

# JUDGMENT / DECISION MAKING

## J/DM MEETING: NOVEMBER 15-16

The 1992 J/DM meeting will be at the Adams Mark Hotel in St. Louis, November 15-16. Information will be sent as it becomes available. The program committee members are Barbara Mellers, George Loewenstein, and Colin Camerer. Submission information was sent in May. There is still time to submit an application for the Sunday evening poster session. The required application form is on Page 4 of the Newsletter. The deadline is July 15, 1992.

## J/DM NOMINATIONS DUE

A nominations ballot for officers of the Society is on Page 5. Nominations are for President-Elect and for a member of the Executive Board. The Executive Board member will fill the position vacated by Daniel Kahneman. Baruch Fischhoff, as Past President, is also leaving the board. Please take part in the governance of the Society and cast your ballot as soon as possible. The deadline for receipt of ballots is July 31, 1992.

## NEW J/DM NEWSLETTER EDITOR

After 11 years as the founding editor of the *JIDM Newsletter*, John Castellan has retired from the position to take on other duties. John is currently serving as a Program Director of the Decision, Risk, and Management Science Program of the National Science Foundation. The J/DM Society owes a great debt to John for all his efforts in introducing and maintaining the newsletter. Before there even was a society, the *JIDM Newsletter* provided an identity which attracted a growing readership, and which paved the way for the society's development. On behalf of the society, I express our gratitude and best wishes. Thank you John!

Personally, I also thank John for helping me with the transition of the editorship from him to me. His help is greatly appreciated. I hope that I can continue the attention to quality that has characterized his eleven years of service. I also hope to have the continuing support of the J/DM members in contributing to the newsletter. The newsletter's success depends upon your contributions. I encourage everyone to contribute to the *JIDM Newsletter*. My addresses and phone numbers appear on page 2. Please let me hear from you.

---Shawn Curley

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SUBMISSION DEADLINE FOR THE NEXT *JIDM NEWSLETTER*: September 1, 1992

## SOCIETY FOR JUDGMENT AND DECISION MAKING

### EXECUTIVE BOARD

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 Baruch Fischhoff, *Past President*  
 J. Frank Yates, *1991-1993*  
 Barbara Mellers, *1992-1994*  
 Terry Connolly, *Secretary/Treasurer*

### J/DM NEWSLETTER

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### FROM THE EDITOR. . .

The *JIDM Newsletter* welcomes submissions from individuals and groups. However, we do not publish substantive papers. Book reviews will be published. If you are interested in reviewing books and related materials, please write to the editor.

There are few ground rules for submissions. In order to make the cost of the *JIDM Newsletter* as low as possible, please submit camera-ready copy. This means that the copy should be typed single-spaced on white 8½ by 11 paper. If possible, use a carbon or film ribbon. Please mail flat -- do not fold. A better alternative is to submit your contribution via EMAIL.

**Subscriptions:** Subscriptions are available on a calendar year basis only. Requests for information concerning membership in the Society for Judgment and Decision Making should be sent to Terry Connolly.

**Address correction:** Please check your mailing label carefully. Because the *JIDM Newsletter* is usually sent by bulk mail, copies with incorrect addresses or which are otherwise undeliverable are neither forwarded nor returned. Therefore, we have no way of knowing if copies are delivered. Address changes or corrections should be sent to Terry Connolly.

**Mailing Labels:** Some readers may wish to send reprint lists or other material to people listed in the directory. Contact Terry Connolly for details.

**J/DM Electronic Mail Directory:** The Society maintains an EMAIL directory. To add your name to the *J/DM Electronic Mail Directory* (or to receive a copy of the electronic directory) contact Terry Connolly.

## The Operations Research Society of America Special Interest Group on Decision Analysis

Announces

### The Seventh Annual Decision Analysis Student Paper Competition

For the seventh consecutive year, the ORSA Special Interest Group on Decision Analysis solicits entries in a competition among papers written by students. In the past, submissions have spanned a wide range of decision analysis topics and research methods, including both theoretical and applied work. We encourage entries from all aspects of decision analysis, as reflected in the sessions sponsored by the Special Interest Group at recent ORSA/TIMS national meetings.

To enter, send five copies of your written paper by **July 15, 1992** to

Prof. Ross D. Shachter  
 Department of Engineering-Economic Systems  
 Terman Engineering Center  
 Stanford University  
 Stanford, CA 94305-4025

Phone: (415) 723-4525

Internet: shachter@bayes.stanford.edu

Please include a cover letter with your current address, telephone number, and current employer. Also state the academic institution at which the work was performed, degree, graduation date, and supervising faculty.

**Conditions.** The paper should be less than thirty double-spaced, typewritten or word-processed pages. Papers may be coauthored with a faculty member provided they are based on the student's work while a student (such as a dissertation or thesis) and the student is listed as the first author. Individuals who graduated in or before June, 1991 are not eligible.

