

JUDGMENT / DECISION MAKING

newsletter

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For those for whom the 4th Annual Judgment and Decision Making Conference is only a memory, the summary on pages 3-5 will refresh you. For those who were not able to attend the meeting in San Diego, the summary will apprise you of the major activities and the issues discussed at the meeting. There was extensive discussion of journals and the newsletter. If, after reading the summary on page 5, you would like the summary of the survey, please write to James Shanteau or the editor for a synopsis prepared by Jim.

In this issue of the J/DM Newsletter we are beginning a new feature. Through the efforts of Jay Christensen-Szalanski, Lee Lusted, and the publishers of the *Journal of Medical Decision Making*, we are reprinting the series "Recent Developments in the Psychology of Judgment and Decision Making." This series consists of briefly annotated articles which should be of interest to many of you. As an added feature, Jay also will prepare a brief description of relevant articles from the *Journal of Medical Decision Making*. During the next year, these features will appear in each issue. We would appreciate your comments on this project.

MAILING LIST PURGE COMING. . .

When the J/DM Newsletter began, we obtained names of people from a variety of sources. During the last three years most people have paid the subscription fee for the J/DM Newsletter. Because of this, we have been able to keep our costs low. However, there are some people who have never paid for their subscription, and others who paid the first year, but have not renewed. Since we now have enough paid subscriptions to meet the bulk mail rate requirements and because we feel that by this time readers should have expressed their interest by paying the modest fee which we charge, we are purging from the mailing list those people who have not paid for their subscription.

Will you be dropped? Check the mailing label on this issue. If it contains an "X" or an "O", this is your last issue. If your label has an "R" on it, it is time to renew."

J/DM DIRECTORY TO BE PUBLISHED IN APRIL. . .

The next issue of the J/DM Newsletter will include a directory of all subscribers. Please check the mailing label to ensure that your address is as you want it to appear. Please send any corrections or changes to Gary McClelland (his address is on p. 2). Also, if you would like to have your telephone number included but have not sent it to him, please do so as soon as possible.

QUOTE OF THE MONTH. . .

The concept of information developed in this theory at first seems disappointing and bizarre -- disappointing because it has nothing to do with meaning, and bizarre because it deals not with a single message but rather with the statistical character of a whole ensemble of messages, bizarre also because in these statistical terms the two words information and uncertainty find themselves to be partners.

I think, however, that these should only be temporary reactions.

From Warren Weaver, Recent Contributions to the Mathematical Theory of Communication, 1963

DEADLINE FOR SUBMISSIONS FOR NEXT J/DM NEWSLETTER: March 15, 1984

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FROM THE EDITOR. . .

The J/DM 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 J/DM Newsletter as low as possible, please submit camera-ready copy. This means that the copy should be typed single-spaced on white 8 1/2 by 11 paper. Please leave good margins--1 inch at the sides and bottom and 2 inches at the top. If possible, use a carbon or film ribbon. Please mail flat--do not fold.

Subscriptions: The current rate for the J/DM Newsletter is \$2.00/year. This should cover the cost of about 4 issues. We are dedicated to keeping the cost at a minimum, but must emphasize that recent increases in postage rates will cause problems unless as many readers as possible pay. Please send your subscription to the editor. If you do not know whether or not your subscription has been paid or is current, check your mailing label. If it has an X or a 0, you have not paid; if it has an R, it is time to renew.

Checks should be made payable to the Indiana University Foundation.

Foreign Subscriptions: The cost of foreign subscriptions is necessarily higher than domestic subscriptions. Copies will be sent airmail to foreign addresses for \$5.00 (U. S.) per year if drawn on a U. S. bank. (If payable in U. S. dollars, but not drawn on a U. S. bank, the cost is \$25.00 per year. Note that many foreign banks have accounts with a U. S. bank and draw checks on that account.)

Address Correction: Please check your mailing label carefully. Because the J/DM Newsletter is sent by bulk mail, copies with incorrect addresses or otherwise undeliverable are neither forwarded nor returned. Therefore we have no way of knowing if copies are delivered. Any changes or corrections in addresses should be reported to Gary McClelland. (Address changes may also be sent to the editor with subscription payments.)

Mailing Labels: Some readers may wish to send reprint lists or other material to people listed in the directory. Gary McClelland has agreed to provide sets of mailing labels for \$5.00 to individuals employed by non-profit institutions.

CONTRIBUTION HONOR ROLL...

