “dance with” the systems of which you are a part.



about the future. He made special mention of Dana Meadows, saying that she was the key author behind the book and a genius in bringing together and communicating vast amounts of collected data.

He continued by inviting the audience to participate in a crossing-arms exercise, pointing out that there are two possibilities for which wrist is on top and that we tend to habitually prefer one over the other. The audience was divided 50/50 on which wrist was on top. A key task, he said, is changing habits, which—after the audience tried switching wrists—requires (1) thought and reflection, (2) practice, and (3) tolerance of discomfort.

The key message that Dennis offered was that he anticipates overall decline of our global systems in the coming years and that we need to focus on increasing the resilience of those systems to withstand impacts and maintain our values. He went on to reflect on lessons learned since *The Limits to Growth* was first published.

- Nuanced, conditional discussions are difficult to have in the public discourse.
- We filter information to confirm a set of conceptions we already hold.
- We are following the overshoot and collapse scenario and exceeded Earth’s carrying capacity soon after *The Limits to Growth* was published.
- We act as if technological change can do what social change has to do.

Dennis pointed out that sustainability is difficult to achieve because it requires investment in the future and short-term sacrifice for long-term gain. It is difficult for people, including politicians and executives, to make such long-sighted decisions. He emphasized again that if we fail to build the resilience of our systems, our fundamental values will be stripped out of us and our systems, something that will contribute to further decline.

Meadows ended with a “1, 2, 3, clap” activity. In this exercise, he told the audience that they should clap when he says “clap.” He counts “1, 2,” claps on “3,” and then says “clap.” Most participants follow his lead and clap when he says “3” rather than wait until he says “clap.” The point is that actions speak louder than words.

A Call to Action

I was heartened that Dennis started his talk by sharing his feelings: he was grateful, honored, and scared. He came across as being realistic, which helped me understand where he was coming from and listen more fully to his talk. I share his apprehension as we brace for the continued impact of climate change, biodiversity loss, poverty, conflict, and gender inequity. Parts of his talk left me feeling frustrated with the slow pace of change over the past 40 years, frustrated by our inability as a society to, as Dana Meadows may have said, expand our horizons of time, space, and care.

I was reassured, therefore, that Dennis made a call for action, offering us direction by encouraging us to build resilience in our global systems. This statement did not necessarily leave me feeling hopeful about the future, however, as building resilience implies that we have to withstand continued environmental, social, and economic impacts, attempting to maintain what we have. To work toward a vision of a better future, we need to be resilient, but also regenerative, building up what we have lost and then some.

Dennis did offer implicit guidance on the flip side of each lesson learned over the past 40 years:

- We have to become better at engaging in nuanced, conditional public discourse.
- We have to hold our conceptions about how the world works loosely and be open to new and sometimes contradictory information.
- We need a new scenario for the future, one in which we live within the carrying capacity of the Earth.
- We should focus our work on social change processes.

Through the crossing-arms exercise, he also noted that change processes require thought and reflection, practice, and tolerance of discomfort. Good advice. And through the final clapping exercise, the point was to take action, as actions speak louder than words.

Even with this guidance, what was lacking for me in his talk were concrete tools to help us achieve the mandate of building systems resilience, indeed for bringing about the sustainability revolution. Throughout the talk, I kept wondering what Dana would have added, imagining how it would be both visionary and practical. Here’s what I came up with.

Tools for the Transition to Sustainability

I wasn’t alive in 1972, when *The Limits to Growth* trumpeted the warning of possible overshoot and collapse. I belong to a second generation of sustainability practitioners, inspired by *Limits to Growth: The 30-Year Update*. While this later book concluded that we are still on a trajectory to environmental and social collapse, it went further, offering a concluding chapter on “Tools for the Transition to Sustainability,” with



Donella (Dana) Meadows

Dana as lead author. I imagine that, had she the chance, she would have integrated some of these tools into her own speech at the Smithsonian.

The following represent what Dana calls “essential characteristics of any society that hopes to survive in the long term.” They are, in my opinion, a powerful suite of leadership tools for bringing about the sustainability revolution.

Visioning: “Vision without action is useless. But action without vision is directionless and feeble.



Vision is absolutely necessary to guide and motivate. More than that, vision, when widely shared and firmly held in sight, does bring into being new systems.” In this imaginary Smithsonian speech, Dana might have referred to the Cobb Hill ecovillage she cofounded in rural Vermont as a shared vision of a community practicing sustainability to the best of its abilities.