**Judging.** A panel of judges chaired by Prof. Shachter will judge the papers using the criteria described in the editorial policy of *Operations Research*. The panel can elect not to award the prize if none of the papers submitted is considered a sufficient contribution to decision analysis. The competitors will be notified of the outcome by the end of September, 1992.

**Presentation and Award.** The winner will be scheduled to present his or her paper at the ORSA/TIMS Joint National Meeting in San Francisco, CA, November 1-4, 1992. The winner will also receive a five hundred dollar cash award and an invitation to a celebratory dinner with representatives of the Special Interest Group. It is hoped that the winner's employer will provide travel funds so that the winner can attend the meeting.

Please contact Prof. Shachter if you have any questions or comments.

POSTER PRESENTATION APPLICATION (Please type)  
Society for Judgment and Decision Making, St. Louis Missouri

1. Author 1: \_\_\_\_\_ Author 2: \_\_\_\_\_  
 Institution: \_\_\_\_\_ Institution: \_\_\_\_\_  
 Member? Yes \_\_\_\_\_ No \_\_\_\_\_ Member? Yes \_\_\_\_\_ No \_\_\_\_\_  
 Author 3: \_\_\_\_\_ Author 4: \_\_\_\_\_  
 Institution: \_\_\_\_\_ Institution: \_\_\_\_\_  
 Member? Yes \_\_\_\_\_ No \_\_\_\_\_ Member? Yes \_\_\_\_\_ No \_\_\_\_\_

2. Title of Presentation (10 words or fewer)

3. Abstract (75 words or fewer)

4. Person to whom correspondence should be addressed:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

5. Mail application to George Loewenstein, Department of Social and Decision Sciences,  
Carnegie Mellon University, Pittsburgh, PA 15213-3890

DEADLINE FOR APPLICATIONS: JULY 15, 1992

Nominations for J/DM Executive Board Members

The Society Bylaws provide for election of two officers each year: the President-Elect (who thereafter becomes President, then Past President, and then leaves the Board); and one member of the Executive Board (who simply serves for three years, and then rotates off). The first step is the nomination of candidates for these posts, which is the task of the membership — i.e. YOU. A ballot will be mailed to you in the next few weeks.

Please take a moment to think of people you would like to see leading our Society. You may nominate up to FIVE for the Board, up to TWO for President-Elect. (Note that ex-Presidents are not eligible for reelection as President, though they may serve as Board members. Any Presidential nominations ineligible by this rule will be counted as Board nominations). Do nominate at least a few candidates — quite modest numbers of nominations have put candidates on the ballot in past years.

Terry Connolly  
Secretary/Treasurer

Nominate up to five people as candidates for the Executive Board:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

Nominate up to two people as candidates for President-Elect:

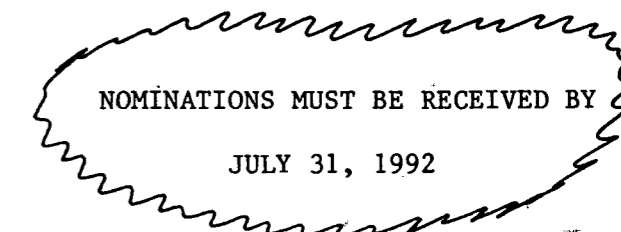
1. \_\_\_\_\_
2. \_\_\_\_\_

Return your nominations to:

J/DM Nominations  
c/o Terry Connolly  
Dept of Mgt and Policy, BPA  
University of Arizona  
Tucson, AZ 85721

or send by email:

CONNOLLY@ccit.arizona.edu



## ANNOUNCING A SPECIAL SILVER ANNIVERSARY YEAR FOR ORGANIZATIONAL BEHAVIOR AND HUMAN DECISION PROCESSES

In 1992 *Organizational Behavior and Human Decision Processes* will expand to nine issues (Volumes 51-53) in order to publish a series of special issues on topics of current interest in judgment and decision making. The special issues that will appear in 1992, in addition to the normal manuscript flow, are:

1. Decision Processes in Negotiation (7 papers)  
Max H. Bazerman and Margaret A. Neale, Editors
2. Group Decision Making (6 papers)  
James H. Davis, Editor
3. Utility Measurement (10 papers)  
Michael H. Birnbaum, Editor
4. Experts and Expert Systems (8 papers)  
James Shanteau and Thomas Stewart, Editors

The journal will be published monthly in 1992 except for January, May, and September. Normal publication of two volumes per year will resume in 1993.

These special issues, along with the special issue entitled:

Theories of Cognitive Self-Regulation (6 papers)  
Edwin A. Locke, Editor

which will appear in the December 1991 issue, comprise a celebration of the 25th anniversary of the Journal, which first appeared in September 1966.

