



THE NEWSLETTER

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1997 FRED ATTNEAVE MEMORIAL LECTURE

April 11, 1997, 3:30 P.M.
Williams Room
Hilton Hotel

Professor Daniel Kahneman
Department of Psychology
Princeton University

DECISIONS AND CONSEQUENCES

Dr. Daniel Kahneman, a world-renowned psychologist now in the Psychology Department at Princeton University, will be presenting the Attneave Lecture. The lecture will be presented April 11, 1997 at 3:30 in the Williams room of the Hilton Hotel.

The Attneave Lecture is dedicated to the memory of Dr. Fred Attneave, a former and long-time member of the University of Oregon's Psychology Department. Dr. Attneave was noted for his work on perception. Early in his career, he had notable influence on launching the study of information processing. He did important work on the problem of similarity scaling and made numerous contributions to such topics as form and depth perception, music, and imagery.

Dr. Kahneman, the invited lecturer, has a history of enormously creative theoretical and empirical contributions to decision making and attention. He is one of the foremost theorists in the world on these topics. In the decision area, he has contributed to such topics as prospect theory, framing conceptions of decision making, and decision heuristics. On the topic of attention he has made noted contributions to the modulating role of arousal in attentional capacity and to object file conceptions of attentional binding.

contd. on page 2

THE HILL CENTER FOR SOCIAL COGNITION AND DECISION MAKING NEW NAME, NEW FACULTY, NEW FACILITIES, AND INTERDISCIPLINARY INITIATIVES

Growing membership, new facilities, and numerous activities motivated last year's decision to rename the Institute's Social Cognition and Decision Making Program a "Center," now called the *Richard J. Hill Center for Social Cognition and Decision Making*.

New People and Research Seminar

The three faculty slots assigned to the Hill program at its inception were filled last year with the hiring of Holly

Arrow, Psychology, and Larry Sugiyama, Anthropology. They join Bertram Malle, Psychology, hired in 1994. These new faculty, as well as new members from Economics, Political Science and Sociology, have been active in the *Hill Center Research Seminar* that began last fall. Center members, graduate students, and guests have discussed work in progress on topics as diverse as the economic behavior of children, optimal foraging in the Amazon, the evolutionary function of depression, and feature matching effects in political preferences. The seminar serves as a forum to share ideas and develop collaborations across areas and disciplines. (If you would like to receive announcements for this seminar, send email to bfmalle@darkwing or harrow@darkwing.)

contd. on page 2

Attneave Memorial Lecture

contd. from page 1

From this work, Dr. Kahneman has received numerous distinguished awards. He is a Fellow of the American Academy of Arts and Sciences and a member of the Society of Experimental Psychologists. He has received the Distinguished Scientific Contribution Award of the American Psychological Society, the Warren Medal of the Society of Experimental Psychologists, and the Hilgard Award for Distinguished Contribution to General Psychology. In past years, he has been invited to provide distinguished lectures, such as the Fitts Lectures and the Bartlett Lecture. Currently he is the Eugene Higgins Professor of Psychology at Princeton University.

We are extremely pleased to have Dr. Kahneman return to Eugene, a place where he had spent some time early in his career, to help us honor Fred Attneave in the Ninth annual Attneave Lecture.

Hill Center

contd. from page 1

New Facilities

The remodeling of the laboratory and office suite in the southwest of Straub Hall (rooms 171-178), completed last fall, has given the seminar a comfortable location in which to meet. The physical Hill Center now houses two offices, three small lab rooms, one large, dividable group lab room, and a control room for computerized audio-visual experiments in interpersonal cognition, a central research theme among Hill Center members. The space is being used for running experiments and for research project meetings. The offices are used by Hill Center members and by guests such as Michael Corballis, Nahoko Hayashi, and Catrin Rode.

A grant proposal is under review at NSF that requests funding for wireless recording equipment in

this new laboratory, allowing dynamic on-line recording of interpersonal cognition and behavior, synchronized with traditional audio-visual records. Nonobtrusive "personal information devices" (e.g., hand-held mini-computers) can be used by participants to record thoughts, emotions, judgments, and decisions that occur during social interactions among dyads and groups. Start-up funds for new Hill Center faculty Arrow and Sugiyama are also being used to acquire video equipment for the Hill Center laboratory.

