



System Dynamics NEWSLETTER

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FROM THE PRESIDENT

Erling Moxnes



Greetings from Bergen. It was very nice to see so many of you in Albuquerque. The conference was very well organized from the PhD Colloquium on Sunday through Friday's Bonus Day sessions. The atmosphere was inviting and friendly. Several newcomers have commented on this to the home office after the conference. It was a pleasure to chair

the Conference Debriefing Meeting, and once again, thanks to the organizers.

First, let me share with you some of my reflections after the conference. This year's conference had a focus on education. Much research in education has found that students have great difficulties understanding even the simplest of physics problems involving dynamics. By simple, I mean systems that have only one stock, one flow, and perhaps an auxiliary variable attached. Over the last two decades system dynamicists have found similar misperceptions of simple natural resource systems, and of simple economic and social systems. We are just starting to realize how challenging it is to teach effectively to correct mental models and to improve decisions.

At the other end of the complexity scale Kenneth Cooper and Gregory Lee received the Applications Award for their work on project management. The Fluor Corporation now uses a comprehensive system dynamics model to manage all its major projects. After implementation the company has incurred great savings in a business where cost overruns and delays tend to be the rule rather than the exception.

Fluor has embraced and had success with its complex management tool. In many other situations much simpler dynamic models have been misperceived and distrusted. What explains the difference?

I think it is important to keep in mind how much time and effort has been put into the project management tool since Pugh-Roberts Associates developed the initial model in the mid-seventies. Experience, insights, and trust have accumulated over more than thirty years, first outside and then inside Fluor.

In light of the above, it seems risky to skip a simple model stage and jump to complex models when approaching new problem areas. If people have difficulties with simple models, then that is where we should start to build interest and trust. To be "holistic" it is more important to get the basic principles right than to add detail. This seems particularly important for the grand challenges that Alan Graham and Dennis Meadows discussed in the opening plenary session of the conference.

While big corporations have financial incentives to use complex management tools, politicians and ordinary citizens of this world have limited capability and limited personal incentives to spend considerable amounts of their time on complex models.

For me, this year's conference also involved a series of meetings. The Policy Council approved a new make-up of the Strategy Committee such that the two elected presidents, and the current and immediate past presidents become ex-officio members. This design should provide continuity, increase the chances that good initiatives are implemented, and give the presidents incentives to work actively with the Strategy Committee. The Publications Committee was "revitalized" with new members and new tasks to deal with. How do we best publish system dynamics work, and how can our publication policy help improve quality? For instance, should we develop guidelines for how to address revealed misperceptions and learning problems and should we raise standards for acceptance of papers accordingly?

Best Regards, Erling Moxnes, President 2009

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No Carbon From My Pedals

by Bob Eberlein, Vice President Electronic Presence



It was on my first, actually my only, day off on the long ride from Boston to Albuquerque that I went online to make my carbon offset contribution for the conference. A lot had

changed since I had last tried to cross a continent, or at least a good part of a continent, on a bicycle some two decades ago. Checking email while sitting in a corn field in Illinois was not something I would have expected back then.

When I was a student at MIT I can remember hearing how Jay Forrester had listened to people arguing about whether or not industrial activity was causing global warming and remarking afterward that it was good people couldn't agree, it meant there was still hope. Such arguments persist today, of course, and are probably much more vociferous than they were back then. The heat in the current discussions, unfortunately, stems from the reality that most people can agree, and the minority who don't are being more vocal about it. Does that mean there is no hope?

During a plenary session at the conference, John Sterman reiterated the view of Dana Meadows that we'd best assume that there is just enough time to do something constructive. I don't pretend to know exactly what that something should be, but there are opportunities and purchasing carbon offsets is one of them. All of this stands in the face of my favorite aphorism, "don't just do something, stand there" but it is important to recognize that with every breath we take we are, in fact, doing something.

Thus I find myself above the handlebars of the same bike that I last used to cross China when cars were very much a rarity. The motivation for my endeavor was not so much to save jet fuel as it was to see if I still had it in me to do something that, to most, seems quite impractical. Still, the ride, which took three weeks, did give me lots of time to reflect on the things we take for granted in our day-to-day activities and how they impact the world.

Dennis Meadows, in the same session I mentioned earlier, pointed out how it is the intersection of technology and behavior, and not either one alone, which determines how we shape our environment. I doubt that the bicycle is the airplane of the future, but it is a remarkably efficient and versatile machine. I was traveling light, or so I thought before I tried to climb my first hill. I had enough with me to be fairly self-contained including a tent, sleeping bag and the satchel from the 2005 Boston conference filled with food.

All of which is to say that the technology is there to behave the way I wanted to. Unfortunately, in the 25 or so years since I had last crossed America it seems like fewer and fewer people were doing that. I don't have any hard numbers on this, but I only encountered a few other people doing the same thing. There were also many fewer places to stop and get provisions, with small country stores an endangered species. And there was much more traffic, even though the total number of cars in the US has not changed all that much. All of these are, again, reflections on behavior and not really technology.

So, after the headwinds of New York, the rains of Indiana, the gravel of Missouri, the heat of Kansas, the loneliness of Colorado and the mountains of northern New Mexico I finally arrived in Albuquerque, right on schedule. With a new wheel and bottom bracket I was glad it was my bike, and not me, that needed repair. It was a bit of a transition to get out of bicycle mode, but the conference was great fun. Len, Aldo and everyone else did a superb job of making us welcome. I did take an airplane home. I am not sure if I will try riding to a conference again, but I sure enjoyed it this time.

Sadly, all my pedaling notwithstanding, we were not successful in offsetting the carbon release associated with travel for and attendance at the conference. But we can continue to make strides in that direction. Behavior is something that may take some time to change. I did notice that I now use my bike for more errands at home. It seems that doing something impractical really can change what we do in practical ways.

Conference World Tour T-shirts Available

by Len Malczynski, Conference Chair 2009



Proudly showing my affiliation with the System Dynamics Society, I walked the streets of downtown Petoskey, Michigan, USA. Strangely no one nodded in acknowledgement or approached me to discuss the unintended consequences of tourism on this beautiful town!

One way to make sure Petoskey (and all other points on earth) is aware of the SDS is to buy and wear an **International Conference of the System Dynamics Society World Tour T-shirt**.

It would be wonderful to see photos of system citizens wearing their t-shirts at places all around the globe. Please send pictures to the Society office for posting. To order (\$10 US plus shipping) please email Len Malczynski at lamalcz@sandia.gov.