### SPECIAL SUBSCRIPTION RATES FOR OBHDP SILVER ANNIVERSARY YEAR

Special subscription rates to the 1992 issues (Volumes 51-53) of *Organizational Behavior and Human Decision Processes* are available for members of the Society for Judgment and Decision Making. Please send a personal check made out to ACADEMIC PRESS according to the following schedule:

J/DM Member rates are \$91.00 (domestic rate) and \$110.00 (overseas rate). Send orders to:

Ms Elinor Berner  
Journal Division  
Academic Press, Inc.  
1250 Sixth Avenue  
San Diego, CA 92101

Student rates are \$75.75 (domestic) and \$84.75 (overseas). Student subscriptions should be mailed to:

Academic Press, Inc.  
1 East First Street  
Duluth, MN 55802

When subscribing to the Journal, please state that you are a current member of J/DM. Please note that University checks are no longer accepted by Academic Press -- only personal checks are accepted. Questions regarding subscriptions should be made to the appropriate Academic Press office. (See inside front cover of *OBHDP* for regular subscriptions or inside back cover for Society subscriptions.)

## JOURNAL OF BEHAVIORAL DECISION MAKING

### Special Rates for J/DM Members

Privileged personal subscription rates for the *Journal of Behavioral Decision Making* are available to members of the J/DM Society. The 1992 rates are US \$50. Personal subscriptions must be prepaid by personal check or credit card.

Institutional subscription rates for Volume 5 (1992) are US \$155, and individual subscriptions are US \$78.

Please send your order to either of the following addresses:

Subscription Dept C,  
John Wiley & Sons, Inc.  
605 Third Avenue  
New York, NY 10158 USA

Sarah Stevens/BDM  
John Wiley & Sons, Ltd.  
Baffins Lane, Chichester  
West Sussex, PO19 1UD UK

### *Journal of Behavioral Decision Making* Scheduled for 1992

- |   |   |
|---|---|
| Diagnosticity, confidence and the need for information.   | L. Van Wallendael and Y Guignard                                      |
| The effects of screening and task partitioning upon evaluation of decision options.                       | E.H. van Zee, T.F. Paluchowski and L.R. Beach (commentary by G. Pitz) |
| The effect of constant outcome value in judgments and decision making given linguistic probabilities.     | B.L. Cohen and T.S. Wallsten  |
| The need for contextual and technical knowledge in forecasting.   | N.R. Saunders and L.P. Ritzman  |
| Hypothetical and real consequences in experimental auctions for insurance against low-probability events. | J.R. Irwin, G.H. McClelland and W.D. Schultz                          |
| A theory of certainty equivalents for uncertain alternatives.   | R.D. Luce   |
| Experiences extended across time: Evaluation of moments and episodes.                                     | C. Varey and D. Kahneman  |
| Judging the strength of designated evidence.  | L.K. Briggs and D.H. Krantz   |
| Provision of step-level public goods with continuous contribution.  | R. Suleiman and A. Rapoport   |

# JOURNAL OF Multi-Criteria Decision Analysis

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**Scope of the Journal**

The *Journal of Multi-criteria Decision Analysis* aims to provide an international forum for the presentation and discussion of all aspects of research, application and evaluation of multi-criteria decision analysis. The Journal seeks to publish material from a variety of disciplines and all schools of thought. Case studies, applications and evaluation of techniques and methodologies will be particularly welcome.

Papers published in the Journal will encompass, but not be limited to, the following areas of MCDA:

- \* Mathematical and theoretical foundations
- \* Algorithmic aspects and human
- \* Psychological, behavioural, and organisational bases
- \* Case studies and implementation of MCDA procedures
- \* Practical evaluation of methodologies
- \* Teaching of MCDA to students and decision makers

Letters to the editor discussing any aspect of MCDA will be encouraged. Book and software reviews will also be published.

**Call for Papers**

The *Journal of Multi-Criteria Decision Analysis* seeks to become the international forum for MCDA and, therefore, seeks papers of the highest quality. As well as the originality and significance of the content, an important criterion will be that a paper is well written in terms of style and accessibility to as wide an academic and professional readership as possible.

Please send all submissions (four copies in English) to:

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## JOURNAL OF MULTI-CRITERIA DECISION ANALYSIS NOTES FOR CONTRIBUTORS

[ ] Please send me full notes for contributors

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Address: \_\_\_\_\_  
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WILEY

## Recent Developments in the Psychology of Judgment and Decision Making

Compiled by JAY CHRISTENSEN-SZALANSKI, PhD, MPH

**Journal Articles**

ABUALSAMH RA, Carlin B, McDaniel RR Jr. Problem structuring heuristics in strategic decision making. *Organ Behav Hum Decis Proc.* 1990;45:159-74. Finds that subjects using a convergent or a divergent structuring heuristic were less satisfied and less confident than those using a limited structuring heuristic.