Interdisciplinary Initiatives and Upcoming Events

An emerging paradigm for studying group behavior, the social poker paradigm, is currently being pretested by Holly Arrow, John Orbell, and graduate students Ruth Bennett (Psychology) and Scott Crosson (Political Science). If the equipment grant is funded, the social poker project will make use of the new equipment to study the cognitive and interpersonal processes that underlie small group formation as they unfold, rather than relying on the retrospective accounts of participants and the laborious coding of videotapes to reconstruct temporal sequence.

In another collaboration, Bertram Malle from the Hill Center Social Cognition/Decision Making group and Dare Baldwin and Lou Moses from the Language and Culture group of the Institute are jointly planning an interdisciplinary conference on Intentionality, to be held in the spring of 1998. Look for more information on this conference in the next newsletter.

The Hill Center is also co-sponsoring the upcoming visit of social psychologist Daniel Wegner, Center of Advanced Studies in the Behavioral Sciences and University of Virginia. Wegner will be here Monday March 31, giving talks at noon (Straub 156) and at 3:30 p.m. (Straub 146).

Some recent publications by Hill Center members

- Arrow, H. (1997). Stability, bistability, and instability in small group influence patterns. *Journal of Personality and Social Psychology*, 72, 75-85.
- Harbaugh, W. T. (1996). If People Vote Because They Like to, Then Why Do They Lie About It? *Public Choice*, 89, 63-70.
- Hodges, S. D. (in press). When matching up features messes up decisions: The role of feature matching in successive choices. *Journal of Personality and Social Psychology*.
- Malle, B. F., & Knobe, J. (1997a). The folk concept of intentionality. *Journal of Experimental Social Psychology*, 33, 101-121.
- Malle, B. F., & Knobe, J. (1997b). Which behaviors do people explain? A basic actor-observer asymmetry. *Journal of Personality and Social Psychology*, 72, 288-304.
- Orbell, J. & Dawes, R. (1993). Social welfare, cooperators' advantage, and the option of not playing the game. *American Sociological Review*, 58, 787-80.
- Orbell, J., Zeng, L., & Mulford, M. (1996). Individual experience and the fragmentation of societies. *American Sociological Review*, 61, 1018-1032.
- Rothbart, M., Davis-Stitt, C., & Hill, J. (1997). Effects of arbitrarily placed category boundaries on similarity judgments. *Journal of Experimental Social Psychology*, 33, 122-145.
- Slovic, P. & Monahan, J. (1995). Probability, danger, and coercions. A study of risk perception and decision making in mental health law. *Law and Human Behavior*, 19, 49-65.



**National Academy of Sciences Colloquium
NEUROIMAGING OF BRAIN FUNCTION
Beckman Center of the National Academies at Irvine
May 29 - May 31, 1997**

Topics include:

- * Background of Brain Mapping
- * Brain Plasticity
- * Memory
- * Brain Mechanisms in Vision
- * Language
- * Future Imaging Developments

Participants:

- * Randy Buckner
- * Martha Farah
- * Richard Frackowiak
- * Karl Friston
- * Avi Karni
- * Helen Neville
- * Michael Posner
- * Gregg Recanzone
- * Terry Sejnowski
- * Charles Springer
- * Endel Tulving
- * David Van Essen
- * Maurizio Corbetta
- * Julie Fiez
- * Scott Fraser
- * Steve Hillyard
- * Steve Luck
- * Steve Petersen
- * Marcus Raichle
- * Bruce Rosen
- * Ed Smith
- * Roger Tootell
- * Leslie Ungerleider
- * Thomas Woolsey

- * **Colloquium organizers:** *Michael Posner & Marcus Raichle

General registration fee is \$150 (made out to the National Academy of Sciences) and includes breakfasts, lunches & breaks. Registration fee for graduate students is \$50.

For additional information or registration forms, contact Michael Posner at (541) 346-4939 or e-mail (mposner@oregon.uoregon.edu).