Several J/DM'ers have made contributions to support the cost of sending the J/DM Newsletter to foreign readers who might not otherwise be able to receive it. While we make every effort to send the J/DM Newsletter to all interested foreign readers, we cannot do it without some support. We are grateful to the following J/DM'ers have made contributions of \$5.00 or more so that our foreign readers may continue to receive it.

Norman H. Anderson
 Detlof von Winterfeldt
 Colleen F. Surber

Valerie F. Reyna
 Mark Hull
 Sarah Lichtenstein

David R. Nerenz

THE FOURTH ANNUAL JUDGMENT AND DECISION MAKING CONFERENCE . . .

By James Shanteau

The fourth JDM meeting was held in the Sheraton Harbor Island Hotel in San Diego, California on November 19 and 20, 1983. The meeting began at 1:00 pm following the completion of the Psychonomic Society meeting. The Keynote Address was given by Clyde Coombs (University of Michigan, Emeritus) on Some Cumulative and Not So Cumulative Research on Decision Making. Clyde began his very interesting talk with an historical overview of his prior work on risky decision making. He then called for an increased emphasis on the analysis of individual and multi-person conflict. An insightful commentary was provided by Kenneth Hammond (University of Colorado).

The next session was on Judgment Research and Psychology: What Was, Is, and Will be Unique? In this workshop, Charles Gettys (University of Oklahoma) asked "Will Decision Research Survive Decision Theory?" and Jay Christensen-Szalanski argued that its "Time for a Tune-Up: The Bias Bandwagon in Applied Settings." Lola Lopes (University of Wisconsin) then questioned "Can Positive Roots Bear Psychological Fruits?" Finally, Robin Hogarth (University of Chicago) took a look back from the future in "Hindsight and Foresight in Judging Judgment Research;" Robin's tongue-in-cheek presentation elicited a great deal of discussion and audience interaction.

The last formal session on Saturday was devoted to a Business Meeting. The details of this meeting are described elsewhere in this Newsletter. The meeting then adjourned for a cocktail hour, etc.

On Saturday evening, there was an informal discussion of the state of journals in judgment and decision making. This discussion (and the subsequent outcome) are described elsewhere.

Sunday began with the Major Address by Norman Anderson (University of California, San Diego) on Judgment and Decision Making as Goal-Directed Action. Norman proposed that greater understanding is needed of goals and outlined how this might be accomplished. He also argued compellingly that the role of memory in judgment deserves special consideration. Comments were provided by two Discussants: Jerry Busemeyer (Purdue University) and John Carroll (Massachusetts Institute of Technology).

The Sunday morning workshop was on Learning, Judgment, and Expertise. Presentations were provided by Eric Johnson (Carnegie-Mellon University) on "Expertise in Decision Under Uncertainty: Process and Performance," Joshua Klayman (University of Chicago) on "Expertise from Imperfect Feedback," and Michelene Chi (University of Chicago) on "Tracking Learning." The Discussant was Hillel Einhorn (University of Chicago).

The final session was on Judgment and Decision Making Research Support in the 80's. The funding picture was described by Trudi Miller (Decision and Management Science Program, National Science Foundation), Bill Vaughan (Engineering Psychology Program, Office of Naval Research), and Joseph Young (Memory and Cognitive Processes Program, National Science Foundation).

NOTES ON THE J/DM BUSINESS MEETING (11/19/83)...

... From Lola Lopes

1. The Psychonomic Society will be meeting next year in San Antonio, Texas on the current schedule (i.e., Thursday through Saturday Morning). The consensus of JDMers present at the business meeting was that we continue our present policy through next year of holding the JDM meetings from Saturday noon through Sunday mid-afternoon at the Psychonomic hotel.

In succeeding years, however, we will need to revise our plans since the Psychonomic meetings will be moving onto the weekend. The various options considered included (a) continuing to meet after Psychonomics (i.e., Sunday through Monday), (b) hooking up to a different conference, and (c) going it alone either in the hotel setting or in university conference facilities.

We also discussed such matters as whether or not there should be submitted paper sessions (for which the consensus was no, especially if such sessions were to be in parallel) and what amenities to provide for conference attendees (i.e., hospitality suite, open bar, etc.)

Since time was short, these issues could not be dealt with in any detail. The group decided that the best way to gather people's opinions would be via a survey in the JDM Newsletter. We will try to get something together for the next issue after this.