ALLISON ST, Messick DM. Social decision heuristics in the use of shared resources. *J Behav Decis Making.* 1990;3:195-204. Finds that subjects anchored their allocation decisions on the rule that resources should be allocated equally among participants.

ALLISON ST, Worth LT, King MWC. Group decisions as social inference heuristics. *J Pers Soc Psychol.* 1990;58:801-11. Suggests that people use group decision outcomes as heuristic cues to judge group members' attitudes.

ANDREASSEN PB. Judgmental extrapolation and market over-reaction: on the use and disuse of news. *J Behav Decis Making.* 1990;3:153-74. Concludes that news reports as normally provided by the media affect investors' forecasts by increasing the salience of any trend.

ARGOTE L, Devadas R, Melone N. The base-rate fallacy: contrasting processes and outcomes of group and individual judgment. *Organ Behav Hum Decis Proc.* 1990;46:296-310. Reports that group discussion appears to amplify the tendency to judge primarily by representativeness when the individuating information is informative.

ASHTON RH, Ashton AH. Evidence-responsiveness in professional judgment: effects of positive versus negative evidence and presentation mode. *Organ Behav Hum Decis Proc.* 1990;46:1-19. Finds that auditors show a surprising amount of sensitivity to new information that is inconsistent with their current beliefs.

BATTALIO RC, Kagel JH, Jiranyakul K. Testing between alternative models of choice under uncertainty: some initial results. *J Risk Uncertain.* 1990;3:25-50. Finds risk-seeking behavior in cases where prospect theory predicts risk aversion.

BODENHAUSEN GV. Second-guessing the jury: stereotypic and hindsight biases in perceptions of court cases. *J Appl Soc Psychol.* 1990;20:1112-21. Observes that subjects' evaluation of the incriminating nature of evidence was altered when they were informed of the trial outcome.

BROWN RV. Assessment uncertainty technology for making and defending risky decisions. *J Behav Decis Making.* 1990;3:213-28. Proposes a practical methodology for applying assessment uncertainty technology to decision making.

BRUNSSON N. Deciding for responsibility and legitimation: alternative interpretations of organizational decision-making. *Account Org Soc.* 1990;15:47-59. Suggests that decision mak-

ing in organizations serves several purposes other than to make choices, and that these roles can alter the appropriateness of rational decision making.

BUESCU DV, Wallsten TS. Dyadic decisions with numerical and verbal probabilities. *Organ Behav Hum Decis Proc.* 1990;46:240-63. Observes results that support the notion that vague expressions of probability can be represented by a membership function over the [0, 1] interval.

CARLSON BW. Anchoring and adjustment in judgments under risk. *J Exp Psychol [Learn].* 1990;16:665-76. Proposes that people use an anchoring and adjustment process when forecasting what is likely to happen in a play of a gamble.

CLEMEN RT, Murphy AH. The expected value of frequency calibration. *Organ Behav Hum Decis Proc.* 1990;46:102-17. Develops a conceptual model of the probability assessment process and shows how to calculate the expected value of frequency calibration.

CONNOLLY T, Bukszar EW. Hindsight bias: self-flattery or cognitive error? *J Behav Decis Making.* 1990;3:205-11. Suggests that the hindsight bias is a result of cognitive and not motivational factors.

CURLY SP, Yates JF, Young MJ. Seeking and applying diagnostic information in a health care setting. *Acta Psychol.* 1990;73:211-23. Reports that people have difficulty applying conditional probabilities in making diagnoses.

DANIELS RL, Keller LR. An experimental evaluation of the descriptive validity of lottery-dependent utility theory. *J Risk Uncertain.* 1990;3:115-34. Presents two approaches for calibrating lottery-dependent expected utility models and reports that lottery-dependent utility models exhibit a higher potential for prediction of choice than expected utility models.

DAWES RM, Faust D, Meehl PE. Clinical versus actuarial judgment. *Science.* 1989;243:1668-74. Discusses sources of resistance to the finding that actuarial models are better than clinical models.

DYER JS. Remarks on the analytic hierarchy process. *Manage Sci.* 1990;36:249-58. Concludes that the analytic hierarchy process is a flawed procedure for ranking alternatives. [Comments follow: Winkler RL. Decision modeling and rational choice: AHP and utility theory. *Manage Sci.* 1990;36:247-8. Saaty TL. An exposition of the AHP in reply. *Manage Sci.* 1990;36:259-68. Harker PT, Vargas LG. Reply. *Manage Sci.* 1990;36:269-73. Dyer JS. A clarification. *Manage Sci.* 1990;36:274-5.]

