

SEP

SOCIETY OF EXPERIMENTAL PSYCHOLOGISTS

About SEP

The Society of Experimentalists (SEP) was founded by Edward Bradford Titchener in 1904. Titchener's design for his "Experimentalists" was that it be an ongoing workshop, with "members visiting labs, studying apparatus, and hearing and commenting on reports of ongoing research."

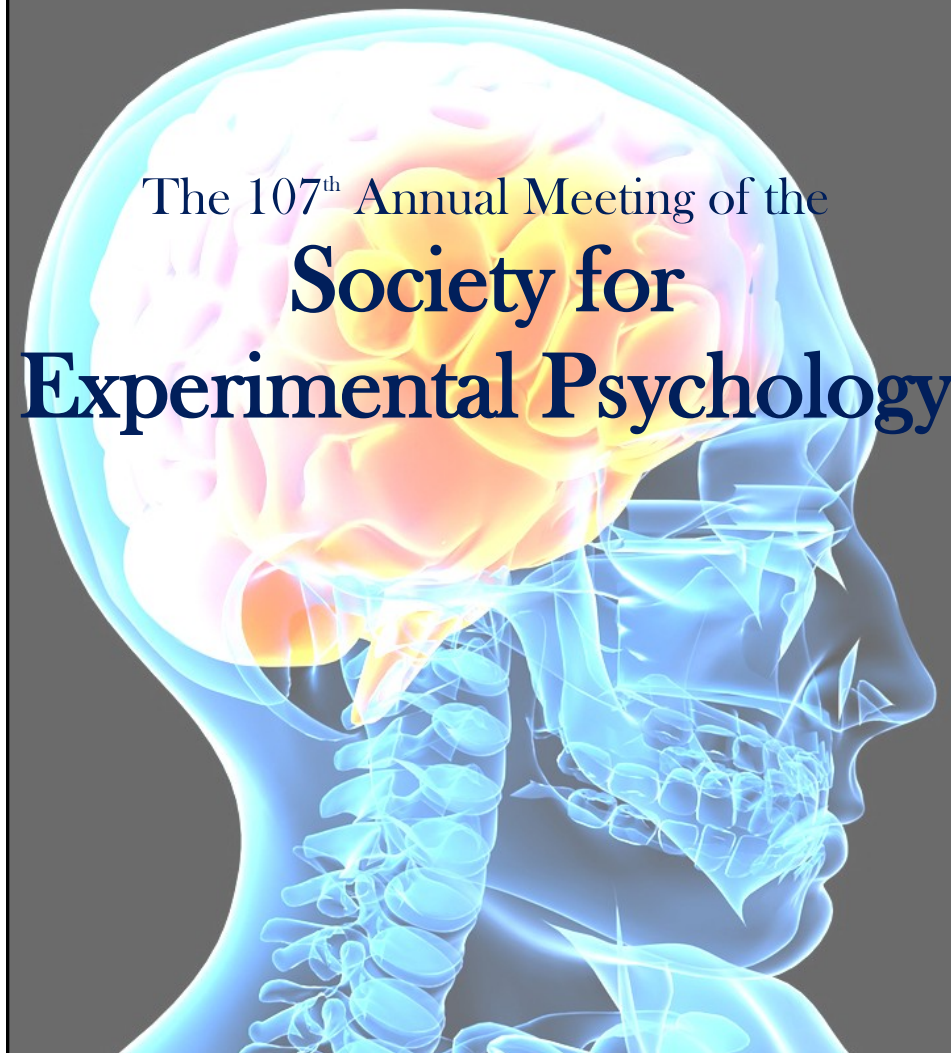
The Society has continued to meet annually in the years since, except for the war year 1918. Upon Titchener's death in 1927 the club was reorganized into The Society of Experimental Psychologists. The Society holds meetings every spring, scheduled by a member at the host university who serves as the chair of the Society for that year. The meetings are open to all members of the Society, and to students and faculty from the host university who are invited by the chair.

The meetings are plenary and involve papers from various members of the society. The society currently admits at least 6 new members annually from among the leading experimentalists in North America. It has a current membership of 220 individuals, about 5 - 10% of the practicing experimental psychologists. The object of the society is "To advance psychology by arranging informal conferences on experimental psychology."