**SCHOLARS IN
COGNITIVE SCIENCE**

For those students interested in becoming involved in cognitive science, but without much background we have designed starting Fall 1997, a year-long introduction to current cognitive research.

Students sign up for 1 credit hour of Psychology 401 (CRN 15694 Fall, 1997) each term. They attend the Cognitive Science Colloquium, Mondays at 3:30 p.m. each week. They also attend a special one hour introductory presentation 2:30-3:20 each Monday. During the introduction they learn about the general area of the research to be presented the following week and are given some guidance to relevant literature. In the winter and spring term some of the introductory presentations will be given by students in the course after consultation with the course instructor. The instructor for this special 1 hour course will be Michael Posner, current Head of Psychology and former Director of the Institute. This will be a relatively easy way for students to be involved in up to date cognitive research without a large time commitment.

SEMINARS

**PHIL 607: Philosophy and
Cognitive Science
UH 11-12:20
Instructor: Mark Johnson**

The central issue in this seminar is: How would it change philosophy if we began to take seriously recent work in cognitive science about the embodied and imaginative character of human conceptualization and reasoning. We will survey a number of empirical studies that are giving us a new view of human cognition recently. This will include research on basic-level categorization, cognitive pro

contd. on page 4



Seminars

contd. from page 3

totypes, conceptual metaphor, images, image schemas, and radial categories. We will then apply the results of these studies to the analysis of several central philosophical concepts, such as causation, time, the self, mind, morality, and knowledge. These tools can also be used to analyze how philosophical theories hang together and what makes them work the way they do. We will end by asking how philosophy needs to rethink its own nature in light of what we are learning about how the mind works. There are implications for linguistics, philosophy of language, metaphysics, epistemology, ethics, aesthetics, and social and political philosophy,

Memory and the Prefrontal Cortex

WED, April 2, 1997

2:00-4:30 p.m., 156 Straub

Instructor: Michael Anderson

This is a seminar on the role of the prefrontal cortex in memory. The last 10-15 years has witnessed an increasing emphasis on the contributions that the prefrontal cortex makes to both short-term and long-term memory processes. Data from a variety of sources including neuroimaging, neuropsychology, and animal experimentation has converged on the importance of this area to control processes subserving working memory, as well as retrieval from long-term episodic and semantic memory. The aim of this course will be to discuss the major theoretical perspectives on frontal function in relation to both classic and (very) current data from all of the above mentioned sources. Emphasis will be placed on how these rich sources of data might inform our functional theories of memory and executive control. Topics to be covered will include the specific roles of the prefrontal cortex in spatial, object, and verbal working memory, contributions of the left and right pfc to semantic and episodic memory retrieval respectively, potential relations between the development (in childhood and in old age) of the prefrontal cortex and memory functions, and how general inhibitory control functions of the pfc might be important in the context of using memory.

A more complete description of the seminar and a reading list will be provided during the first meeting. The first class will be held in 156 Straub on Wednesday from 2-4:30, the first week of classes.

Psych. 607 Theory of Mind

Spring 1997

Thursday, 10:00- 11:50, Straub 156

Instructors: Dr. Lou Moses and Dr. Marjorie Taylor

In Spring term Marjorie Taylor and Lou Moses

will be giving a seminar on children's theory of mind. Topics to be covered include the origins of theory of mind in infancy, theoretical approaches to theory of mind ("theory theory", executive functioning, simulation, etc.), the brain basis of theory of mind, individual differences in theory of mind, and the relationship of theory of mind to language, psychopathology, evolution, and culture. A fuller description of the seminar and a preliminary version of the reading list can be found on the web (<http://darkwing.uoregon.edu/~moses/607.htm>).

The first class meeting will be held in 156 Straub on Thursday, April 10th from 10:00 to 11:50 a.m. Anyone interested in taking the seminar should talk to Marjorie or Lou before Wednesday, April 2nd regarding the readings for the first meeting.