EDWARDS W, Schum DA, Winkler RL. Murder and (of?) the likelihood principle: a dialogue. *J Behav Decis Making.* 1990;3:75-87. Discusses the role of the likelihood ratio in single and multi-state inference. [Comment follows: Hazen GB. A Comment. *J Behav Decis Making.* 1990;3:87-89.]

GILHOOLY KJ. Cognitive psychology and medical diagnosis. *Appl Cog Psychol*. 1990;4:261-72. Examines reasons for the observations that research on physicians yields results that differ from those obtained from experts in other fields.

HALPERN DF, Blackman S, Salzman B. Using statistical risk information to assess oral contraceptive safety. *Appl Cog Psychol*. 1989;3:251-60. Concludes that consumers convert statistical risk information into judgments about magnitude of the number presented and use this information when making risk judgments.

HARMON J, Rohrbaugh J. Social judgment analysis and small group decision making: cognitive feedback effects on individual and collective performance. *Organ Behav Hum Decis Proc*. 1990;46:34-54. Reports that significantly greater individual learning and group consensus occurred when subjects were given cognitive feedback.

HERSHEY DA, Walsh DA, Read SJ, Chulef AS. The effects of expertise on financial problem solving: evidence for goal-directed, problem-solving scripts. *Organ Behav Hum Decis Proc*. 1990;46:77-101. Reports results that support a script-based model of expert performance.

HOGARTH RM, Einhorn HJ. Venture theory: a model of decision weights. *Manage Sci*. 1990;36:780-803. Proposes a model to account for how people replace probabilities by decision weights when evaluating risky outcomes.

HUBER VL, Northcraft GB, Neale MA. Effects of decision strategy and number of openings on employment selection decisions. *Organ Behav Hum Decis Proc*. 1990;45:276-84. Observes that decision strategy affected the number of candidates accepted, acceptance threshold, and decision time.

JOAG SG, Gentry JW. Risk perception in a simulated industrial purchasing task. The effects of single versus multi-play decisions. *J Behav Decis Making*. 1990;3:91-108. Observes differences in the behavior of people making repeated and unique decisions.

KAMEDA T, Davis JH. The function of the reference point in individual and group risk decision making. *Organ Behav Hum Decis Proc*. 1990;46:55-76. Discusses the robustness of social/normative factors relative to task/individual factors.

KAMOURI AL, Balzer WK. The effects of performance sampling methods on frequency estimation, probability estimation, and evaluation of performance information. *Organ Behav Hum Decis Proc*. 1990;45:285-316. Identifies several behaviors that lead subjects to make accurate estimates and evaluations of raters' performance.

KLEINMUNTZ B. Why we still use our heads instead of formulas: toward an integrative approach. *Psychol Bull*. 1990;107:296-310. Considers why people are resistant to replacing intuition with mathematical formulas.

LOEWENSTEIN G, Mather J. Dynamic processes in risk perception. *J Risk Uncertain*. 1990;3:155-75. Examines how public concern about different social problems changes over time in response to fluctuations in problem severity.

MACCRIMMON KR, Wehrung DA. Characteristics of risk taking executives. *Manage Sci*. 1990;36:422-35. Reports that the most successful executives were the biggest risk takers and the most mature executives were the most risk-averse.

MAZURSKY D, Ofir C. "I could never have expected it to happen": the reversal of the hindsight bias. *Organ Behav Hum Decis Proc*. 1990;46:20-33. Suggests that people respond opposite to the hindsight effect following unexpected and surprising events.

MOON P, Martin A. Better Heuristics for economic search—experimental and simulated evidence. *J Behav Decis Making*. 1990;3:175-93. Proposes some "expert strategies" for search for the most economic price of a good.

PARKS JM, Conlon EJ. Justification and the processing of information. *J Appl Soc Psychol*. 1990;20:703-23. Concludes that ambiguity of information about the future plays an important role in escalation and that responsibility and failure of allocation decisions affect future decisions only when the prospective information is ambiguous.

RITOV I, Gati I, Tversky A. Differential weighting of common and distinctive components. *J Exp Psychol [General]*. 1990;119:30-41. Investigates possible explanations of the finding that the relative weights of common components in similarity judgments are higher for verbal than for pictorial stimuli. [Comment follows: Keren G. On the intricacies involved in the study of similarity judgments. *J Exp Psychol [General]*. 1990;119:42-3.]

RYBASH JM, Roodin PA. The framing heuristic influences judgments about younger and older adults' decisions to refuse medical treatment. *Appl Cog Psychol*. 1989;3:171-80. Observes that people preferentially recommended that younger patients opt for high-risk medical treatment that could add a large number of years to their lives.

SAINFORT FC, Gustafson DH, Bosworth K, Hawkins RP. Decision support systems effectiveness: conceptual framework and empirical evaluation. *Organ Behav Hum Decis Proc*. 1990;45:232-52. Proposes a conceptual framework for measuring the effectiveness of decision support systems.