This year's meeting is supported by the
Department of Psychology,
the Center for Positive Psychology,
the Provost and the School of Arts and Sciences,
all of the University of Pennsylvania.



POSITIVE PSYCHOLOGY CENTER



The 107th Annual Meeting of the Society for Experimental Psychology

April 29 - May 1, 2010

The Rittenhouse Hotel
210 West Rittenhouse Square
Philadelphia, PA

SEP

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AGENDA

Thursday, April 29

6:00 - 9:00 Reception -

Friday, April 30

All of Fridays sessions are located in the Grand Ballroom

7:00 - 9:00 Registration

8:00 - 9:00 Breakfast

9:00 - 9:20 Welcome

9:20 - 9:40 **Morris Moscovitch**, *Episodic memory and the hippocampus: What function(s) do they serve?*

9:40 - 10:00 **Adele Diamond**, *Coming Full Circle from the Social end of Psychology, to the Neuroscience End, and Back Again*

10:00 - 10:20 **Jonathan Baron**, *Looking at Individual Subjects in Research on Judgment and Decision Making (or Anything)*

10:20 - 10:40 Break

10:40 - 11:00 **Tom Griffiths**, *Using Probabilistic Models of Cognition to Identify Inductive Biases*

11:00 - 11:20 **Judith Kroll**, *What Bilinguals Tell Us About Language and the Mind*

11:20 - 11:40 **Tony Wright**, *Change Detection for Testing Animal Memory*

11:40 - 1:20 Lunch

1:20 - 1:40 **Nora Newcombe**, *Spatial Navigation and Episodic Memory-- Clues to Linkage from Early Development?*

1:40 - 2:00 **Barbara Knowlton**, *Pattern Separation in Human Hippocampal Neurons*

2:00 - 2:20 **Rich Shiffrin**, *The Role of Experience in Building Knowledge and Memory Retrieval*

2:20 - 2:40 **David Rosenbaum**, *Going "Au Naturel"*

2:40 - 3:00 Break

3:00 - 3:20 **Jim Townsend**, *Strong Evidence for Word Superiority in Response Times*

3:20 - 3:40 **Lynn Nadel**, *Assessing Cognitive Function in Down Syndrome*

3:40 - 4:00 **Tony Greenwald**, *Unconscious Classical Conditioning*

4:00 - 4:20 **Michael Turvey**, *Place Learning by Mechanical Contact*

Continued on the next page

NOTES

Tony Wright, *Change Detection for Testing Animal Memory*

Change detection is a popular procedure to study human short-term memory. Although change detection should be eminently suitable for animal memory testing, no one previously had attempted to study animal short-term memory using change detection. Pigeons and monkeys were trained in a change-detection procedure to detect which of two colored circles in a test display had changed color relative to a prior sample display. The animals learned the change-detection task and were tested for transfer with a variety of novel stimuli. Their learning rates and degree of transfer (i.e., generic change learning) depended upon the initial training procedures and how they learned the task (i.e., learning strategy).

NOTES

AGENDA

Friday continued

4:20 - 4:40

Lynn Hasher, *Memory for Distraction: The (dis)Advantage of Old Age?*

4:40 - 5:00

Group Photo

Saturday, May 1

Saturday's general sessions are located in the Grand Ballroom

8:00 - 9:00

Breakfast

9:00 - 9:20

Russell Church, *Some Applications of Temporal Beacons*

9:20 - 9:40

Gus Craik, *Bilingualism as a Contributor to 'Cognitive Reserve'*

9:40 - 10:00

Robert Nosofky, *Logical-Rule Models of Classification Response Times*

10:00 - 10:20

Howard Rachlin, *Why choose Y? Three reasons*

10:20 - 10:40

Break

10:40 - 11:00

Howard Egeth, *The Role of Ignoring in Visual Search*

11:00 - 11:20

Stephen Grossberg, *Modeling the Hippocampus as a Cognitive Map*

11:20 - 11:40

Ralph Miller, *Causal Learning in Rats*

11:40 - 1:20

Lunch

1:20 - 1:40

Nelson Cowan, *Attention as Inclusion and Attention as Exclusion: Evidence from Child Development*

