

JUDGMENT / DECISION MAKING

J/DM MEETING. . .

The Annual Meeting of the Society for Judgment and Decision Making held in November had record attendance. A summary of the business transacted at the meeting can be found on Page 2. Elsewhere in this issue you will see information about the *next* meeting.

DECISION ANALYSIS NEWSLETTER. . .

Through an agreement with the Editor of *Decision Analysis Newsletter*, we are exchanging the December issues of our newsletters. Readers of the *J/DM Newsletter* will be receiving a copy of the *Decision Analysis Newsletter*, and subscribers to the *Decision Analysis Newsletter* are receiving this issue of the *J/DM Newsletter*. Our intention is to help researchers and practitioners in our respective groups to become better informed of the others activities.

EINHORN AWARD WINNER. . .

George Lowenstein of the University of Chicago was named the first winner of the *Hillel Einhorn New Investigator Award*. The award is given for an outstanding paper by a new investigator -- individuals no more than five years post Ph.D. We all extend our congratulations to George for his achievement.

1989 DUES NOW DUE. . .

If you have not paid your dues for 1989, now is the time to do so. Check your mailing label: *If the number in the upper right hand corner is a 7 or 8, then you have NOT paid for 1989. If the number is a 9, then you are O.K.* Dues are \$10.00 (\$5.00 for students) this year. Please use the form on the last page of the newsletter when paying your dues.

SPECIAL JOURNAL OFFERS. . .

In the October issue we announced two special journal subscription rates for members of the Society for Judgment and Decision Making. *Organizational Behavior and Human Decision Processes* and *Journal of Behavioral Decision Making* have offers for our members. If you have not subscribed for 1989, check the October issue for details.

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SUBMISSION DEADLINE FOR THE NEXT J/DM NEWSLETTER: JANUARY 31, 1989

DECEMBER

Vol. VII
Number 6

DECEMBER 1988

SOCIETY FOR JUDGMENT AND DECISION MAKING

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 Duncan Luce, 1987-89
 Paul Slovic, 1988-90
 Stephen E. Edgell, Secretary/Treasurer
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J/DM NEWSLETTER

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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 However, we do not publish substantive papers.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 8½ by 11 paper. If possible, use a carbon or film ribbon. Please mail flat -- do not fold.

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 Stephen Edgell.

Address correction: Please check your mailing label carefully. Because the *J/DM 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 Stephen Edgell.

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

Electronic Mail: The editor may be reached through BITNET at "castellan@IUBACS." [Some users may find it either necessary (or more convenient) to address the editor using only the first 8 characters (castella).] BITNET addresses also can be reached from most of the university and research networks. I check for mail several times a day, and a prompt reply to electronic messages is assured. To add your name to the *J/DM Electronic Mail Directory* (or to receive a copy of the electronic directory) contact the Editor.

Report of the Secretary/Treasurer Steve Edgell

MEETING

The meeting was a huge success. There was a total of 166 people registered, which far exceeds the registration for past meetings.

TREASURER'S REPORT

The treasurer's report published in the October Newsletter has a typo in it. The income from dues (1988) should have read \$4605.00.

MINUTES OF THE EXECUTIVE BOARD MEETING

November 11, 1988

All members of the Board were in attendance.

1. It was decided to send Jim Shanteau as the Society's representative to the APS meeting this January.

2. The board unanimously recommended to the membership that the Society join the Federation of Behavioral, Psychological, and Cognitive Sciences.

3. Providing that the Society joins the Federation, it was decided to again send Robyn Dawes as our representative to the December meeting of the Federation.

4. Ken Hammond, Jim Shanteau, and John Carroll were appointed to a committee to draft a proposal for an editorial committee for the shelf of books the Society is going to publish.

5. It was decided that the secretary/treasurer will act as the arrangements committee in the future.

6. It was decided to continue to meet after the Psychonomic Society meeting, at least through 1991.

7. Dues for 1990 were changed to regular member (\$20), student (\$5), library subscription (\$10), and corporate sponsorship (\$100).

8. It was decided to allocate \$1000.00 to the treasurer for hiring help with the workload.

9. John Castellan and Stephen Edgell were asked to review the Bylaws for possible changes to be presented at the 1989 meeting. (Any suggestions should be sent to either of these people.) It was suggested that the chair of the program committee be an ex officio member of the executive committee. It was also suggested that the title of the chief elected officer be changed from chairperson to president.