SCHWENK CR. Conflict in organizational decision making: an exploratory study of its effects in for-profit and not-for-profit organizations. *Manage Sci*. 1990;36:436-48. Reports that executives of not-for-profit organizations felt that conflict improved their decisions, while those from for-profit organizations felt it worsened their decisions.

SMEDSLUND J. A critique of Tversky and Kahneman's distinction between fallacy and misunderstanding. *Scand J Psychol*. 1990;31:110-20. Argues that cognitive errors must be regarded as logical inference from erroneous premises.

SNIEZEK JA, May DR, Sawyer JE. Social uncertainty and interdependence: a study of resource allocation decisions in groups. *Organ Behav Hum Decis Proc*. 1990;46:155-80. Examines the roles of uncertainty, expectations, and feedback about other group members contributions to the group.

SNIEZEK JA, Paese PW, Switzer FS III. The effect of choosing on confidence in choice. *Organ Behav Hum Decis Proc*. 1990;46:264-82. Observes that overconfidence is most likely in spontaneous, less contemplated, choices.

SUTTON SR, Eiser JR. The decision to wear a seat belt: the role of cognitive factors, fear and prior behaviour. *Psychol Health*. 1990;4:111-23. Observes that habit and not information about the expected value of using seat belts had the largest impact on seat belt use.

THOMPSON L. An examination of naive and experienced negotiators. *J Pers Soc Psychol*. 1990;59:82-90. Suggests that a negotiator's judgment accuracy is a key ingredient for reaching integrative agreements.

TVERSKY A, Slovic P, Kahneman D. The causes of performance reversal. *Am Econ Rev*. 1990;80:204-216. Concludes that preference reversals are explained by people weighing payoffs more heavily in pricing than in choice.

VAREY CA, Mellers BA, Birnbaum MH. Judgments of proportions. *J Exp Psychol [Human]*. 1990;16:613-25. Reports that subjects consistently overestimated small proportions and underestimated large proportions.

VISCUSI WK, Evans WN. Utility functions that depend on health

## Recent Developments in Medical Decision Making

Compiled by JAY CHRISTENSEN-SZALANSKI, PhD, MPH

### ARTICLES

ARONOV DB, PAYNE TH, PINCETL SP. Postdoctoral training in medical informatics: a survey of National Library of Medicine-supported fellows. *Med Decis Making*. 1991;11:29-32. Reports that the most common areas of research were decision support and knowledge representation.

BERVICK DM. Hospital leaders' opinions of the HCFA mortality data. *JAMA*. 1990;263:247-9. Reports that most hospitals had negative reactions to the usefulness of HCFA hospital mortality data.

BOYKO EJ, ALDERMAN BW. The use of risk factors in medical diagnosis: opportunities and cautions. *J Clin Epidemiol*. 1990;43:851-8. Shows that risk factors may have poor sensitivity and specificity; raises questions about the diagnostic usefulness of disease risk factors.

BRAUDE RM. A descriptive analysis of National Library of Medicine-funded medical informatics training programs and the career choices of their graduates. *Med Decis Making*. 1991;11:33-7. Reports baseline characteristics of existing medical informatics training programs.

CENTOR RM. Signal detectability: the use of ROC curves and their analyses. *Med Decis Making*. 1991;11:102-6. Examines new issues related to the use of ROC curves in medicine.

CHARD T. Qualitative probability versus quantitative probability in clinical diagnosis: a study using a computer simulation. *Med Decis Making*. 1991;11:38-41. Concludes that qualitative probability estimates may be suitable for a Bayesian diagnostic system provided the target condition has a relatively high prior probability.

CHU RC, TRAPNELL GR. Costs of insuring preventive care. *Inquiry*. 1990;27:273-80. Estimates that preventive services would cost a self-insured plan \$4.35 to \$6.89 for an employee with family coverage.

status: estimates and economic implications. *Am Econ Rev*. 1990;80:353-74. Examines the effect of health state-dependent utility functions on economic problems.

WAGENAAR WA, Hudson PTW, Reason JT. Cognitive failures and accidents. *Appl Cog Psychol*. 1990;4:273-94. Concludes that preventive action will be more effective at reducing industrial accidents when it is aimed at changes in management decisions.

WEBER EU, Bottom WP. An empirical evaluation of the transitivity, monotonicity, accounting, and conjoint axioms for perceived risk. *Organ Behav Hum Decis Proc*. 1990;45:253-75. Reports that Luce and Weber's conjoint structure assumption may not hold for positive-outcome lotteries.

DIAMOND GA. Can the discriminant accuracy of a test be determined in the face of selection bias? *Med Decis Making*. 1991;11:48-56. Examines ways to minimize the effect of selection bias on current measures of diagnostic accuracy.

