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From the Editor . . .

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Our first two articles address resource allocation, across risky projects and across budget allocations over time. First, Philip Bromiley demonstrates numerically that the interaction between cumulative prospect theory parameters rules out the ability to make simple general predictions of resource allocation choices in "A Prospect Theory Model of Resource Allocation." Our second article, by Pekka Mild and Ahti Salo, on "Combining a Multiattribute Value Function with an Optimization Model: An Application to Dynamic Resource Allocation for Infrastructure Maintenance," reports a generic model for allocating maintenance budgets over time that was originally developed for the Finnish Road Administration. Our third article, by Jesus Rios and David Rios Insua, develops a method for "Supporting Negotiations over Influence Diagrams," for when there is disagreement about utilities and probabilities. Fourth, Ben Ewing and Erin Baker present their work on the "Development of a Green Building Decision Support Tool: A Collaborative Process." In our final article, "On the Decision to Take a Pitch," J. Eric Bickel analyzes a common decision in baseball, contributing to the area of sports decision analysis.

Key words: decision analysis; applications: energy; applications: sports; applications: transportation; baseball; decision trees; environment; green building; group decision support; influence diagrams; math programming; multiple attribute value function; negotiation support; operations research practice; Pareto optimality; prospect theory; research and development; resource allocation; risk aversion; risk tolerance; organizational studies: strategy; teaching decision analysis; utility functions: multiattribute; utility-preference: applications; utility-preference: multiattribute; editorial

A goal without a plan is just a wish.
Antoine de Saint Exupéry

My thanks for bringing this issue's quote to my attention go to Dr. Sherry S. Borener of the Federal Aviation Administration's Office of Aviation, with whom I serve on the Scientific Advisory Committee of the National Center for Risk and Economic Analysis of Terrorism Events (CREATE) at the University of Southern California. This summer we have been undergoing our mandatory third-year review of this editorship, along with setting goals for the next three years, now that I have been reappointed for the second (and final) term. So, we will keep in mind Antoine de Saint Exupéry's advice on the need for a plan.

In our first article, "A Prospect Theory Model of Resource Allocation," Philip Bromiley (2009) first cautions that studies referring to prospect theory of Kahneman and Tversky (1979) and Tversky and Kahneman (1992) often single out one component of prospect theory (such as loss aversion below the reference level) and make general predictions about anticipated behavior without taking into consideration possible interactions with other features in prospect theory. Next, assuming the decision maker aims to maximize the value in cumulative prospect theory, Bromiley demonstrates numerically the allocations among risky investments that would be made under different parameter values, and shows that simple general predictions cannot be made based on just one feature of the model. In prior issues of *Decision Analysis*, Baucells and Rata (2006) describe real-world risky decisions from the perspective of prospect theory, and Kleinmuntz and Wu (2006) describe the papers in the special issue on psychology and decision analysis.

Thinking of real world risks brings up our *Trivia question*:[1] Who did research using jailed prisoners as experiment participants, by giving them cigarettes or candy as their payments?

[1] *Trivia answer:* Amos Tversky (1967) used male inmates from the State Prison of Southern Michigan, who placed bids for risky and riskless alternatives. Here is an excerpt from the abstract: "The additive conjoint measurement model is applied to the study of decision making under certainty and risk . . . . It is shown that the subjective expected utility (SEU) model, according to which SS [subjects] attempt to maximize their SEU, is equivalent to additivity for a specified class of risky choices. Eleven prisoners bid for both risky and riskless offers, additivity is confirmed for the data supporting the independence between utility and subjective probability. Two alternative variants of the SEU model are used . . . either a positive utility for gambling is needed or subjective probability functions where complementary events do not sum to unity. Neither is compatible with classical utility theory but both can predict an independent set of data."

