



SOCIETY OF ACTUARIES

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## FROM THE EDITOR:

# “What’s in a Name?”

By Dave Snell

**M**y favorite play by Shakespeare is “Romeo and Juliet.” In Act II, Scene 2, Juliet utters that famous line: “*What’s in a name? That which we call a rose By any other name would smell as sweet.*” Shakespeare had the ability to turn words into imagery—and beyond that into a full sensory experience. I could see and smell the rose just as if it were before me. Juliet’s point was that her love, Romeo, had an unfortunate surname and it was unfair for her family to prejudge him on that basis.

The reality though is that we all tend to attach credence (or sometimes disbelief) in names. In most cases this is a natural outgrowth of our experiences.

This issue continues a theme we started in January about the limits of our classical actuarial tools. A lot of new “names” are gaining popularity (complexity sciences, predictive modeling, advanced business analytics, agent-based models, autoregressive-moving-average models, etc.) and sometimes it is tempting to assume that just because something has a scientific sounding name, it must be superior to older, less expansively named tools and techniques.

In a world where the tools of the past seem to have broken down in the accurate forecasting of market trends, natural disasters and risk in general, some may feel it is time to throw out the incumbents and start anew with these fancy, promising technologies with multisyllabic names.

In this issue, we continue to introduce some new ideas; but we also have tried to temper the enthusiasm with some tried and true reality checks.

Kurt Wrobel wrote an excellent article for the January 2012 issue of *Health Watch*, the newsletter of the SOA Health Section. In “The Actuarial Profession and Complex Models: Knowing the Limits of Our Knowledge,” which I am reprinting here with permission, Kurt chronicles the dangers of some common mistakes that people make now with the multitude of data available to us: presentation of data with little or no credibility, mistaking correlation with causation,



biased data mining, and narrative bias. Quoting from his article, “To the extent historical data no longer accurately reflects a given phenomenon” ... “even the most sophisticated data analysis will not adequately predict the future.”

In harmony with Kurt’s contribution, I have reviewed an irreverently engaging book by Ben Goldacre, M.D., titled *Bad Science*. Dr. Goldacre did not intend this strictly for actuaries. He is trying to educate the public about the many ways they have been duped by the Big Pharma (pharmaceutical) companies and others who have learned how to misapply statistics for their own purposes. I learned a lot about good science practices in the course of reading his many detailed exposures of *Bad Science* practices. As actuaries, we need to be aware of how to conduct and present our own studies in a manner that is accurate and ethical and less susceptible to accidental (or not) misinterpretation.

Another book review was submitted by Ben Wolzenski. He reviewed *Growing Artificial Societies – Social Science from the Bottom Up*, by Joshua Epstein and Robert Axtell.

CONTINUED ON PAGE 4

This is an exciting extension of our Forecasting & Futurism (F&F) focus on agent-based modeling, and Ben describes how the authors built Sugarscape, where the agents migrate and change the characteristics of their society by following simple rules of self-interest. I was privileged to meet Robert Axtell and see his presentation of Sugarscape; and I am really excited that Ben is now building his own version and will be showing an insurance application at a session this year at the 2012 Life & Annuity Meeting and the SOA 2012 Annual Meeting.

Donald Krouse, our chair for 2012, also gives us a wake-up call to our limits in his article, "Challenging Old Paradigms – What Are You Going to Do?" Donald, along with Clark Ramsey, our vice chair, attended this meeting in March 2012 and passed along a disturbing quote about equity returns: "What other key assumption has been off by more than 15,000 bps within a decade?" Donald and the other summit attendees came away with the conclusion that "approaches used historically, and still very much in use, may end up being woefully inadequate."

Donald also gives us another chairperson's column (his second this year) and it is upbeat despite the summit concerns. He summarizes the ways in which the F&F section is very actively putting together sessions, collaborating with other sections, and funding research initiatives. He also adds a couple important enhancements to the SOA *Risk is Opportunity* byline.

Following our artificial societies, we have an excellent summary titled, "Artificial Intelligence: What Is It and How Can I Use It?" by Brian Grossmiller of an Artificial Intelligence (AI) course he took through Stanford. This course broke all previous attendance records when it attracted over 160,000 participants from all over the world. Brian, in his article, highlights some of the special characteristics of Genetic

Algorithms (GA) – a topic where he has become an enthusiastic advocate and mentor. Brian reveals some of the science and the art of developing genetic algorithms. Please read his useful summary; and then I hope you will come to our GA workshops, where he and I will be teaching a workshop on genetic algorithms at the 2012 Health Meeting and again at the SOA 2012 Annual Meeting.

Rounding out our issue is an educational yet highly readable article from Richard Xu, a Ph.D., who clearly describes technical items such as how to use the R statistical programming language, for autoregressive-moving-average (ARMA) models. Richard's article, "How to Win an iPad2," was a result of our contest to predict the monthly unemployment rate from March 2012 to September 2012. Instead of just keeping his knowledge to himself, he generously provides a refresher on regression and time series models.

Yes, Romeo was stuck with an unfortunate name (Montague) when he tried to court Juliet Capulet. The Montagues and Capulets were predisposed to dislike each other. Forecasting & Futurism, however, has made a name for itself as an innovative section that collaborates with Actuary of the Future, Investment, Health, Management & Personal Development, Technology and other sections as we all help each other to help the profession. Perhaps through our efforts, "that which we call an actuary," might someday evoke an image of the "consummate risk management professional." ▼



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