Networking: “A network is . . . a web of connections among equals . . . held together by shared values and the understanding that some tasks can be accomplished together that could never be accomplished separately.” Here, Dana may have spoken about the Donella Meadows Fellows Network, which seeks to embody and apply the leadership tools discussed here. A network that is grounded in local communities, businesses, nonprofits, and governments around the world, these Fellows are doing their best to change socio-environmental systems to help bring about a better world.

Truth-Telling: A system changes behavior when information flows are open, providing accurate, timely, and relevant data to all the right people. Reflecting on this process, Dana urged us to have the “courage to admit and bear the pain of the present, while keeping a steady eye on a vision of a better future.”

Perhaps Dana, as she did in her article [Leverage Points: Places to Intervene in a System](#), would have talked about Thomas Kuhn on shifting paradigms:

- Keep pointing at the anomalies and failures of the old paradigm.
- Keep speaking louder and with assurance from the new one.
- Insert people with the new paradigm into places of public visibility and power.
- Don’t waste time with reactionaries.
- Work with active change agents and the vast middle ground of people who are open-minded.

A combination of truth-telling and learning, the next leadership tool, seems to represent both the advocacy and inquiry of reflective conversation.

Learning: “Whatever you do, do it humbly. Do it not as immutable policy, but as experiment. Use your action, whatever it is, to learn. . . . Learning means exploring a new path with vigor and courage, being open to other people’s explorations of other paths, and being willing to switch paths if one is found that leads more directly to the goal.” Always action-oriented, Dana emphasized that “a sustainability revolution requires each person to act as a learning leader at some level, from family to community to nation to world.” Here, she may have drawn from observations made in her article “Dancing with Systems”:

1. Get the beat.
2. Listen to the wisdom of the system.
3. Expose your mental models to the open air.
4. Stay humble. Stay a learner.

5. Honor and protect information.
6. Locate responsibility in the system.
7. Make feedback policies for feedback systems.
8. Pay attention to what is important, not just what is quantifiable.
9. Go for the good of the whole.
10. Expand time horizons.
11. Expand thought horizons.
12. Expand the boundary of caring.
13. Celebrate complexity.
14. Hold fast to the goal of goodness.

Going for the good of the whole and expanding the boundary of caring may have led into a discussion of love.

Loving: It is hard to talk as a scientist to scientists about love. Love is difficult to define and measure. Yet Dana asserted that “the sustainability revolution will have to be, above all, a collective transformation that permits the best of human nature, rather than the worst, to be expressed and nurtured.” She went on to observe, “It is not easy to practice love, friendship, generosity, understanding, or solidarity within a system whose rules, goals, and information streams are geared for lesser human qualities. But we try, and we urge you to try.”

The above suite of leadership tools and insights can help us move beyond what Dana called the “growth-as-progress paradigm.”

Life Beyond Growth: Sustainability expert Alan AtKisson published *Life Beyond Growth* 40 years to the day after the publication of *The Limits to Growth*, a book that helped inspire his career. The report tracks and encourages us to move beyond gross domestic product (GDP) as a measure of progress, showing that many governments are seriously considering and using indicators like “happiness” instead.

Alan writes: “The report demonstrates that more and more countries are seriously questioning GDP and traditional economic growth as their default definition of ‘progress.’ And, a consensus does seem to be emerging: We should all be aiming for a world that is environmentally green, economically secure, and happy, for all. . . . These ideas are not new; some are decades old. But the political willingness to engage with them is very new. Leaders are realizing that social and environmental conditions simply demand a different approach.”

[Read more about the report on the Global Transition 2012 website and download it here.](#)

Looking Inward to Look Forward

At the very end of chapter 8 in *The Limits to Growth: The 30-Year Update*, the authors emphasized that the future is not preordained, but rather a choice between mental models, listing three:

- This world, for all practical purposes, has no limits.
- The limits are real and close, and there is not



(Continued from page 11)

enough time to avoid collapse.

- The limits are real and close, but there is just enough time to achieve a sustainability revolution.

While Dennis's talk leaned more toward the self-fulfilling mental model of collapse (or at least decline), I wonder where Dana would have positioned herself? My feeling is that she would have espoused the "if-we-start-right-now-we-have-just-enough-time-to-achieve-sustainability" mental model. Indeed, as she pointed out, "There is no way of knowing for sure, other than to try it." ■

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