2. John Carroll, Max Bazerman, and Eric Johnson volunteered to be program coordinators for next year's meeting (with John Carroll acting as head coordinator). People with ideas for symposia, etc. should IMMEDIATELY let their ideas be known to John (and should also be prepared to be told "Sure, go ahead and plan it. It sounds great!"). What is needed always is new blood and new ideas.
3. Ken Hammond suggested that JDMers might want to collaborate on the production of a text of some sort covering all the major areas of judgment and decision making. People who have interest or suggestions should contact Ken.
4. Bill Wright wondered whether we might put on some summer chatauqua-type workshops on various technical topics, to be held in some idyllic resort setting. People with ideas or suggestions should contact Bill.

FOR THOSE WHO MISSED THE CONFERENCE . . .

Cassette tape recordings are available for each of the four major sessions: (1) Clyde Coombs, (2) Past and Future Trends, (3) Norman Anderson, and (4) Analysis of Expertise. In addition, previous cassette tapes are available for the 1980 historical talk by (a) Brown Grier, and the 1981 talks by (b) Ward Edwards, (c) Brown Grier and Lola Lopes. The 1982 talks by (d) Kenneth Hammond, (e) Daniel Kahneman, and the workshops on (f) Source Credibility, and (g) Auditing Judgment are also available. Anyone wanting copies of these tapes should send \$5.00 for each talk wanted to: James Shanteau, Department of Psychology, Kansas State University, Manhattan, Kansas 66506. (Please allow 4-6 weeks for the copies to be made.)

MEETING AT JDM ON JOURNALS . . .

A special session at this years JDM conference was devoted to a discussion of the journal situation for judgment and decision making research. The session began with James Shanteau (Kansas State University) describing the results of a survey conducted for a sample of the JDM Membership. He summarized the arguments presented for and against creation of a new journal, as well as comments on OBHP and the JDM Newsletter. Some selected comments from respondents to this survey are given elsewhere in this Newsletter. Then based on his experience as editor of Organizational Behavior and Human Performance, James Naylor (Purdue University) presented his reactions to the survey and also summarized some statistics on rate of submissions, publications, etc. for OBHP. Overall, he felt that there were not enough total papers available to justify creation of a new journal. Then, Jim described some changes contemplated for OBHP, which included a proposal for a change of name for the journal. He has since checked with both the editorial board of OBHP and Academic Press, and a change of name will be made for 1985 (see the letter below). Other proposed changes outlined by Jim included a functional separation of the journal into two parts, each part -- organizational behavior and decision making -- with its own action editor and its own editorial consultants. This was followed by a general discussion.

The following comments by James Naylor were taken from a 12/20/83 letter to James Shanteau:

Keeping you up to date with respect to the Journal, it now appears that Academic Press is amenable to a name change, although they have requested that the name be changed beginning 1 January 1985, so that we may have ample time to alert both libraries and individuals of what is happening to avoid confusion. By and large, the response of the editorial board was supportive of the name change. Only several people voted against it, but even those felt that, if I felt strongly about it, then it was probably the appropriate thing to do. I do so feel, and at present, my preferred name change is to retitile the Journal Organizational Behavior and Human Decision Processes. This name substitutes "decision processes" for the previous term "performance." While it increases the length of the title by one word, it clearly eliminates ambiguity with respect to "organizational" being a modifier of "decision processes." (The latter point was raised at the JDM session.)

Aside from discussion of journals, it was the consensus of the meeting that more effort should be made to take advantage of the opportunities of the JDM Newsletter. Since the Newsletter depends on readers for submission of material, it is clear that expansion of its functions will only result when more is sent to its editor, John Castellan (University of Indiana). Some ideas for types of material to submit are contained in the survey comments summarized below.

NATIONAL SCIENCE FOUNDATION

DECISION & MANAGEMENT SCIENCE PROGRAM

The Decision and Management Science (DMS) Program was approved by the National Science Board in February 1982. It supports fundamental research on decision making, management, and operations. The objective is to build a body of theoretical, methodological, and empirical knowledge that can be drawn upon to improve practice. While the focus of DMS is on the social and behavioral aspects of sociotechnical systems, awards are made to investigators in all fields of science.