1:40 - 2:00

Mary Peterson, *Effects of Familiar Configuration on Shape Perception is Impaired in Medial Temporal Lobe Amnesia*

2:00 - 2:20

Ben Murdock, *The Terrace Continuous Chaining Paradigm*

2:20 - 2:40

Michael Kahana, *A Neural Signature of Mental Time Travel*

2:40 - 3:00

Break

3:00 - 3:20

Earl Hunt, *Generalizing from Non-Random Samples*

3:20 - 3:40

Randi Martin, *Retrieval and Interference in Working Memory During Sentence Comprehension*

3:40 - 4:00

Carolyn Rovee-Collier, *Saying "Goodbye Early Implicit Memory System" and "Hello Early Period of Exuberant Learning"*

4:10 - 4:45

Business Meeting

The Banquet will be held in the Parkview Suite

6:30 - 10:00

Reception, Dinner, Awards

ABSTRACTS

Abstracts are in alphabetical order by speaker's last name.

Jonathan Baron, *Looking at Individual Subjects in Research on Judgment and Decision Making (or Anything)*

Many questions in judgment and decision-making research, and, indeed, in experimental psychology generally, concern the existence of effects, and the explanation of effects shown to exist. These questions do not concern the prevalence of effects in any particular population. It is thus appropriate to look for effects in single subjects. If one person shows the effect, then it exists. This argument implies that it is sometimes appropriate to test effects across cases or rounds, without testing across subjects. It also implies that, in some experiments, effects in opposite directions may exist. I recommend looking for such effects by carrying out statistical tests on individual subjects. I describe a few methods, varying in formality, that can be used to deal with the inevitable problem of doing multiple tests of the same hypothesis: probability-probability plots; tests of the distribution of p-values; and correction for multiple testing with step-down resampling. I also present a few examples, some of which show effects in both directions and some of which do not.

Russell Church, *Some Applications of Temporal Beacons*

Many animal learning tasks may be described as consisting of one or more types of cycles (aka trials) that may be repeated. Time markers may be located at any phase of a cycle. For example, in an interval schedule of reinforcement, a brief auditory stimulus may be presented at the time that the next reinforcer is available. Such a time marker would serve as a beacon. The influences of temporal beacons on behavior are best understood as special cases of simultaneous temporal processing. Some experiments with rats working on interval schedules of reinforcement will illustrate the use of temporal beacons to understand a fundamental difference between classical and instrumental conditioning, to determine conditions under which stimuli affect response pattern or rate, and to serve as a treatment for hyperactive SHR rats.

Nelson Cowan, *Attention as Inclusion and Attention as Exclusion: Evidence from Child Development*

Attention can vary according to how much information can be included in its focus concurrently. Also, though, attention can vary according to how efficiently irrelevant information can be excluded from its focus. In two developmental studies of memory for visual arrays, we have varied the relative amount of attention to two types of colored objects in the arrays (circles and triangles) and have examined the effect of this attention manipulation on both the amount included and the efficiency of exclusion. We conclude that the more important developmental change is an increase in the amount that can be included in the focus of attention. The efficiency of excluding irrelevant information may be affected by how much information has to be included, compared to the participant's capacity.

Gus Craik, *Bilingualism as a Contributor to 'Cognitive Reserve'*

The notions of 'brain reserve' and 'cognitive reserve' have received increasing attention over the last 10 years or so. Both terms refer to the 'protective' effect afforded by a wide variety of physical, intellectual and social activities against the onset of dementia. In the present paper I will describe some of the work done collaboratively with colleagues in Toronto on the effects of lifelong bilingualism on aspects of age-related cognitive decline and on the onset of Alzheimer's disease (AD). Two findings of note are first that bilingualism is apparently associated with a 4-year delay in the onset of AD symptoms, and second that a sample of bilingual AD patients showed substantially more atrophy in medial-temporal brain regions than did their monolingual counterparts, despite the fact that the groups were matched on levels of cognitive impairment.

David Rosenbaum, *Going "Au Naturel"*

Experimental psychologists do psychology experiments. However, another source of information about the mind and behavior is naturalistic observation. I will argue that we might rely on this source of information more than we do. I will illustrate the value of naturalistic observation by describing four phenomena I have uncovered by going "au naturel."

