

From the Editors...

L. Robin Keller

University of California, Irvine, Irvine, California 92697-3125, lrkeller@uci.edu

Manel Baucells

Universidad de Navarra, 08034 Barcelona, Spain, mbaucells@iese.edu

John C. Butler

University of Texas at Austin, Austin, Texas 78712-1175, john.butler2@mcombs.utexas.edu

Philippe Delquié

INSEAD, F-77300 Fontainebleau, France, philippe.delquie@insead.edu

Jason R. W. Merrick

Virginia Commonwealth University, Richmond, Virginia 23284, jrmerrick@vcu.edu

Gregory S. Parnell

United States Military Academy, West Point, New York 10996, gregory.parnell@usma.edu

Ahti Salo

Helsinki University of Technology, Espoo 02015 HUT, Finland, ahti.salo@tkk.fi

For this final issue of the year, our first two articles are on assessment of probabilities. First, Joel B. Predd, Daniel N. Osherson, Sanjeev R. Kulkarni, and H. Vincent Poor present a method for “Aggregating Probabilistic Forecasts from Incoherent and Abstaining Experts.” In our second article, Ali E. Abbas, David V. Budescu, Hsiu-Ting Yu, and Ryan Haggerty present the results of their experiment in “A Comparison of Two Probability Encoding Methods: Fixed Probability vs. Fixed Variable Values.” Next, a new method for searching among a huge set of alternatives using preference information is presented in “An Interactive Search Method Based on User Preferences,” by Asim Roy, Patrick Mackin, Jyrki Wallenius, James Corner, Mark Keith, Gregory Schymik, and Hina Arora. In our final article, Niyazi Onur Bakır describes how to use decision analysis to compare antiterrorism measures in “A Decision Tree Model for Evaluating Countermeasures to Secure Cargo at United States Southwestern Ports of Entry.” A call for papers on auctions for a special issue in memory of Michael Rothkopf is announced in this issue. The annual thank you to reviewers ends the issue.

Key words: alternatives: screening out; applications: terrorism; applications: security; applications: transportation; continuous distributions; decision analysis; decision trees; dirty bomb; forecasts: combining; fragile estimation; influence diagrams; interactive search; math programming; multiattribute performance targets; multiple criteria decision making; probability: elicitation; probability: group; incoherence; utility functions: construction; utility functions: multiattribute; utility-preference: applications; utility-preference: multiattribute; vague preferences; editorial

He who knows best knows how little he knows.

Thomas Jefferson

Keeping in mind how much (or little) one person can know, at the beginning of Editor-in-Chief L. Robin Keller’s term, we appointed associate editors so our journal can have a broad coverage of decision analysis expertise. To highlight their editorial leadership of our journal, our December “From the Editors” column is co-authored with the six associate editors: Manel Baucells, John C. Butler, Philippe Delquié, Jason Merrick, Gregory S. Parnell, and Ahti Salo.

In our first article, Joel B. Predd, Daniel N. Osherson, Sanjeev R. Kulkarni, and H. Vincent Poor present a new method for “Aggregating Probabilistic Forecasts from Incoherent and Abstaining Experts,” and present experimental results showing the method’s successful performance with real-world forecasting data. This approach is particularly relevant for decision analysis practice, because judges have the freedom to choose the events they assess. In a previous article in *Decision Analysis*, Budescu and Yu (2006) also addressed the aggregation of probabilistic information.

In our second article, Ali E. Abbas, David V. Budescu, Hsiu-Ting Yu, and Ryan Haggerty present the results of their experiment in “A Comparison of Two Probability Encoding Methods: Fixed Probability vs. Fixed Variable Values.” They found the fixed variable method to be better and discuss recommendations for the practice of probability assessment. These authors contributed earlier to *Decision Analysis* on probability assessment (Yechiam and Budescu 2006), utility (Abbas and Howard 2005, Abbas 2007), and information aggregation (Budescu and Yu 2006). Prior papers in *Decision Analysis* on probability elicitation by other authors include van Dorp et al. (2007) and Baillon (2008).

Next, a new method for searching among a huge set of alternatives using preference information is presented in “An Interactive Search Method Based on User Preferences,” by Asim Roy, Patrick Mackin, Jyrki Wallenius, James Corner, Mark Keith, Gregory Schymik, and Hina Arora. This can be useful for searches on the Internet, where information gained on the decision maker’s preferences as new items are considered can be used to construct an approximation to an additive or multiplicative value function of the user, so items likely to be highly ranked can be presented to the decision maker at each iteration. Jim Corner contributed earlier to *Decision Analysis* by discussing applications of decision analysis in a variety of domains, in Keefer et al. (2004).