Members of the current advisory panel to the Decision and Management Science Program at NSF are: Dr. Yu-Chi Ho (applied mathematics -- Harvard), Dr. Andrew P. Sage (electrical engineering -- University of Virginia), Dr. Alfred Blumstein (operations research -- Carnegie-Mellon), Dr. Gary L. Lilien (applied science -- Pennsylvania State University), Dr. Emilio Casetti (geography -- Ohio State University), and Dr. Kenneth R. Hammond (psychology -- University of Colorado). At its first meeting, the new panel reaffirmed the statement of the initial panel about research priorities, which says in part:

The body of research supported by the program should possess generality, be based on empirical observation or be subject to empirical validation, and incorporate social and behavioral aspects. Processes should be characterized by models that are tested in operational contexts. Even though an individual project may not have all these characteristics, its evolution toward this end must be clear.

Principal investigators on awards by DMS in FY 1982-1983 include several members of J/DM: W. Edwards, G. Fischer, B. Fischhoff, E. Johnson, D. MacGregor, J. Rohrbaugh, P. Slovic, and D. von Winterfeldt.

In FY 1984 the budget for the new program grew by 25% to the still-modest level of \$950,000. Continued rapid growth is expected.

The next target date for proposals is February 1, 1984 (and after that, September 1, 1984). For additional information, contact Dr. Trudi C. Miller, Decision and Management Science, National Science Foundation, Washington, D.C. 202/357-7569.

RECENT DEVELOPMENTS IN THE PSYCHOLOGY OF JUDGMENT AND DECISION MAKING

Journal Articles

1. Arkes HR, Wortmann RL, Saville PD, Harkness AR: Hindsight bias among physicians weighing the likelihood of diagnoses. *J Appl Psychol* 66:252-254, 1981. Demonstrates hindsight bias in physicians; discusses implications with respect to overconfident second opinions and inadequate appreciation of original difficulties of diagnoses.
2. Bar-Hillel M, Fischhoff B: When do base rates affect predictions? *J Pers Soc Psychol* 41:671-680, 1981. Reports on use and misuse of base-rate information (prior probabilities) by people making posterior probability estimates.
3. Ben Zur H, Breznitz SJ: The effect of time pressure on risky choice behavior. *Acta Psychol (Amst)* 47:89-104, 1981. Shows that as time pressure increases subjects become less risky and spend more time observing the negative dimensions of a decision (e.g., amount to lose, probability of losing).
4. Chase S, Wright JH, Ragade R: Decision making in an interdisciplinary team. *Behav Sci* 26:206-215, 1981. Studies university-affiliated psychiatric service; suggests that decision analysis and general systems theory be used as methods for understanding where, when, and how decisions are made by a medical team.
5. Christensen-Szalanski JJJ, Bushyhead JB: Physicians' use of probabilistic information in a real clinical setting. *J Exp Psychol (Hum Percept)* 7:928-935, 1981. Reports on physician overestimation bias and sensitivity to relative differences in the predictive value of abnormal and normal findings; suggests that physicians used base-rate information correctly.
6. Fischer GW: When oracles fail. A comparison of four procedures for aggregating subjective probability forecasts. *Organ Behav Hum Perform* 28:96-110, 1981. Compares four strategies for resolving differences of opinion among experts; suggests that subjective probability

forecasts can be improved by aggregating the opinions of a group of experts, rather than relying on a single expert.

7. Green PE, Carrol JD, DeSarbo WS: Estimating choice probabilities in multiattribute decision making. *J Cons Res* 8:76-84, 1981. Compares the ability of four models to predict subject's subjective probabilities.
8. Kleinmuntz DN, Kleinmuntz B: Systems simulation. Decision strategies in simulated environments. *Behav Sci* 26:294-305, 1981. Presents a computer simulation of tasks resembling medical diagnoses; examines relative accuracy of Bayesian, satisficing, and trial-and-error strategies for solving diagnostic problems; suggests solutions of real world decisions should not be considered exclusively in terms of mathematical optimality.
9. Lichtenstein S, Fischhoff B: Training for calibration. *Organ Behav Hum Perform* 26:149-171, 1980. Attempts to improve the quality of people's probability assessments through intensive training; reports that about one-third of subjects used probabilities quite appropriately before training and almost all learning from training was accomplished after the first feedback session.
10. Lopes LL: Decision making in the short run. *J Exp Psychol (Hum Learn)* 7:337-385, 1981. Questions the idea that the only rational measure of a gamble is its expected value; discusses the changes that might be called for in theories of rational choice when the prescriptions of rational models violate common sense.
11. Stillwell WG, Seaver DA, Edwards W: A comparison of weight approximation techniques in multiattribute utility decision making. *Organ Behav Hum Perform* 28:66-77, 1981. Suggests that rank weighting of dimensions is better than equal weighting but improvement is not always reflected by significant changes in decision.