SUBMITTING TO THE NEWSLETTER

When preparing an article for submission to The Newsletter that is more than a page long, please include your disk. It is possible to transfer both IBM and Apple data onto the Macintosh. Formatting suggestions (to save time after transferring, as well as to assure the formatting that you want): IBM — save in or convert to DCA format if possible, otherwise save as text or ASCII; Apple—Appleworks Word Processor files; and of course, Macintosh (Microsoft Word, Microsoft Works or MacWrite) can be accepted. For any questions on formatting, consult your reference manuals. Also, be sure to include the name of the relevant document(s) on the disk. You can give these disks either to that month's feature editor, or directly to Vonda at the institute. It will be returned as soon as it's been transferred, which, in some cases, can be a matter of only minutes.

THE NEWSLETTER

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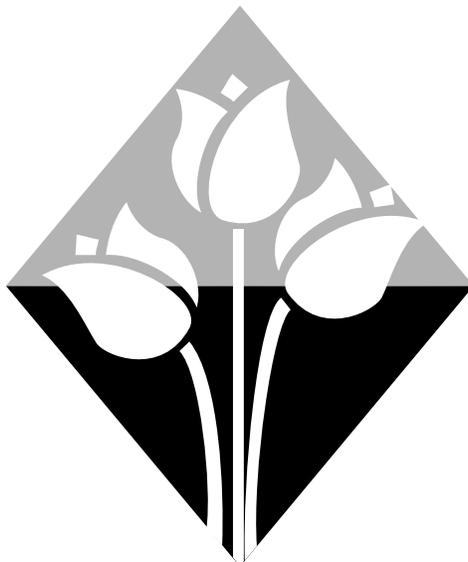




SPRING COLLOQUIUM SCHEDULE

During the spring term the following people are scheduled to give talks at the Institute's weekly Colloquium Series. They are held in room 156, Straub Hall, 3:30 pm. Be sure to attend.

March 31	Daniel Wegner (Center for Advanced Studies in the Behavioral Sciences, Palo Alto) "Unconscious agency: Automatism and the loss of the feeling of doing"
April 7	John Orbell (Political Science, UO) and Jean Stockard (Sociology, UO) "Physical attractiveness, opportunity, and success in everyday exchange"
April 11	Attneave Lecture: Daniel Kahneman (Psychology Dept., Princeton University) "Decisions and consequences"
April 14	Valerie Stone (Institute of Cognitive Neuroscience, UC Davis) "The social brain: Orbital frontal cortex involvement in specialized mechanisms for social behavior"
April 21	Hans Lou (John F. Kennedy Institute, The Netherlands) "Brain imaging and attentional resources"
April 28	Doris Payne (Linguistics, UO) "Argument structure, sentence and discourse processing"
May 5	Bertram Malle (ICDS & Psychology, UO) "The negotiation of personality"
May 12	Mark Johnson (Philosophy, UO) and Nancy Tuana (Philosophy, UO) "Embodied cognition"
May 19	TBA
May 26	Memorial Day: No colloquium
June 2	Sally Douglas (ICDS and Computer Science, UO) "Whither cognitive science?"





**THE ASSOCIATION FOR THE SCIENTIFIC STUDY OF CONSCIOUSNESS
CALL FOR PAPER PRESENTERS FOR A CONFERENCE ON:
WHAT DOES IMPLICIT COGNITION TELL US ABOUT CONSCIOUSNESS?
CLAREMONT COLLEGES & CLAREMONT GRADUATE SCHOOL
JUNE 13-16, 1997: CLAREMONT, CALIFORNIA**

The first conference of the Association for the Scientific Study of Consciousness will be held at the Claremont Colleges, about an hour's drive from Los Angeles, over three days between the 13th and 16th of June, 1997. The organizing committee for the conference consists of:

William Banks (Pomona College), wbanks@pomona.edu, Thomas Metzinger (Universitat des Saarlandes) t.metzinger@rz.uni-sb.de, Patrick Wilken (Monash University) patrickw@cs.monash.edu.au

Currently scheduled speakers include Bernard Baars, Patricia Churchland, Alan Cowey, Owen Flanagan, John Gabrieli, Melvyn Goodale, Anthony Greenwald, Larry Jacoby, Christof Koch, Philip Merikle, David Milner and Daniel Schacter.