Carolyn Rovee-Collier, *Saying "Goodbye Early Implicit Memory System" and "Hello Early Period of Exuberant Learning"*

For more than a quarter-century, research on memory development has been driven by the popular assumption that two distinct memory systems mature at different rates during the first year of life. The primitive, implicit memory system processes only memories of simple learned procedures and perceptual-motor skills during the first 9 months of life, when the higher-level, explicit memory system matures and processes memories of relational and contextual information, associations, and specific episodes. Evidence will be presented from tasks that include a transfer component that disputes the existence of an early-developing, implicit memory system and documents that the first 9 months of life actually is a period of rapid and exuberant learning.

Rich Shiffrin, *The Role of Experience in Building Knowledge and Memory Retrieval*

We trained Chinese characters for several weeks, characters differing geometrically in amount of training, in two tasks with two different groups: 1) Visual Search (which caused higher frequency characters to become more similar to each other) and 2) Character Matching (which did not change the similarity of characters to each other as a function of training frequency). Subsequent to training we transferred to three tasks: Episodic Recognition Memory, Pseudo-lexical Decision, and Perceptual Identification. Frequency effects were observed for all tasks in both studies. Frequency effects could be explained by the similarity differences induced by visual search in Experiment 1. However, the elimination of context in Experiment 2 called for an extended model that included a role for 'pure' frequency. The model is called SARKAE (Storing and Retrieving Knowledge and Events). The SARKAE model for episodic recognition memory included confusions caused both by event traces of characters on the study list and event traces of characters that occurred in the most recent training sessions. Confirming the SARKAE predictions and the role of context, testing after a six week delay showed unchanged frequency effects for pseudo-lexical decisions, but greatly reduced frequency effects for episodic recognition.

Jim Townsend, *Strong Evidence for Word Superiority in Response Times*

Despite the robustness of the word and pseudo-word superiority effects, a comparable effect using response times (and controlling for decisional information due to context) has been elusive. Even in the accuracy domain, some researchers continue to question whether there is a perceptual advantage due to word context. Our recent experiments using RTs as a dependent variable and our measure of workload capacity, $C(t)$, provide decisive evidence of word superiority in processing speeds even at very high accuracy levels for six out of seven observers, tested for long periods. These results indicate RTs, with the appropriate methodologies, can be an effective and sensitive tool for the study of higher-order perceptual phenomena.

Michael Turvey, *Place Learning by Mechanical Contact*

For some animals (e.g., the night-active wandering spider) the encounters with the habitat that result in place learning are predominantly mechanical. Perhaps place learning limited to mechanical contact, like place learning in general, entails vectors tied to individual landmarks and relations among landmarks. Minimal environments were constructed for blindfolded human participants. Landmarks were raised steps. 'Home' was a mechanically indistinct location. Travel was linear. The mechanical contacts were those of walking, stepping, and probing with a soft-tipped cane. Home-orienting activities preceded tests of finding home from a given location with landmarks unchanged or (unknown to participants) shifted. Evidence from three experiments suggests that for humans (and, perhaps, for wandering spiders), mechanical contact suffices to reveal the vectors and relations specifying places.

Lynn Nadel, *Assessing Cognitive Function in Down Syndrome*

Individuals with Down syndrome show cognitive impairments that are not uniform across all domains. Particular problems arise with tasks dependent on the prefrontal cortex, hippocampus and cerebellum. To facilitate the evaluation of clinical treatments and early stimulation programs we have developed a cognitive test battery for Down syndrome focused on these three brain systems. I will discuss the make-up of this battery, and initial results in using it across the age range, at multiple sites, and as a way of assessing the impact of sleep disorders and particular genetic backgrounds on individual variability in Down syndrome.

Nora Newcombe, *Spatial Navigation and Episodic Memory--Clues to Linkage from Early Development?*

Many researchers, for example, Tulving in his proposals about "mental time travel", have linked spatial and episodic memory. In this paper, I will present data suggesting that the onset of both place learning and episodic memory occurs at about the age of 2 years. These 2 lines of research are individually interesting, and each claim about age at onset is somewhat controversial. Additionally, however, the convergence in age at onset may (or may not) be a coincidence. I will discuss all these issues.