In our final article, Niyazi Onur Bakır describes how to use decision analysis to compare anti-terrorism measures in “A Decision Tree Model for Evaluating Countermeasures to Secure Cargo at United States Southwestern Ports of Entry.” This work was conducted under the auspices of the National Center for Risk and Economic Analysis of Terrorism Events (CREATE) at the University of Southern California, which is directed by Detlof von Winterfeldt (one of the winners of the Ramsey Medal for lifetime contributions to decision analysis). Dr. Bakır focuses on commercial truck crossings at the United States southwestern border with Mexico and uses a decision tree analysis to evaluate possible improvements in transportation security, inspections at Mexican ports, and inspections at U.S. ports. Prior articles in *Decision Analysis* addressing terrorism protection include

von Winterfeldt and O’Sullivan (2006) and Feng and Keller (2006).

As a year ends, it is traditional to look ahead and look back. Looking to the future, we encourage you to consider submitting a paper for our Special “Michael Rothkopf Memorial” Issue on Auctions, with guest editors Robert Bordley and Elena Katok.¹ Consistent with the late Prof. Rothkopf’s research interests, this special issue will focus on auctions (and, more generally, market design), as well as their application to energy and related public policy issues. There will be a memorial conference at Pennsylvania State University on June 1–3, 2009, from which some papers will be submitted to the special issue.² (Attendance at the conference is not a requirement to submit to the special issue.)

Last January, the “Conference on Luce & Raiffa After 50 Years: What Is Next?” was held by the Institute for Mathematical Behavioral Sciences at the University of California, Irvine.³ The conference looked back on the 50 years since Luce and Raiffa’s (1957) *Games and Decisions* book was published. The book, referred to in shorthand as just “Luce & Raiffa,” was the first introduction for many to both decision analysis and game theory. Reprinted here are two photos from the conference. The first photo shows Howard Raiffa, R. Duncan Luce, and Howard’s wife, Estelle Raiffa. Estelle tells the story of someone saying to her “I’ve heard so much about Luce & Raiffa, I’d really like to meet this “Lucy Raiffa”! The large group photo shows some of the conference’s participants, who discussed how game theory has evolved in the last half century. Seated in front of the group are Howard Raiffa and Duncan Luce, with the people standing behind them, from the left, including Donald Saari, Eric Maskin, Avinash Dixit, Ehud Kalai, Simon Levin, Roger Myerson, Tom Schelling, Charles Plott, Ken Binmore, Robert Wilson, and Lloyd Shapley. Both Raiffa and Luce are Ramsey award winners, and we leave it to the reader to find the Nobel prize winners in economics in the photo.

¹ See <http://www.informs.org/site/DA/> and <http://www.informs.org/site/DA/index.php?c=10&kat=Special+Issues>.

² See <http://www.smeal.psu.edu/rothkopf-conference>.

³ See <http://www.imbs.uci.edu/Workshop.html> for the conference agenda, videos, and photos (<http://www.imbs.uci.edu/conferences/2008/luce%20&%20raiffa/photo-web-page.htm>).



Howard Raiffa, R. Duncan Luce, and Estelle Raiffa



Luce and Raiffa Conference Participants

This is an apropos time for our *Trivia question*: Which prominent decision analyst is described in the following sentences?⁴ (A) He has received a Ramsey Medal. (B) He has been the director of two prominent research

⁴ (*Longwinded*) *Trivia answer*: In 1968, McGeorge Bundy, the President of the Ford Foundation at that time and advisor to U.S. Presidents, called Harvard Professor Howard Raiffa about the possibility of creating an international institute to be supported by the United States and its allies and the Soviet Union and its allies. U.S. President Lyndon Johnson and his staff had initiated the idea. Howard Raiffa helped negotiate the charter of the International Institute for Applied Systems Analysis (IIASA; <http://www.iiasa.ac.at/>) and became the founding director. Raiffa later became a Ramsey Medalist, once the award had been invented. The new director as of January 2009 is Detlof von Winterfeldt. Ramsey Medalist Detlof von Winterfeldt was a founding director of the USC CREATE Center (<http://create.usc.edu/>). Ask Ralph Keeney and Detlof von Winterfeldt about their footnote war.

institutes that were founded by directors who received the Ramsey Medal. (C) He engaged in a footnote war with Ralph Keeney. (If you carefully read this entire article, there are some embedded hints.)

Finally, the annual Appreciation to Referees is published in this issue. Thanks to everyone for helping all of us expand how much we know.

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