Next, in "Combining a Multiattribute Value Function with an Optimization Model: An Application to Dynamic Resource Allocation for Infrastructure Maintenance," Pekka Mild and Ahti Salo (2009) present their generic model for allocating maintenance budgets over time that was originally developed for the Finnish Road Administration. They combine a multiple attribute value function (Keeney and Raiffa 1976, Kirkwood 1997), a life-cycle model for the deterioration-improvement dynamics associated with the maintenance activities, and an optimization model to aid in deciding budget amounts over time for periodic rehabilitation actions and routine day-to-day operations. Ahti Salo provides editorial leadership for *Decision Analysis* as an associate editor. In the last issue of *Decision Analysis*, Brothers et al. (2009) presented a method for resource-limited multiattribute value function analysis of alternatives for managing nuclear waste stored in Italy.

In our third article, Jesus Rios and David Rios Insua develop a method for "Supporting Negotiations over Influence Diagrams," for when the members of the group disagree about the assessed utility and probability values, but need to agree on a decision. Rios and Rios Insua (2009) propose computing the set of non-dominated alternatives, then negotiating over those alternatives, using a modification of the balanced increment solution (guaranteeing Pareto optimality). David Rios Insua's prior contribution to *Decision Analysis*, French et al. (2007), is on "*e*-Participation" in democracies. Prior papers on influence diagrams in *Decision Analysis* include Boutilier (2005), Buede (2005), Cobb (2007), Detwarasiti and Shachter (2005), Horvitz (2005a, b), Howard and Matheson (2005a, b), Matheson and Matheson (2005), Pauker and Wong (2005), and Pearl (2005).

Next, Ben Ewing and Erin Baker present their work on the "Development of a Green Building Decision Support Tool: A Collaborative Process." Ewing and Baker (2009) describe their process to develop an Excel-based decision tool for aiding participating decision makers from the Hitchcock Center for the Environment in deciding upon investments in green energy technologies. Based on specific model parameters and the preferences of the staff, the optimal configuration included installing a biomass heating system and a composting toilet. Prior papers in *Decision Analysis* on the practical use of decision analysis methods include a survey of applications in Keefer et al. (2004), Gregory et al. (2005) on public policy decision analyses, Merrick et al. (2005) on a multiple-objective watershed improvement decision, Klimack and Kloeber (2006) on a multiple-objective decision on Army basic training, and Schilling et al. (2007) on the effectiveness of decision analyses.

We conclude with our final paper, "On the Decision to Take a Pitch," by J. Eric Bickel, who analyzes the decision to have a baseball batter not swing at the next pitch under any circumstances.[2] Bickel (2009) finds conditions under which this is a good decision. Prior papers on sports decisions in *Decision Analysis* include Hurley (2007) on golf, and Willoughby and Kostuk (2005) on curling. In a paper in *INFORMS Transactions on Education*, Bickel (2004) describes how to teach decision analysis with baseball examples. Bickel's prior papers in *Decision Analysis* include Bickel (2006, 2007, 2008) on corporate risk aversion, scoring rules, and value of information, and Bickel and Smith (2006) on sequential exploration.

For those of you who are not baseball fans, you may still appreciate how baseball can provide lessons for life. In describing the work of being a baseball pitcher, left-handed pitcher Jim Abbott[3] (who was born without a right hand) made some observations that are just as applicable for decision analysis researchers and practitioners in thinking about how to approach their work:

"I worked very hard. I felt I could play the game. The only thing that could stop me was myself.

"I loved throwing a baseball. It is so important to find something in life you feel crazy about. Because you are so passionate you naturally practice. The hard

[2] I went to a Los Angeles Angels of Anaheim–New York Yankees game right after I wrote the first draft of this article, and was able to observe first hand (what appeared to me to be) many decisions to take pitches. I encourage you to keep your eyes open for potential decision theory research and applications to emerge from your day-to-day lives.

[3] Having been a California Angel and a New York Yankee, Jim Abbott is now a motivational speaker (http://www.jimabbott.info/). He also lives in my neighborhood. It is a small world.

work that it takes to do something well will come easily."

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