In addition, there will be workshops on a variety of topics relevant to the theme of the conference, and paper and poster sessions with time for discussion.

David Chalmers and Valerie Hardcastle are scheduled to moderate symposia at which they will also present.

THEME

The phenomena of implicit cognition — implicit memory, implicit learning, unconscious perception, blindsight, and so on — have attracted widespread attention in recent years. This is partly because of their intrinsic interest, and partly because the study of these processes holds great promise as an empirical method for investigating consciousness. But although research in these areas has proliferated, the connections between this research and issues about consciousness have not yet been fully articulated. What have we learned about the conscious mind from the study of implicit cognition?

This conference is intended to address this question, drawing systematic connections between implicit cognition and consciousness. We welcome both empirical contributions, using experimental research to help understand the nature of conscious and unconscious processes, and theoretical contributions that analyze or integrate existing work.

A non-exclusive list of the issues that will be explored include: implicit memory in normals and amnesics and its relation to consciousness; perception without awareness; blindsight; perception of unattended material; non-conscious thought; neural correlates of conscious and unconscious processes; criteria for the ascription of consciousness; the function of consciousness; and the capacities and limitations of unconscious processing. It is intended that these topics will be covered in an interdisciplinary manner and towards this end speakers are invited to discuss these issues from philosophical, psychological and/or physiological perspectives.

SUBMISSION OF PAPERS

ABSTRACTS OF PAPERS MUST BE RECEIVED BY APRIL 15TH 1997.

Papers will be accepted on the basis of their quality and suitability and not according to the author's affiliation with the association. Any person may present only one paper, but may be the co-author of others. Presentation time will be limited to 30 minutes, which includes a five minute discussion period. Sessions will be strictly timed. In addition to spoken papers there will be an opportunity to present posters during the conference.

COSTS	Early	Late
Members	\$110	\$160
Non-Members	\$140	\$190
Students	\$50	\$50
Student Members	\$30	\$30

The cutoff date for early registration is **May 1, 1997**.

Forms for submitting papers and posters, registering at the conference, and application for membership in the society are all available from the ASSC website <http://www.phil.vt.edu/ASSC/>. Please check this site for updates to program information. When the final schedule of talks and workshops is set, the program will be posted at this website.

If you have trouble accessing the site or require further assistance please contact Patrick Wilken (patrickw@cs.monash.edu.au).



DISSERTATIONS

Experience-Based Changes in Cortical Responses to Written Words

Bruce McCandliss

Reading is a learned ability with obvious importance to our society. Our ability to recognize written words has been investigated extensively in cognitive studies and by neuroimaging methods. These studies have identified distinct brain regions related to processing the orthography of visual word forms and accessing information associated with particular words. This thesis uses high density electrical recordings to examine the acquisition of word reading abilities in adults and children.

The first study examined changes in event related potentials (ERP) as undergraduates spent 50 hours learning to read words from a miniature artificial language (Keki). Keki words had English-like semantics but an orthography that differed somewhat from English. Behavioral results suggest that learning Keki words produces some of the same processing advantages that are present for English words. Early portions of the ERP (around 200 msec) were sensitive to differences in orthography between English, Keki and consonant strings, but these effects were uninfluenced by learning. Keki learning effects appeared in later portions of the ERP (around 300 msec), demonstrating Keki words came to be processed much like English words.

Two additional studies examined the development of orthographic and word specific learning in children. Ten year olds responded more accurately to familiar than unfamiliar words and their ERPs showed an early difference based on familiarity. For these children orthographic differences in ERPs were later than in adult subjects and showed a different scalp distribution. Seven year olds

showed no initial ERP differences due to word familiarity or orthography. However, training with phonics and look-say methods produced improvements in performance for trained words, and some late differences in ERPs. In addition, phonics training produced some late ERP differences that were not produced by look say training.

Taken as a whole these studies show the possibility of using high density ERPs to explore the details of the acquisition of word reading skills in both children and adults. Acquisition of the adult pattern of orthographic processing apparently occurs over a long period of reading experience.