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#### ACKNOWLEDGEMENT

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## Recent Developments in the Psychology of Judgment and Decision Making

Compiled by JAY CHRISTENSEN-SZALANSKI, PhD, MPH

### ARTICLES

BERGADAA MM. The role of time in the action of the consumer. *J Consumer Res.* 1990;17:289-302. Uses a phenomenological approach to study consumers' perceptions of time.

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Michon, John A., & Akyürek, Aladin (Eds.). (1992). *Soar: A cognitive architecture in perspective (A tribute to John Newell)*. ISBN 0-7923-1660-6. Volume 10 in the *Studies in Cognitive Systems* series.

The book represents a European perspective on *Soar* with the exception of the special contribution from Allen Newell arguing for *Unified Theories of Cognition*. The various papers derive from the work of the *Soar* Research Group that has been active at the University of Groningen, The Netherlands, since 1987. The work reported here has been inspired in particular by two topics that precipitated the group's interest in *Soar* in the first place--road user behavior and the temporal organization of behavior, more specifically planning. At the same time, the various contributions go well beyond the simple use of *Soar* as a convenient medium for modeling human cognitive activity. In every paper one or more fundamental issues are raised that touch upon the very nature and consistency of *Soar* as an intelligent architecture. As a result the reader will learn about the operator implementation problem, chunking, multitasking, the need to constrain the depth of the goal stack, and induction, etc. *Soar* is still at a relatively early stage of development. It does, nevertheless, constitute an important breakthrough in the area of computer architectures for general intelligence.

Tassey, Gregory. (1992). *Technology infrastructure and competitive position*. ISBN 0-7923-9232-9.

Global interest in technology-based growth politics is growing as technology becomes an increasingly important factor in economic competitiveness. In spite of increased efforts in many nations to develop more effective industry strategies, most of these endeavors have been ad hoc exercises rather than derived from a consistent framework. This book provides that missing framework. It begins with an overview of technology-based competition and the relevant issues. A conceptual model is developed that emphasizes the roles and impacts of the supporting infrastructure. Finally, the book addresses the interaction of corporate and governmental roles for providing technology infrastructure, some funding issues and mechanisms for cooperative planning and implementation.

## NEW BOOKS FROM BLACKWELL PUBLISHERS

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Pudney, Stephen. *Modeling individual choice: The econometrics of corners, kinks and holes*. ISBN 0-631-14589-3 (cloth); 1-55786-297-4 (paper).

Most microeconomic texts stress the neo-classical model of smooth optimizing behavior in an environment of constant prices. Most econometric texts stress regression, based on methods implying continuous variation in economic quantities. If one attempts to estimate a model of rational behavior from data on individuals, it is soon apparent that neither of these views is generally tenable. This book discusses the econometric methodology appropriate to the modeling of individual choices (concentrating particularly on demand and labor supply), using survey data. It is especially concerned with problems of econometric specification raised by discreteness in the variable to be modeled.

Hirshleifer, Jack. *Time, uncertainty and information*. ISBN 0-631-16236-4

The author has made many fundamental contributions to microeconomic analysis, and has been particularly innovative in the burgeoning fields of the economics of time, uncertainty and information. This new volume collects his most important work, both theoretical and applied, in these areas, and demonstrates clearly that there can be a single integrated approach valid for all three topics. The theory is applied, at times controversially, to important policy-relevant topics, including how business and government decision-makers should analyze investment projects, the nature and significance of liquidity, and the social function of speculation.

Heap, Shaun Hargreaves, Hollis, Martin, Lyons, Bruce, Sugden Robert, & Weale, Albert (Eds.). *The theory of choice: A critical guide*. ISBN 0-631-18322-1 (paper); 0-631-17174-6 (cloth).

What makes a choice rational? A common answer is that a rational agent calculates the probable net benefits of each possible course of action and chooses the one that best satisfies his or her given preferences. Rational choice is thus about means, not ends, a view which has been deeply analyzed in economics, and that is now becoming crucial throughout the social sciences. This book provides an authoritative and comprehensive introduction to the fundamental principles of rational choice theory and game theory and their implications and limitations. The book is in three parts with a section of keywords. Part I covers individual choice, analyzing the theory of decision making by an individual who need not consider the effect on other people's decisions. Part II examines interactive choice in which the actions taken by one person depend on, and influence, those taken by others. The final part covers collective choice where individuals group together to agree upon a common strategy or policy, which is then implemented. This section includes surveys on social choice, democracy, power and social justice.