10. It was decided that the program committee will continue to be a three-person committee, but with staggered 3 year terms. The person in their second year would be the chair of that committee. Next year Frank Yates will be the chair and Tom Wallsten will continue as a member. The third (and new) member will be chosen by the committee with approval of the executive board.

MINUTES OF THE BUSINESS MEETING

November 12, 1988

(A quorum was clearly present.)

It was moved and seconded that the Society join the Federation of Behavioral, Psychological, and Cognitive Sciences. This was passed unanimously.

MORE STUDENT AWARDS. . .**RICHARD D. RENNIE WINS 1988 ORSA DECISION ANALYSIS
SPECIAL INTEREST GROUP STUDENT PAPER COMPETITION**

Richard D. Rennie has won the third annual Operations Research Society of America Decision Analysis Special Interest Group's Student Paper Competition. Richard is a doctoral student in business at the University of Alberta who expects to complete his dissertation in the summer of 1989. His winning paper, titled "Auditor's Judgments of Probable Causes: Effects of Availability, Experience, Focusing and Omission," was coauthored with Professor Richard Johnson, also of the University of Alberta.

Professor Don N. Kleinmuntz was the Chair of the 1988 Student Paper Competition. The winner was announced and the winning paper was presented at the ORSA/TIMS Joint National Meeting in Denver, October 24-26, 1988. Inquiries concerning the competition may be addressed to Don Kleinmuntz at the Sloan School of Management, M.I.T., 50 Memorial Drive, Cambridge, MA 02139, (617) 253-2430.

-- Don Kleinmuntz

**JAMES C. MUNDT WINS 1988 SOCIETY FOR COMPUTERS IN PSYCHOLOGY
STUDENT PAPER COMPETITION**

James C. Mundt has won the annual Society for Computers in Psychology Student Paper Competition. Mr. Mundt is a graduate student in psychology at the University of Wisconsin -- Madison. His winning paper, "Computer-Generated Preference Models for Generic Multi-dimensional Problem Sets," was presented at the 18th Annual Meeting of the Society for Computers in Psychology which was held in Chicago, November 9, 1988.

The paper described programs that allow users to define a multidimensional problem domain and derive a multiplicative utility model capturing the user's judgment policy.

-- John Castellan

POSITION AVAILABLE. . .

CENTER FOR DECISION RESEARCH, UNIVERSITY OF CHICAGO: The Center is seeking to fill two tenure-track positions at the Assistant Professor level. One position is for someone with interests in doing research and teaching in the area of *negotiations*. The other is for candidates with strong backgrounds in *behavioral decision making*. Applicants should have a strong research orientation. Teaching responsibilities include basic courses in negotiations and/or decision making and the development of more advanced courses that could be closely related to ongoing research interests. All interested applicants should send a curriculum vitae, one written example of recent research, and the names and telephone numbers of three references. *Do not send letters of reference.* Send application materials to: R. M. Hogarth, University of Chicago, Graduate School of Business, Center for Decision Research, 1101 East 58th Street, Chicago, IL 60637. An Equal Opportunity/Affirmative Action Employer.

Congressional Testimony on the Vincennes Incident

Paul Slovic

On July 3, 1988, Iran Air Flight 655 took off from Bandar Abbas Airport and headed across the Persian Gulf, en route to Dubai. Seven minutes into its flight, Captain W. Rogers of the USS Vincennes, judging the airliner to be a hostile fighter plane, destroyed it with two missiles. All 290 persons on board were killed. A congressional investigation exonerated the captain but did cite the need to attend to and upgrade the capability of naval officers to make decisions under stress.

William Echols, Cheryl Smith, and Allen Kraut of the Scientific Directorate of the American Psychological Association recognized that psychologists might have something relevant to say about the factors contributing to this tragic incident. They succeeded in convincing the House Armed Services Committee to hold a hearing on the topic of Decision Making under Stress. The hearing was held on October 6. Testimony was given by Richard Pew, Robert Helmreich, Richard Nisbett, and myself. Baruch Fischhoff sent a written statement to the committee.