Robert Nosofky, *Logical-Rule Models of Classification Response Times*

A classic idea in cognitive psychology is that, in many situations involving concept learning and categorization, people develop and test logical rules as a basis for classification. What response-time (RT) predictions are made by logical-rule models? There is currently a major gap in answering this question. We develop a set of logical-rule models of classification RTs by synthesizing mental-architecture and random-walk approaches. An experimental paradigm is developed that yields sharp contrasts among members of the set and with the major extant alternatives in the field, including exemplar, distance-from-boundary, and single-channel diffusion models. Under certain experimental conditions, the rule models provide impressive accounts of detailed RT distributions associated with individual stimuli in tasks of perceptual classification.

Mary Peterson, *Effects of Familiar Configuration on Shape Perception is Impaired in Medial Temporal Lobe Amnesia*

Amnesia resulting from medial temporal lobe lesions is traditionally considered to be a selective deficit in long-term declarative memory. In contrast to this view, recent studies suggest that high-level perceptual processing may also be compromised in the disorder (e.g., Lee et al., 2005; Barense et al., 2007). Here, we tested figure-ground segmentation in two densely amnesic patients with focal lesions to the medial temporal lobes resulting from herpes viral simplex encephalitis. For each display, two adjacent regions shared a contour and participants reported whether they perceived the left or the right region as the figure (e.g., Peterson et al., 2000). In experimental stimuli, the central contour portrayed a familiar object on one, high-denotative, side. In control stimuli, no known objects were portrayed on either side of the central contour, but one side was a part-scrambled version of one of the high-denotative regions. Relative to age and education matched controls, the patients failed to show effects of familiarity on figure assignment, with neither patient reporting seeing the figure on the high-denotative side of the edge any more often than on the matched scrambled side. The lack of a difference arose because the patients were highly likely to see both the part-scrambled and the high denotative regions as figure. Moreover, both patients identified less than half of the familiar objects they saw as figures. The pattern of performance suggests that the patients may have been responding on the basis of the familiarity of the individual features of the objects, rather than on the basis of the overall familiar configuration of the object as a whole. These results suggest that fast access to familiar configurations and conscious object recognition of portions of figures may be impaired in medial temporal lobe amnesia.

Howard Rachlin, *Why choose Y? Three reasons*

Why cooperate in an anonymous, one-shot, multi-person prisoner's dilemma? One reason is to follow a suggestion by the philosopher, Derek Parfit. Another reason is that rewards to someone else are worth a non-trivial, albeit discounted, amount to yourself. A third reason is that, in making such decisions, it is worthwhile to follow a general rule rather than to decide on a case-by-case basis. None of these reasons is incompatible with any of the others.

Adele Diamond, *Coming Full Circle from the Social end of Psychology, to the Neuroscience End, and Back Again*

This paper will discuss the modulation of cognitive control abilities (executive functions) that rely on prefrontal cortex by biology (genes and neurochemistry) and the environment (including school programs) with implications for clinical disorders (ADHD) and for education and childrearing.

Howard Egeth, *The Role of Ignoring in Visual Search*

Foreknowledge of target-relevant information can be used to guide attention in visual search. However, the role of ignoring in visual search—that is, using foreknowledge of information related to non-targets—remains relatively unexplored. Indeed, the case of ignoring presents an interesting puzzle. It is possible to implicitly de-prioritize a stimulus in, for example, a negative priming paradigm. Can this be done explicitly? That is, can subjects effectively use an instruction to ignore stimuli of a particular kind (e.g., red objects), or is that instruction the functional equivalent of asking someone to “not think of a white bear” (e.g., Wegner, 1994)? It appears that knowing where not to look facilitates visual search, but that knowing what not to look for hinders search.