Broome, John. *Weighing goods*. ISBN 0-631-17199-1

The book uses techniques from economics to illuminate fundamental questions in ethics, particularly in the foundations of utilitarianism. Topics considered include the nature of teleological ethics, the foundations of decision theory, the value of equality and the moral significance of a person's continuing identity through time. The argument is unified around three theorems that connect the way goods are distributed in three "dimensions:" between people, across time within the life of a person and across the states of nature under uncertainty. In each dimension analogous questions arise about the distribution of goods. Between people, what is the value of equality? Across time, can goods received at one time in a life fully compensate for deprivation at other times? Across states of nature, should we accept the independence axiom of expected utility theory? This book treats all three questions as aspects of the general problem of weighing goods. It shows that, not only are the three dimensions analogous, but there are strict logical connections between ethical judgments about the distribution of goods in all three. It connects judgments about equality, risk and prudence. The theorems come from economics (although the book contains no mathematics beyond elementary algebra), but they are set in a philosophical context and the conclusions are in ethics. In turn, the conclusions have important applications in economics.

Varoufakis, Yanis. *Rational conflict*. ISBN 0-631-16606-8.

The study of economic rationality is attracting increasing attention from other disciplines as well as continuing to be the subject of debate within economics. At its heart is the notion that, in a situation of choice or confrontation, knowledge of an individual's desires and beliefs will allow his or her actions to be predicted. The author argues that this is an ideal abstraction which is both inapplicable and ineffective. Using examples from industrial relations, diplomacy, hostage crises, and the law, he shows that it is impossible to quantify the aspirations of individuals in these conflicts, and that traditional theory ignores both the wider conflict and the history of similar cases.

Bacharach, Michael, & Hurley, Susan (Eds.). *Foundations of decision theory: Issues and advances*. ISBN 0-631-17236-X.

The study of formal models of rational decision making, born in the seventeenth century as a new science of gambling, has reached maturity in our own century. Its paradigms, Expected Utility Theory and the Theory of Games, have profound influence on the development of theoretical disciplines, particularly in the social sciences. While the problems it confronts have attracted brilliant work from diverse areas, the central question it addresses--namely, "what am I to do?"--has found no agreed answer in a number of basic cases: the problems of coordination and addiction, problems which Newcomb, Allais, and Ellsberg, among others, attempted to tackle. The progress of decision theory depends upon a detailed evaluation of its fundamental assumptions, and effective and thorough communication between its contributing disciplines. This volume assembles ten commissioned studies by economists and philosophers currently active in decision theory. The editors' introduction combines a review of the major theoretical issues raised in the contributions with expositions of recent major developments in game theory and individual decision theory to make these developments accessible to non-specialists. This important book will serve as a guide to the state of the art in decision theory as it becomes increasingly crucial to a wide range of disciplines.

Contributors: Mark J. Machina, Isaac Levi, John Broome, Philip Pettit, John E. Roemer, Holly Smith, Brian Skyrms, Hyun Song Shin, William Harper, and Robert Sugden.

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Paul Goodwin  
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## SOME UPCOMING MEETINGS

**Twelfth International Symposium on Forecasting:** ISF-92 will be in Wellington, New Zealand, at the Plaza International Hotel from August 7-10, 1992. To register an interest in attending or to get further mailings, contact ISF-92, P.O. Box 10-277, Wellington, New Zealand. Telephone: +64 (4) 472-5564. Fax: +64 (4) 473-3276 or contact Professor Fraser Jackson, Program Co-Chair by email: [jackson@matai.vuw.ac.nz](mailto:jackson@matai.vuw.ac.nz)

**Society for Mathematical Psychology:** Twenty-fifth annual meeting will be at Stanford University, August 21-23, 1992. For more information contact: Dr. Geoffrey Iverson, Department of Cognitive Science, University of California, Irvine, CA 92717. Email: [giverson@uci.edu](mailto:giverson@uci.edu)

**Society for Medical Decision Making:** Fourteenth annual meeting is at the Portland Marriott in Portland, OR, October 17-20, 1992. For more information contact: Society for Medical Decision Making, The George Washington University, Office of CME, 2300 K Street NW, Washington DC 20037. Telephone: (202) 994-8929. Email: [smdm-office@camis.stanford.edu](mailto:smdm-office@camis.stanford.edu)

**ORSA/TIMS:** Joint national meeting will be at the Hilton Hotel, San Francisco, CA, November 1-4, 1992. For more information contact the General Chair of the meeting: Chaiho Kim, The Leavey School of Business, Santa Clara University, Santa Clara, CA 95053. Telephone: (408) 554-6832.

**Psychonomic Society:** 33rd annual meeting will be at the Adams Mark Hotel, St. Louis, MO, November 13-15, 1992. For more information contact: Cynthia Null, Secretary-Treasurer, P.O. Box 7104, San Jose, CA 95150-7104. Telephone: (415) 604-1260. Email: [cnull@eos.arc.nasa.gov](mailto:cnull@eos.arc.nasa.gov)

**Judgment/Decision Making Society:** See Page 1. Further information will be forthcoming.

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