Prior to testifying, we were briefed on the details of the incident. The airliner departed on a normal flight pattern, slowly ascending over the Gulf. The period of time between the moment that Captain Rogers first was informed of the approaching plane and the moment when he fired the missiles was less than four minutes. However, his actual time for attending to the decision was only about one minute. During that brief period, noise and confusion reigned on the Vincennes, which was engaged in a skirmish with several Iranian gunboats at the time. One of the major guns developed a "foul bore" and the Vincennes had to execute a violent, high-speed turn to reposition itself during the critical moments when the unidentified aircraft was being evaluated by the crew and Captain.

The Vincennes was equipped with a sophisticated electronic warfare system called "Aegis," which cost many tens of billions of dollars to design and install in dozens of warships. What went wrong? The investigation

indicated that the fateful decision was based on six critical items of information. One item was wrong. A crew member erroneously reported that the aircraft was descending as it approached (descent is indicative of an attack pattern). This report was never checked and corrected. The other information items were consistent with either a hostile or benign scenario (e.g., the aircraft took off from an airfield used for both military and civilian purposes; it emitted a radio signal characteristic of a commercial airliner but often mimicked by fighter planes; it was heading directly toward the Vincennes; the Vincennes' warnings went unanswered, etc.). In addition, the Captain's prior probability of an attack may have been elevated by the generally hostile relations with Iran at that time and his propensity to act may have been conditioned by his memory of the destruction of the USS Stark in a similar situation a year earlier.

Testimony by Richard Pew and Baruch Fischhoff argued for improved human factors analysis in complex decision systems. Pew pointed to inadequacies in the Aegis displays, which used human factors techniques that were many years out of date! Robert Helmreich discussed possible problems in organization and communication among the team of officers gathering information and dealing with the crisis. Richard Nisbett discussed cognitive mechanisms leading to errors in judgment and reasoning and described research showing that proper training can significantly reduce the frequency of such errors.

My testimony traced the history of behavioral decision theory and indicated the important role that Department of Defense (DOD) funding had played in the development of this field. I listed and discussed four points:

1. Decision making is difficult. Thirty-five years of empirical research on decision making, documented in thousands of published studies, clearly demonstrate that decision making under conditions of risk and uncertainty is an extraordinarily complex and

(Continued on the next Page)

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difficult activity, even without the presence of unusual conditions of stress.

2. There is much knowledge about how decisions go wrong and how they can be improved that is not being put to use in military decision making.

3. Despite this knowledge, we need additional research in order to fully understand decision making and improve it in normal and high-stress circumstances.

4. Current programs within DOD agencies and other government agencies are not providing adequate leadership and funding for research on decision making.

In discussing the first two points, I noted that the decision faced by Captain Rogers involved the type of inference task that was extensively studied by researchers in the 1960's, under sponsorship of the Air Force Office of Scientific Research (AFOSR). Those studies showed very clearly that unaided diagnostic judgments were seriously deficient because of the inability to weigh and integrate information of less than perfect validity. Proposals have been put forth about how to design man-machine systems to improve diagnostic inference. More than twenty years after the documentation of human inadequacies in probabilistic diagnoses, these proposals for decision aiding do not appear to have been implemented. Nor do military decision makers appear to have been taught or warned about such deficiencies. Clearly there has been a complete lack of coordination between the generation of basic knowledge and the implementation of that knowledge to improve decision making.

Following this, I briefly reviewed research on overconfidence, framing, response-mode effects, and decision making under conditions of stress. After stating that almost no research on judgment and decision making is currently being sponsored by DOD agencies, I concluded with a plea for the military to make better use of the discoveries and talents of behavioral decision researchers.

Our testimony was rebutted by Stephen Zornetzer, head of the Life Sciences Direc-

torate at ONR, who argued that ONR had emphasized research on selection, training, and decision making, without mentioning that, under his direction, JDM research has essentially been abolished by ONR. Dr. Zornetzer then employed a diversionary tactic by inviting Commander Paul Rinn to testify. Rinn's ship, the USS Samuel B. Rogers, had struck a mine in the Gulf and nearly sunk. He described at length how the heroic actions of his well-trained crew saved the ship in this crisis. No one pointed out that carrying out well-learned routines under stress was very different from the inference and decision tasks faced by the commander of the Vincennes. I was dismayed by Dr. Zornetzer's defensive stance and his disinterest in using this opportunity to gain committee support for re-establishing JDM research within the ONR program.