Journal Review Articles

1. Einhorn HJ, Hogarth RM: Behavioral decision theory. Processes of judgment and choice. *Annu Rev Psychol* 32:53-88, 1981. Reviews judgment and choice literature. Examines whether it is reasonable to expect optimal decisions in people. Discusses strategies and mechanisms of judgment and choice.
2. Hogarth RM: Beyond discrete biases. Functional and dysfunctional aspects of judgmental heuristics. *Psychol Bull* 90:197-217, 1981. Considers the distinctions between discrete and continuous approaches to the study of judgment and choice; argues that several biases identified in discrete incidents result from heuristics that are functional in the more natural continuous environment.
3. Sage AP, White EB: Methodologies for risk and hazard assessment. A survey and status report. *IEEE Trans Syst Man Cybern* 10:425-446,

This is the first in a series of reviews prepared by Dr. Christensen-Szalanski. The reviews will appear twice a year.

1980. Reviews literature of risk assessment; describes cognitive perceptions of risk and hazards; discusses methods for assessing the effects of potential risks.

4. Slovic P, Fischhoff B, Lichtenstein S: Perceived risk. Psychological factors and social implications. *Proc R Soc London [Biol]* 376:17-34, 1981. Reviews the problems that people have when assessing risks.
5. Tversky A, Kahneman D: The framing of decisions and the psychology of choice. *Science* 211:453-458, 1981. Reviews experiments that demonstrate that seemingly inconsequential changes in the formulation of choice problems can cause major shifts of preference in people.

Book Reviews

1. Anderson BF: *The Complete Thinker. A Handbook of Techniques for Creative and Critical Problem Solving.* Englewood Cliffs, NJ: Prentice-Hall, 1980, 278 pp. Reviewed in *Cont Psy* 26:147, 1981
2. Hill PH, Bedau HA, Chechile RA, et al: *Making Decisions. A Multidisciplinary Introduction.* Reading, MA: Addison-Wesley, 1979, 243 pp. Reviewed in *Cont Psy* 26:969-970, 1981
3. Nisbett R, Ross L: *Human Inference. Strategies and Shortcomings of Social Judgment.* Englewood Cliffs, NJ: Prentice-Hall, 1980, 350 pp. Reviewed in *Cont Psy* 26:901-903, 1981
4. Simon H: *Models of Thought.* New Haven, CT: Yale University Press, 1979, 525 pp. Reviewed in *Cont Psy* 26:179-180, 1981

Recently Published Books

1. Fischhoff B, Lichtenstein S, Slovic P, Derby SL, Keeney RL: *Acceptable Risk.* Cambridge and New York: Cambridge University Press, 1981, 185 pp.
2. Kahneman D, Slovic P, Tversky A: *Judgment Under Uncertainty. Heuristics and Biases.* Cambridge and New York: Cambridge University Press, 1982, 576 pp.
3. Sjöberg L, Tyszka T, Wise J: *Decision Analysis and Decision Processes.* Lund: Doxa, 1981

Conference Talks

1. Edwards W: Human cognitive capabilities, representativeness, and ground rules for research. Eighth Research Conference on Subjective Probability, Utility, and Decision Making, Budapest, Hungary, August 1981. Raises concern about the use of mathematical problems to analyze human cognition.
2. Shanteau J, Grier M, Johnson J, Berner E: Improving decision making skills of nurses. ORSA/TIMS meeting, Houston, Texas,

October 1981. Reports on a project that evaluated the need for teaching decision making skills to nurses; observes that nurses tend to gather too much information when making decisions; shows that several aspects of a nurse's decision-making skills can be improved by a course on decision analysis.

3. Phillips LD: A theoretical perspective on heuristics and biases in probabilistic thinking. Eighth Research Conference on Subjective Probability, Utility, and Decision Making, Budapest, Hungary, August 1981. Reports that subjects differ greatly in their understanding of what was being asked of them when completing mathematical decision problems; suggests that subjects are in effect solving different problems and thus partially explains why group data do not resemble predictions of rational decision making models.

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ACKNOWLEDGEMENT...