Development of Executive Attention and Self-Regulation in the Third Year of Life

Gina Gerardi

Executive attention facilitates self-regulation in older children and adults, but its implications for toddlers have not been explored. These studies developed a new spatial conflict task to measure executive attention in two-year-olds. Results were subsequently compared to two measures of self-regulation: Temperament ratings provided by parents, and performance on tasks indexing inhibitory control.

Performance on the spatial conflict task changed dramatically over the third year. The youngest toddlers tended to perseverate on a single response and performed at chance accuracy. By 36 months, toddlers performed similarly to adults, albeit more slowly. Thirty-month-olds in study I were split into three groups: One performing at chance, another responding appropriately to identity, and a third responding inappropriately to location. Parent ratings of focused attention were significantly lower for the third group. A control condition added to study II gave toddlers additional practice, and perfor-

mance at 30 months improved. Study III used a longitudinal design, bringing back 24-month-olds from study II at 27 months. A small but distinct group of toddlers switched to a location strategy with the introduction of spatial conflict. Even when responding correctly to spatially incompatible trials, several location biased toddlers showed unusually long reaction time interference effects, suggesting that their responses were exceptionally effortful. Focused attention ratings did not differentiate this group from the 27 month sample as a whole. Future work is needed to determine if all toddlers can be induced to adopt a location strategy, or if only a select group are especially vulnerable to spatial conflict.

The spatial conflict task proved to be a reliable measure of executive attention in toddlers. Task measures were consistently correlated with parent ratings of effortful control at 30 and 36 months. Laboratory inhibitory control measures at 27 and 30 months were also consistent with performance. These findings argue that the development of executive attention has strong implications for self-regulatory competence. The also support the combined application of experimental and parent generated data in developmental research.





INSTITUTE TECHNICAL
REPORTS

- No. 96-1 "Recognition Memory and Modality Judgments: A Comparison of Retrieval Dynamics"
by **Douglas L. Hintzman and David A. Caulton**
- No. 96-2 "Conflict, Target Detection and Cognitive Control"
by **Michael I. Posner and Gregory J. DiGirolamo**
- No. 96-3 "The Time Course of Parietal Activation in Single-Digit Multiplication: Evidence from Event-Related Potentials"
by **Markus Kiefer and Stanislas Dehaene**
- No. 96-4 "Anatomy, Circuitry and Plasticity of Word Reading"
by **Michael I. Posner, Yalchin G. Abdullaev, Bruce D. McCandliss and Sara C. Sereno**
- No. 96-5 "Time Course of Activating Brain Areas in Generating Verbal Associations"
by **Yalchin G. Abdullaev and Michael I. Posner**
- No. 96-6 "Emotional Expectancy: Patterns of Brain Electrical Activity as Depressives Consider Life Events"
by **Phan Luu, Don M. Tucker and Lynn McDougal**
- No. 96-7 "Vertical Integration of Neurolinguistic Mechanisms"
by **Phan Luu and Don M. Tucker**
- No. 96-8 "Comparing Conditions for Learning Syntactic Patterns: Attentional, Nonattentional and Aware"
by **J. Schachter, P.L. Rounds, S. Wright and T. Smith**
- No. 96-9 "On the Role of Metaphors in Science: Metaphors of Attention in the History of Psychology"
by **Diego Fernandez-Duque and Mark L. Johnson**
- No. 96-10 "2-D Center-Surround Effects on 3-D Structure-From-Motion"
by **Margaret E. Sereno and Martin I. Sereno**
- No. 96-11 "Interaction Among Depth Cues in Structure-From-Motion"
by **Margaret E. Sereno and Martin I. Sereno**
- No. 96-12 "Sequential Representation and the Neural Basis of Motor Skills"
by **Steven W. Keele, Matthew Davidson and Amy Hayes**
- No. 97-1 "Toward a Functional Analysis of the Basal Ganglia"
by **Amy E. Hayes, Matthew C. Davidson, Steven W. Keele and Robert Rafal**
- No. 97-2 "Brain Mechanisms of Cognitive Skills"
by **Michael I. Posner, Gregory J. DiGirolamo and Diego Fernandez-Duque**