This distressing incident holds several lessons. First, it makes clear that, even in the age of the "electronic battlefield," officers must still make vital decisions in the traditional manner, with little time for deliberation. Second, it shows that the knowledge obtained from thirty years of JDM research is going unheeded by the military.

We can remain silent about this situation, or we can protest. More than self-interest argues for the latter course. We know the importance of military decision making. We know more than anyone else (though not enough) about how to improve decisions and how to foresee (and thereby avoid) disadvantageous decision-making situations. It is unconscionable for our knowledge and abilities not to be recognized and put to use.

Some thought is needed about how to change this state of affairs. A first step is to continue to educate members of the Congress and their staffs about this problem. The APA science directorate and the Federation of Behavioral, Psychological, and Cognitive Sciences should be able to assist us in this effort.

A full transcript of the hearing will be published in the Congressional Record and will be available from the U.S. Government Printing Office.

THE J/DM SOCIETY AND INTERNATIONAL SECURITY
DAVID HOLTGRAVE

In a recent issue of this newsletter, Dr. Ken Hammond challenged the J/DM membership to tackle the important problems of international conflict, arms control, and human error in military/political decision making processes. While these problems are daunting, there do seem to be valuable, concrete responses which utilize the special talents of J/DM researchers. Some such actions are as follows:

(1)Fostering research on political decision making -- Presently a handful of psychologists are conducting political cognition studies and applying, for example, constructs of behavioral game theory to security problems. Somewhat independently, political scientists and historians are studying the behavior of international military and political decision makers. There are great opportunities for further collaboration between these three disciplines, but a first step to such cooperative work would be for each discipline to learn more about the other. The J/DM society and membership could provide the mechanism for such communication, and provide opportunities and (locate) support for such applied research.

(2)Offering courses in decision making and security -- Currently some J/DM members are developing courses in Decision Making and Arms Control. These courses help students (and teachers!) make sense out of the complexity of security issues via applications of behavioral decision theories, and aid teachers (and students) in enriching behavioral decision making theories to account for the real complexities of the arms control process. The improvement and promulgation of such classes could be supported by the J/DM society and membership. It should be noted that there are excellent short courses in international security and arms control available for educators wishing to apply their field to problems in the security arena.

Of course, other responses to Hammond's challenge are available (e.g., the study of motivational/aggressive processes in decision making, applications of organizational behavior theories to political decision processes, further study of engineering psychology issues in military hardware, and so on). As a first concrete step, however, N. John Castellan, Elke Weber and I would like to form a J/DM special interest group focusing on objective research and education in "decision making and international security/arms control." We have already contacted the J/DM program committee about the possibility of including a Decision Making and International Security symposium/dialectic in the agenda for the 1989 Atlanta meeting. If you have any comments or suggestions about the formation of such a group, any interest in joining the SIG, or any ideas about what should be its agenda and goals, please contact Elke or me at the addresses listed below. I shall report on your commentary in an upcoming J/DM Newsletter.

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RECENT PHILOSOPHICAL LITERATURE. . .

Margolis, H. (1987). **PATTERNS, THINKING, AND COGNITION: A THEORY OF JUDGMENT.** University of Chicago Press. pp. 332.

People, this book argues, form beliefs fundamentally by "P-cognition," a process more like pattern recognition than like-logical argumentation. In the course of biological and cultural evolution (and, one might add, development), we have acquired a second mode of belief formation and judgment, in which we "reason why" instead of "seeing that" an idea is correct: we have come to think critically as well as intuitively. But even reasoning why is just the application of pattern recognition to the small steps of logical arguments.

Conflict between critical and intuitive modes leads to such phenomena as faith, in which intuition says that something is true but the reasons why are inadequate, or doubt, in which reasoning why says that something is true but intuition still does not budge (as in many of the paradoxes of decision theory).