Recent Developments in the Psychology of Judgment and Decision Making and Recent Developments in Medical Decision Making, are prepared by Jay J. J. Christensen-Szalanski, and are reprinted from *Medical Decision Making* with the permission of Birkhauser Boston, Inc.

Medical Decision Making is an international journal of The Society For Medical Decision Making (SMDM) published quarterly by Birkhauser Boston, Inc., 380 Green St., Cambridge, MA 02139.

The journal is devoted to the analysis of decision making as it applies to clinical practice, to the establishment of health care policies, and to the administrations of health care programs. SMDM annual membership dues of \$60.00 (U.S.) includes a journal subscription. For libraries, non-SMDM members, etc., the annual subscription rate is \$78.00 (U.S.).

For information concerning SMDM membership or journal subscriptions, contact Lee B. Lusted, M.D., Editor-in-Chief, *Medical Decision Making*, Scripps Clinic & Research Foundation, 10666 North Torrey Pines Road, La Jolla, CA 92037.

The Journal of Medical Decision Making

Compiled by Jay J. J. Christensen-Szalanski

Christensen-Szalanski JJJ, Bushyhead JB: Physicians' misunderstanding of normal findings. *Med Decis Making* 3:169-175, 1983. Extends the principle of the normal finding to include signs and symptoms; shows that clinicians used abnormal findings but not normal findings when managing patients.

Deber RB: Fifth annual meeting of the Society for Medical Decision Making. Program and Abstracts. *Med Decis Making* 3:339-394, 1983.

Doubilet P: A mathematical approach to interpretation and selection of diagnostic tests. *Med Decis Making* 3:177-195, 1983. Presents a mathematical technique to answer questions about when different tests should be done.

Dwyer AJ, Prewitt JMS, Ecker JG, et al: Use of the hazard rate to schedule follow-up exams efficiently. An optimization approach to patient management. *Med Decis Making* 3:229-244, 1983. Models the surveillance for metastasis in cancer patients as an allocation problem.

Eisenberg JM, Hersey JC: Derived thresholds. Determining the diagnostic probabilities at which clinicians initiate testing and treatment. *Med Decis Making* 3:155-168, 1983. Presents a method to derive clinicians' testing and treating threshold probabilities in a descriptive fashion.

Elstein AS: Analytic methods and medical education. Problems and prospects. *Med Decis Making* 3:279-284, 1983. Reports on the state of education in the field of medical decision making.

Goin JE, Preston DF, Gallagher JH, et al: Comparison of five digital scintigraphic display modes: An ROC curve analysis of detection performance. *Med Decis Making* 3:215-227, 1983. Compares observer performance among five digital scintigraphic display models.

Moroff SV, Pauker SG: What to do when the patient outlives the literature, or DEALE-ing with a full deck. *Med Decis Making* 3:312-338, 1983. Addresses the problem of adapting prognostic data from the literature to an individual patient who differs from average members of the reported series; demonstrates that empiric radiation therapy might be optimal in some patients with lung cancer.

Palmer RH, Strain R, Rothrock JK, et al: Evaluation of operational failures in clinical decision making. *Med Decis Making* 3:299-310, 1983. Reports on operational failures in follow-up of positive urine cultures in pediatric patients; discusses the affect of operational failures on predictions of decision analyses.

Rifkin RD: Classical statistical considerations in medical decision models. *Med Decis Making* 3:197-214, 1983. Investigates the influence of sampling errors on the reliability of decision-analytic models; shows that modest statistical error affecting any variable in a decision model may render the model unreliable over a wide range of disease probability.

Thompson MS: Health versus money. Value judgments in the perspective of decision analysis. *Med Decis Making* 3:285-297, 1983. Examines the value trade-off of marginal non-health consumption against marginal medical care; shows how a decision-analytic model of utility can help to determine legal arrangements for compensation for medical malpractice.

Wijesinha A, Begg CB, Funkenstein HH, et al: Methodology for the differential diagnosis of a complex data set. A case study using data from routine CT Scan Examinations. *Med Decis Making* 3:133-154, 1983. Illustrates the use of the polychotomous logistic regression model as a statistical diagnostic tool.

Zarin DA, Pauker SG: Bilateral pulmonary infiltrates in an 11-year-old with acute lymphocytic leukemia. Is a chance to cut really a chance to cure? *Med Decis Making* 3:246-269, 1983. Examines the choice between empiric therapy and a lung biopsy for a girl with leukemia.

