



## SYSTEM DYNAMICS IN THE NEWS

BY JANICE MOLLOY

**F**or many of us in the northeastern part of the U.S., August is a quiet month in the office. With the majority of coworkers and authors taking vacations at some point between July 4 and Labor Day, emails and phones calls slow to a trickle. Meetings become few and far between. Mid-afternoon trips to the new ice cream store on the corner assume a prominent role on the daily to-do list.

Taking advantage of the slower pace, I've spent some time sorting through the many documents that have landed on my desk over the course of the past year. In particular, three articles from the mainstream media caught my attention. Each prominently features the practical application of systems thinking and system dynamics tools in the face of today's ever-more complex challenges. The pieces are summarized below; we've also included links to more complete information on each topic. A little last-minute beach reading, perhaps?

—JM

- “The Prophet of Unintended Consequences” by Lawrence M. Fisher, *Strategy+Business*, Fall 2005

*Strategy+Business* is a quarterly magazine published by the global strategy and technology consulting firm Booz Allen Hamilton. In an interview with Jay Forrester, founder of the field of system dynamics and professor emeritus of management at the Massachusetts Institute of Technology's Sloan School of Management, writer Larry

Fisher details the evolution of the discipline and its implications for solving complex problems. From creating a wind-driven generator for his family's cattle ranch in rural Nebraska to repairing a radar antenna control system on an aircraft carrier under siege in the Pacific Ocean, Forrester has used his academic research to serve very practical ends. According to the author, in applying engineering principles to social systems, Forrester sought to “allow mere mortals to comprehend the obscure nature of (and counter-intuitive solutions to) such knotty problems as environmental damage, the boom-and-bust pattern of economic cycles, supply chain malfunctions, and the pernicious side effects of well-intended policies everywhere.”

The complete article is available at [www.strategy-business.com](http://www.strategy-business.com). Click on “Search and Browse” and select the Fall 2005 issue. Scroll down to the article and click on “Read on . . .” You will need to register to access the complete text.

- “Nothing's Stock about Christine Jantz's Selection Equation” by Helen Graves, *The Boston Herald*, December 1, 2005

Christine Jantz and Sean Morgan, both graduates of MIT's Sloan School of Management, are applying system dynamics to managing investments through their firm Jantz Morgan. As of December 2005, their quantitative model for selecting stocks had well outperformed the S&P 500. According to the article, “over the past three years, Jantz Morgan's U.S. large cap core portfolio has generated a 114-percent return vs. the S&P 500's 59 percent.” Each month, Jantz runs the model and rebalances the portfolio based on the outcomes. The cofounders never override the model, thus eliminating

human bias. They also use system dynamics models for making decisions about how to run their own business, such as which positions to staff as the organization grows.

A related article is available at <http://mitsloan.mit.edu/newsroom/2006-jm.php>.

- “Warm, Warmer, Warmest” by Nicholas Kristof, *The New York Times*, March 2006

Amid the landslide of reports that global warming is real and now, Kristof's op-ed piece stands out for its reference to *gasp*—feedback loops on the editorial page of the country's premier newspaper. The author refers to “the three scariest words in climate science—positive feedback loops.” He goes on to list several that scientists have documented. “For example, a modest amount of warming melts ice in northern climates. But the bare ground absorbs three times as much heat as ground covered by snow or ice, so the change amplifies the original warming. Even more ice melts, more heat is absorbed, and the spiral grows.” Kristof also introduces the concept of negative feedback loops, which could mitigate the effects of global warming. But he concludes that “negative feedback loops in climatology are much less common than positive feedback loops, which amplify change and leave our climate both unstable and vulnerable to human folly.” Kristof points out that we know some of the things we can do to combat these terrifying trends; what we now need is the political will to do them.

For the complete article, go to [www.nytimes.com](http://www.nytimes.com) and search the archive. Article reprints cost \$4.95. Several environmental groups have also posted the text on their web sites. ■

**Janice Molloy** is content director at Pegasus Communications.

### TEAM TIP

“The Prophet of Unintended Consequences” is an excellent overview of the history and underlying concepts of the field of system dynamics. The list of “Resources” included with the article also offers a rich selection of material from key contributors to this increasingly influential school of thought and practice.