Unaided P-cognition gets us through the day, but it is too conservative and inflexible for laboratory tasks that show biases and fallacies, for social choice in a modern state, or for theory choice in science. Large scale change in belief, such as the Copernican revolution, requires heavy assault by reasoning-why until some people begin to SEE things a new way. At first, change is slow, as those who bring it about must fight their own intuitions. Copernicus succeeded, Margolis argues, partly because he was only a part-time astronomer. He did not routinely use the Ptolemaic system to calculate planetary positions, so he did not see that system as intuitively obvious.

Most of the examples are from history of science, especially astronomy, but chapter 8 discusses laboratory biases, offering new interpretations of Wason's four-card problem and Kahneman and Tversky's "Linda" problem in terms of the "scenarios" they evoke. Too little is said about how this general type of account differs in principle from many others already in the literature, although Margolis's specific version does lead to some interesting experiments, which are briefly reported.

The book relies more on intuitive arguments than on critical ones. It is too much within the Zeitgeist to be radical or challenging. (Others will undoubtedly find it heretical, though.) I found it interesting to read and mull over. Although the elements of its argument were familiar, they were put together in a creative new arrangement and applied to novel areas. I eagerly await their promised application to questions of politics and social choice - a topic considered only briefly in the final chapter.

-- Jonathan Baron

NEW BOOK. . .

Pearl, Judea. (1988). **PROBABILISTIC REASONING IN INTELLIGENT SYSTEMS: NETWORKS OF PLAUSIBLE INFERENCE.** San Mateo CA: Morgan Kaufmann Publishers. ISBN: 0-934613-73-7. Pp. 552. \$39.95

"Probabilistic Reasoning in Intelligent Systems is a complete and accessible account of the theoretical foundations and computational methods that underlie plausible reasoning under uncertainty. The author provides a coherent explication of probability as a language for reasoning with partial belief and offers a unifying perspective on other AI approaches to uncertainty.

"Of special interest to scholars and researchers in AI, decision theory, statistics, logic, philosophy, and the management sciences. Professionals in the areas of knowledge-based systems, operations research, engineering, and statistics will find theoretical and computational tools of immediate practical use. The book can also be used as an excellent text for graduate-level courses in AI, operations research, or applied probability."

-- from copy provided by the publisher

Thinking and Deciding

Jonathan Baron
University of Pennsylvania

How should we think? What, if anything, keeps us from thinking that way? And how can we improve our thinking and decision making? While focusing primarily on the second question, Jonathan Baron considers all three in this lively four-part introduction to current research and theory.

Part I offers a broad overview of thinking, including its role in problem-solving and its relation to learning, intelligence, creativity, and logic. Part II deals with the formation of beliefs and the making of judgments. Part III concerns decisions, morality, intertemporal choice, and the choice of goals. Part IV attempts to draw out the lessons of the rest of the book for classroom teachers in particular.

Students of psychology and education, as well as all those disturbed by the irrationality of the individuals and groups, who seek to understand human cognitive limitations and potentials, will find *Thinking and Deciding* an illuminating book.

1988 512 pages 33 tables 37 line diagrams
Cloth 34253-8 \$54.50 Paper 34800-5 \$22.95

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1. Introduction: What is Thinking?
 2. Models and Methods in the Study of Thinking
 3. Good Thinking: The Nature of Rationality
 4. Problem Solving
 5. Learning and Understanding
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 8. Formal Logic
 9. Logic and Everyday Reasoning
- Part II Judgment and Belief
10. Quantitative Judgment and Classification
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16. Normative Theory of Utility and Choice
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 18. Moral Thinking
 19. Social Dilemmas: Cooperation vs. Defection
 20. The Future
- Part IV Teaching
21. The Teaching of Thinking and Decision Making

THE MORAL DIMENSION: TOWARD A NEW ECONOMICS

Is society essentially a marketplace in which self-serving individuals seek little more than to advance their personal gain in competition with one another? In this provocative new work, Amitai Etzioni, one of the country's leading social thinkers, questions the standard rationalist model at the root of economics, much of the work in other social sciences, and laissez-faire conservatism. He highlights the actual relationship between economic markets and human behavior, between free individuals and the community, between an 'efficient and innovative economy and a moral society.