NEW AND RECENT BOOKS...

Beyth-Marom, R. and Lichtenstein, S. (1984). An Elementary Approach to Thinking Under Uncertainty. Hillsdale (NJ): L. Erlbaum. ca. 160 pp., ca. \$19.95. ISBN: 0-89859-379-4

The authors point out and demonstrate judgmental biases, identify some of the circumstances under which thought processes may lead us astray, and suggest tools for overcoming them. The ideas in the book are directed at diverse populations including managers, decision makers in government and the military; and medical and law students; as well as professionals in curriculum development; cognitive, educational, and developmental psychologists; and laypeople in applied settings who would like to improve their own judgmental skills.

Eiser, J. E., (Editor). (1984). Attitudinal Judgment. New York: Springer-Verlag. ca. 275 pp., ca. \$26.90. ISBN: 0-387-90911-7

The central theme of the book is that attitudes and cognitive, judgmental processes are closely interconnected. Specific focus is on an analysis of how judgments affect attitudes, how attitudes affect judgments, and how attitudes themselves are judged. There is special emphasis on theoretical perspectives from other areas of research -- schematic processing, subjective representations of intergroup attitudes and controversial issues, effects of language on the categorization process. The range of approaches to these issues encompasses research on psychophysical and social judgment; public opinion research; intergroup relations and social cognition; and social cognition and decision making.

Herkenrath, U., Kalin, D., & Vogel, W. (Editors). (1983). Mathematical Learning Models -- Theory and Algorithms. New York: Springer-Verlag. 234 Pp., \$16.00 (paper). ISBN: 0-387-90913-3

Twenty-five contributions by experts cover the topics of mathematical learning models, bandit problems, stochastic approximation procedures, and sequential decision processes with unknown laws of nature.

Humphreys, P., Svenson, O., & Vari, A., (Editors). (1983). Analysing and Aiding Decision Processes. Amsterdam: North-Holland. 450 Pp., \$57.50. ISBN: 0-444-84522-5

Mamdani, E. H., & Gaines, B. R. (1983). Fuzzy Reasoning and Its Applications. New York: Academic Press.

Scholz, R. W. (Editor). (1983). Decision Making Under Uncertainty: Cognitive Decision Research, Social Interaction, Development and Epistemology. Amsterdam: North-Holland. 446 Pp., \$57.50. ISBN: 0-444-84738-4

Reprints and Working Papers from George Huber and Don Kleinmuntz of the Management Department at the University of Texas at Austin, 78712.

1. Kleinmuntz, D.N. & Kleinmuntz, B. Decision strategies in simulated environments. Behavioral Science, 1981, 26, 294-305.
2. Huber, G.P. The nature of organizational decision making and the design of decision support systems. Management Information Systems Quarterly, 1981, 5, 1-10.
3. Kleinmuntz, B. & Kleinmuntz, D.N. Multivariate diagnostic information processing by computer. in N. Hirschberg & L.G. Humphreys (Eds.), Multivariate Methods in the Social Sciences. Lawrence Erlbaum Associates, 1982.
4. Huber, G.P. Cognitive style as a basis for MIS and DSS designs: Much ado about nothing? Management Science, 1983, 29, 567-579.
5. McDaniel, R., Kleinmuntz, D.N., Autrey, P. The Use of a Simple Multiattribute Utility Procedure to Define Competitive Position. Working Paper, June 1983.
6. Kleinmuntz, D.N. Cognitive Heuristics and Task Structure in a Dynamic Decision Environment. Working Paper, July 1983.
7. Kleinmuntz, D.N. The Sensitivity of Linear Multiattribute Utility Models to Attribute Formulation. Working Paper, July 1983.
8. Huber, G.P. Effects of Decision Support Systems on Governmental Organization and Policy Making. Working Paper, September 1983.
9. Huber, G.P. An Empirical Comparison of Information Acquisition by Researchers in Industrial, Governmental and Academic R & D Settings. Working Paper, November 1983.

Within the National Center for Atmospheric Research (NCAR) is a small group of social and physical scientists who are studying interactions among the atmosphere, environment, and society. Following is a list of recent papers from this group which may be of interest to JDM researchers. Copies of papers may be obtained by contacting Tom Stewart, NCAR, P.O. Box 3000, Boulder, CO 80307, (303) 497-1615.