In a timely work of far-reaching implications, Etzioni presents a bold new vision of the social sciences, blending elements of psychology, philosophy, and sociology with economics. Etzioni's synthetic "I&We" paradigm anchors the self-interested "I" within a broader social collectivity, "We," whose values and bonds are critical to understanding a wide variety of behaviors. In the process, hedonistic utilitarianism is replaced by a Kantian ethic, providing a new moral basis for the social sciences, political beliefs, and public policies that draw upon them.

Etzioni probes the dual sources of human action: the pursuit of one's urges and pleasures -- and moral and social commitments. Using the relevant literature, he demonstrates how our broader moral concerns are evident in most areas of economic behavior, from the stigma of being in debt that spurs us to save money, to our expectations that tax burdens will be fairly distributed which prompts us to pay our share, to our mutual trust as workers and managers essential for the conduct of labor relations and negotiation. And, in arguing that the individual typically makes decisions as a consumer, manager, and citizen largely on the basis of emotions and values, he offers a new model of decision making. Finally, he shows that there are no transactions among equals; power affects all relations, among corporations, trading nations, and individuals. The book closes with a detailed propositional inventory of the new socio-economic theory.

Etzioni does not advocate abandoning neoclassical economics. Rather, he establishes the necessity of including social considerations in its pursuit, and provides the framework for the integration of economics into a more comprehensive, ethical, and realistic view of human relations and society.

ORDER YOUR COPY TODAY -----

Please send me _____ copy(ies) of: THE MORAL DIMENSION (1988, 352 pages, ISBN: 0-02-909900-5). Enclosed is my check or money order for \$24.95 per book. Complete this form and mail to:
The Free Press, Attn: Dino Battista, 866 Third Avenue, New York, N.Y. 10022. For Visa or Master Card orders, call toll-free 1-800-323-7445 between the hours of 9am and 5:30 pm Eastern time.

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Call for Papers

Organization Science

An International Journal of
The Institute of Management Sciences

ORGANIZATION SCIENCE, a new international journal published by The Institute of Management Sciences, invites authors to submit for review original manuscripts that report empirical or theoretical research about organizations.

ORGANIZATION SCIENCE, a multidisciplinary journal, is dedicated to the advancement of knowledge about organizations. The term "Science" in the journal's title is interpreted in the broadest possible sense. The goal of the journal is to publish under one umbrella research relevant to organizations from fields such as organization theory, strategic management, sociology, economics, political science, history, systems theory, and psychology.

Authors are encouraged to think creatively about manuscript possibilities.

ORGANIZATION SCIENCE seeks manuscripts that:

- attempt to shut down, start up, or redirect a line of inquiry
- report studies of organizational processes—such as decision making, change, politics, information processing, strategy implementation, culture—that often require multiple levels of analysis and qualitative research methods
- draw upon multiple disciplines or span multiple levels of analysis
- focus on all organizations, whether educational, health care, or voluntary, and the role of these organizations in society
- are in the form of theoretical or critical essays.

To ensure fair evaluation of manuscripts, authors are requested, when submitting manuscripts, to provide names and addresses of four experts who could serve as reviewers. Five copies of the manuscript should be sent directly to one of the editors-in-chief:

Prof. Richard L. Daft
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(409) 845-3134

Prof. Arie Y. Lewin
Duke University
The Fuqua School of Business
Durham, NC 27706
(919) 684-5383

Publication is scheduled to begin in 1989.

231/44

Judgment and Decision Making, Social Psychology, Cognitive Science, Mathematical Psychology, Statistical Psychology, Medical Diagnosis, Behavioral Accounting, Education, Public Policy

Human Judgment

The SJT View

edited by B. Brehmer, Department of Psychology, Uppsala University, Sweden, and C.R.B. Joyce, Department of Psychiatry, University of Berne, Switzerland

(Advances in Psychology, 54)

1988 viii + 522 pages
Price: US \$126.25 / Dfl. 240.00
ISBN 0-444-70481-7

APPROXIMATE MONTH OF PUBLICATION: AUGUST

There are four basic goals for research in SJT (Social Judgment Theory):

- to analyze judgment tasks and judgmental processes;
- to analyze the relations between judgmental systems (i.e. to analyze agreement and its structure), and between tasks and judgmental systems (i.e. to analyze achievement and its structure);
- to understand how relations between judgmental systems and between judgmental systems and tasks come to be whatever they are (i.e. to understand processes of communication and learning and their effects upon achievement and agreement);
- to find means of improving the relation between judgmental systems (improving agreement) and between judgmental systems and tasks (improving achievement).



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CALL FOR PAPERS

1989 IEEE INTERNATIONAL CONFERENCE ON SYSTEMS,
MAN, AND CYBERNETICS

14-17 NOVEMBER 1989 • THE HYATT REGENCY HOTEL • CAMBRIDGE • MASSACHUSETTS

The 1989 IEEE International Conference on Systems, Man, and Cybernetics, with Joseph G. Wohl as the Conference Chair, will be held 14-17 November 1989 at the Hyatt Regency Hotel in Cambridge, MA. Located near M.I.T., on the banks of the Charles River, the Hyatt is one of the most impressive hotels in the Boston-Cambridge area, and provides an excellent setting for informal discussions and technical exchange. The conference program will include both contributed and invited sessions, as well as tutorial and state-of-the-art presentations and workshops in those areas of interest to the IEEE SMC Society. These include, but are not limited to: Behavioral Decisionmaking, Information and Decision Systems, Command and Control Systems, Knowledge-Based Systems, Manufacturing Systems, Robotics, Pattern Recognition and Image Processing, Neural Systems, Manual Control, Human-Computer Interaction, Systems Methodology, Design and Simulation.

Conference Theme

A conference theme, **Decisionmaking in Large Scale Systems**, has been selected to reflect the increasing interest and importance of this topic in our evolving, ever more complex, computer-oriented society. Presentations dealing with theory, analysis, design, and simulation techniques for application to Decisionmaking in Large Scale Systems are especially encouraged. Plenary and technical sessions will emphasize this year's theme.

Call for Contributed Papers

The Program Committee solicits papers for presentation at the conference. Two types of presentations are sought: (a) regular papers that describe completed work in some detail, and (b) short papers that describe ongoing work or preliminary results. For a regular paper, five (5) copies of the complete manuscript need to be submitted. For a short paper, four (4) copies of an extended (700 word, or 2-3 page) summary is required.

To assure a high-quality conference, all papers will be reviewed for technical merit and content. Regular papers that receive outstanding reviews will be solicited for publication in the *IEEE Transactions on Systems, Man, and Cybernetics*. All papers accepted for presentation will appear in the Conference Proceedings. Six pages will be allocated for regular papers and two pages for short papers. There will be a page charge for papers that exceed these lengths.

All submitted papers must include a cover page that contains the paper title and the names, affiliations and complete mailing addresses of all authors. The first named author will be used for all correspondence unless otherwise stated. Submissions must be made by 15 February 1989 to:

David L. Kleinman, Program Chairman
Department of Electrical and Systems Engineering
Box U-157
The University of Connecticut
Storrs, CT 06268 USA

(203)-486-3066

Authors will be notified regarding acceptance of their papers by 1 July 1989. Authors of accepted papers will be provided instructions for the preparation of the final manuscript and the presentation guidelines. The due date for the papers on mats will be 25 August 1989. It is expected that authors of accepted papers will attend the Conference to present their work.

Call for Invited Sessions

Invited sessions are solicited in the areas of interest relevant to this Conference. Prospective organizers must submit a proposal, including the title of the session, summary of the session, and a list of authors with paper titles by 15 March 1989 to:

Krishna Pattipati, Program Vice-Chairman for Invited Sessions
Department of Electrical and Systems Engineering
Box U-157
The University of Connecticut
Storrs, CT 06268 USA

(203)-486-2890

Tutorial and perspective papers are highly encouraged for such sessions. Case studies could form the basis of invited sessions. Session organizers will be informed of the acceptance of their session by 1 July 1989. In some cases additional information may be required before a final decision is made.

SMC Conference Workshops

The organizing committee intends to arrange for workshops to be held in conjunction with the Conference. Tuesday, 14 November is the date set aside for such workshops. Potential organizers should contact the SMC Conference Coordinator: Daniel Serfaty, ALPHATECH, Inc., 111 Middlesex Tpk, Burlington, MA 01803 (617-273-3388).