1. Stewart, T.R., 1983. Visual air quality values: Public input and informed choice, in Rowe, R.D. and L.C. Chestnut (Eds.) Air Quality and Visual Resources in National Park and Wilderness Areas, Boulder, Colo., Westview Press.
2. Middleton, P., Stewart, T.R., and Dennis, R.L., 1983. Modeling human judgments of visual air quality. Atmospheric Environment, 17, 1015-1021.
3. Stewart, T.R., Middleton, and Ely, D., 1983. Judgments of visual air quality: Reliability and validity. Journal of Environmental Psychology, 3, 129-145.
4. Middleton, P., Stewart, T.R. and Ely, D., in press. Physical and chemical indicators of urban visual air quality judgments. Atmospheric Environment.
5. Stewart, T.R., Middleton, P., Downton, M. and Ely, D., 1983. Judgments of photographs vs. field observations in studies of perception and judgment of the visual environment.
6. Dennis, R., Stewart, T.R., Middleton, P., Downton, M., Ely, D., and Keeling, C., 1983. Integration of technical and value issues in air quality policy formation: A case study. Socio-economic Planning Sciences, 17, 95-108.
7. Stewart, T.R., Dennis, R.L., and Ely, D.W., 1983. Implicit Value Judgment and Citizen Participation: A Case Study of Urban Air Quality Planning.
8. Stewart, T.R., Katz, R.W., and Murphy, A.H., in press. Value of weather information: A descriptive study of the fruit frost problem. Bulletin of the American Meteorological Association, (to appear February, 1984).
9. Rhodes, S.L., and Middleton, P., 1983. The complex challenge of controlling acid rain. Environment, 25, 6-9, 31-38.
10. Glantz, M., 1982. Consequences and Responsibilities in Drought Forecasting: The Case of Yakima, 1977. Water Resources Research, 18, 3-13.

POSTDOCTORAL TRAINEESHIPS: The Department of Psychology at the University of Michigan announces the availability of one NIMH-funded postdoctoral traineeship in applications of experimental and mathematical psychology to problems of medical decision making, lifespan cognitive development, or health psychology. By the time of their appointment, applicants should have completed the doctoral degree in one of the behavioral or decision sciences or in one of the health professions. Training may begin any time between July 1 and September 1, 1984, for a period of 1 or 2 years. The stipend is \$14,040 per 12 mos. for trainees with no prior experience. Send letter of application, vita, three recommendation letters, and representative publications to: J. Frank Yates, 136 Perry Building, Department of Psychology, University of Michigan, Ann Arbor, MI 48104. Applications should be received no later than March 1, 1984. An Equal Opportunity/Affirmative Action Employer.

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FORTHCOMING MEETINGS...

Symposium on Decision Support Systems for Auditing. (See July 1983 J/DM Newsletter). For information contact Ted Mock or Paul Watkins, Center for Accounting Research, School of Accounting, University of Southern California, Los Angeles, CA 90089-1421.

The 22nd Annual Bayesian Research Conference, (the daddy of 'em all) will be held February 9-10, 1984 at the Valley Hilton, Sherman Oaks, CA. This meeting is for scientists and practitioners interested in Bayesian research, inference, decision making, evaluation, decision support systems, and the like. For information contact Dr. Ward Edwards, Director, Social Science Research Institute, University of Southern California, Los Angeles, CA 90089-1111. (213) 743-6955.

The First Conference on Behavioral Economics will be held May 22-23, 1984 at Princeton University, Woodrow Wilson School. The Conference will address the issue of integrating behavioral insights into economic theory. Participants include academic economists, psychologists and scholars from other related behavioral/social disciplines. For details and registration contact: Prof. Benny Gilad, Department of Economics, Rutgers University, Newark, NJ 07102. (201) 648-5835 or 5259.

The VIth International Conference on Multiple-Criteria Decision Making (MCDM) will be held June 4-8, 1984 at Case Institute of Technology, Case Western Reserve University, Cleveland Ohio. The program of this conference reflects the rapid transition of the field from infancy through adolescence to maturity. The decade of the seventies may well be characterized as a decade marked by the transfer from the dominance of single-objective modeling and optimization toward multiple-objective decision making. Plans for the program include panels, overview papers, and tutorial sessions focusing on case studies and practical experiences. For information contact Dr. Yacov Y. Haimes, Chairman, Department of Systems Engineering, Case Institute of Technology, Case Western Reserve University, Cleveland Ohio 44106. (216) 368-4492.

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