Schedule Summary

15 February 1989 Deadline for contributed papers
15 March 1989 Deadline for invited session proposals
01 July 1989 Announcement of final selection of papers
25 August 1989 Deadline for typed mats for Proceedings

**12th RESEARCH CONFERENCE
ON SUBJECTIVE PROBABILITY, UTILITY AND DECISION MAKING**

Second Announcement and Call for Papers

SPUDM12, the twelfth biennial European Conference on Subjective Probability, Utility and Decision Making, is to be held at Lomonosov University, Moscow, USSR, from 21-25 August 1989. Major papers will include presentations by Regine May, Amos Tversky, and Willem Wagenaar. In addition, workshops are to be held on the following topics:

WORKSHOP	ORGANISERS
<i>Institutional Management of Risk</i>	Baruch Fischhoff
<i>Modelling Knowledge for Intelligent Decision Support</i>	Patrick Humphreys and Helen Moshkovich
<i>Process Tracing and Process Models</i>	Ola Svenson
<i>Group Decision Support</i>	John Warfield
<i>Structuring Decision Analysis: Statistical and Psychological Considerations</i>	Peter Politser

The Organising Committee invites you to submit a paper for consideration for presentation at the Conference. Abstracts should be on one page only, double spaced, and sent to:

Professor Katrin Borcharding
Institute for Psychology
Steubenplatz 12
D-6100 DARMSTADT
West Germany

and should reach her by February 28, 1989. The Organising Committee will meet in April 1989 and decisions on submitted papers will be transmitted in early May 1989.

The travel and accommodation arrangements are being made in collaboration with INTOURIST and it is expected that it will be necessary to purchase a specific package, constructed for SPUDM12 from INTOURIST and through travel agents. We hope to be able to offer a variety of INTOURIST vacation packages in association with SPUDM12. Details of the procedures will be given in subsequent bulletins. In order to help you with your planning, however, we can indicate that in addition to air transport to Moscow, the cost will be approximately £150/\$250 for full board and lodging for the five days of the conference, and a further £80/\$135 for the conference fee.

Call for Papers:
**The Fifth Workshop on
 Uncertainty in
 Artificial Intelligence**

**Windsor, Ontario, Canada.
 August 18th to 20th, 1989**
 preceding IJCAI in neighbouring Detroit,
 Michigan, USA.

This workshop is concerned with the full gamut of approaches to automated and interactive reasoning and decision making under uncertainty, including both quantitative and symbolic methods. We invite original contributions on fundamental issues. We particularly welcome papers that demonstrate approaches with significant applications.

This year the theme of the workshop is:
The interaction between humans and automated systems for reasoning and decision making under uncertainty.
 Topics of particular interest include:

Encoding uncertain beliefs and preferences; tools and techniques for knowledge engineering and model structuring.

Integrating human expertise and automated knowledge acquisition and structuring.

Explanation and communication of uncertain reasoning.

Coping with vagueness, imprecision, and second order uncertainties.

Theoretical and experimental comparisons of the performance of alternative schemes.

Comparison of human cognitive processes and formal reasoning under uncertainty.

Comparison and integration of qualitative and quantitative schemes.

Control of uncertain reasoning, information seeking, and planning under uncertainty.

The key to the success of past workshops has been the ability to interact with leading researchers in all aspects of the field. There will be ample opportunity for informal discussions as well as panel discussions to focus and debate the issues.

All accepted papers will be included in the published proceedings, which will be available at the workshop. Papers may be accepted for presentation in plenary sessions or poster sessions. Papers will be carefully refereed. Preference will be given to papers that have demonstrated their approach in real applications, and which clearly present their theoretical basis to allow scientific discussion. Among papers of similar merit, preference will be given to papers that relate to this year's theme.

There will also be facilities to demonstrate software, either in small groups, or in presentations to plenary session. Those wishing to do the latter should submit a description, which will be refereed. Presentation technology should be indicated.

Four copies of a paper should be sent to the Program Chair by **March 31, 1989**. Acceptances will be sent by **May 25, 1989**. Final camera-ready papers incorporating reviewers comments will be due by **June 30th, 1988**. There will be an eight page limit on the camera ready copy (with a few extra pages available for a nominal fee.)

Program Chair:
 Max Henrion, UAIW89,
 Rockwell Science Center,
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 Palo Alto, Ca 94301.
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 Ross Shachter, Glenn Shafer, Lotfi Zadeh.