Tony Greenwald, *Unconscious Classical Conditioning*

Some puzzling results described at last year's meeting are becoming understandable. The method involves a 3-phase procedure. In Phase 1 (acquisition), different meaningless forward-masked 75-ms consonant strings (CSs) are consistently paired for a few hundred trials (taking 10 minutes) with immediately following male or female names (USs) that subjects rapidly classify by pressing a key with left or right index finger. In Phase 2 (extinction), the masked strings - now presented uncorrelated with the following male or female names - are found robustly to facilitate classification of their Phase 1-associated gender categories. In Phase 3 the visibility of the masked CSs is rigorously tested. Similar results occur whether or not the very brief CSs are visible. Findings: Conditioning robustly occurs. The properties of this conditioning differ from those observed when the procedures involve longer-duration CSs.

Tom Griffiths, *Using Probabilistic Models of Cognition to Identify Inductive Biases*

People are remarkably good at acquiring complex knowledge from limited data, as is required in learning causal relationships, categories, or aspects of language. Successfully solving inductive problems of this kind requires having good "inductive biases" - constraints that guide inductive inference. Viewed abstractly, understanding human learning requires identifying these inductive biases and exploring their origins. I will argue that probabilistic models of cognition provide a framework that can facilitate this project, giving a transparent characterization of the inductive biases of ideal learners. I will discuss three ways in which these models can be used to shed light on human inductive biases: comparing predictions, assessing learnability, and designing experimental methods that magnify the effects of inductive biases.

Stephen Grossberg, *Modeling the Hippocampus as a Cognitive Map*

The classic book of O'Keefe and Nadel (1978) has inspired an intense and vibrant research program about animal and human navigation to the present day. But is the hippocampus technically a “map” and in what sense is it “cognitive”? Many results about place cells in the hippocampus have recently been augmented by the breakthrough discovery of grid cells in the dorsal segment of the medial entorhinal cortex (dMEC). Grid cells exhibit remarkable hexagonal activity patterns during spatial navigation (Hafting et al., 2005). This talk will summarize recent modeling results concerning how both grid and place cell maps may be learned as an animal navigates through space. The model clarifies why both types of cells are needed, how cognitive mechanisms interact with this map, and how theta, beta, and gamma oscillations may emerge from these learned representations. The talk will also discuss recent modeling results concerning how optic-flow based navigation and tracking may be achieved in response to natural environments through cooperation by multiple regions of the visual cortex interacting together.

Lynn Hasher, *Memory for Distraction: The (dis)Advantage of Old Age?*

Most research on memory, whether measured intentionally, incidentally or implicitly, is conducted on “target” information, that is on material the experimenter intended participants to attend to. I report on a series of experiments on memory for distraction or irrelevant information, on the notion that, in life, the world includes both goal relevant and irrelevant information. These studies include both university undergraduates and older adults as participants. The findings suggest the rather startling conclusion that older adults actually know more about distraction than young adults do and, furthermore, actually use this past information to solve current tasks. If there is time, I’ll also report on information about memory for distraction at individuals’ off peak times of day, since here too, there is evidence that more irrelevant information is coded and subsequently used in new tasks, by individuals across the lifespan.

Earl Hunt, *Generalizing from Non-Random Samples*

The issue of ‘national intelligence’ has assumed some importance lately, in discussions of human capital. At a gross level, it is clear that national cognitive competence is an important driver of a variety of socioeconomic indicators, including gross domestic product per capita and a variety of health indicators. The problem is, how are we to estimate cognitive competence on a national basis? In many large countries, such as the US, the UK, and China standardized tests have been used and representative national samples have been taken. However in many countries a variety of tests are used and true population sampling is not possible. I will introduce the problem with an example where two different methods reached staggeringly different conclusions. I will then develop a case study from Brazil to show how different methods can lead to different conclusions.

Michael Kahana, *A Neural Signature of Mental Time Travel*

When humans recall past episodes, they experience a form of “mental time travel” in which the act of remembering retrieves some portion of the context in which the episode took place and brings it into the present. This context reinstatement is distinguished from the reinstatement of content information that is specific to the recalled episode. To seek direct neurophysiological evidence for context reinstatement, we analyzed electrocorticographic recordings taken as 67 neurosurgical patients studied and recalled lists of words. Upon recalling a studied item, we found that the pattern of brain activity was not only similar to the pattern observed when the item was studied, but was also similar to neighboring list items with similarity decreasing reliably with distance. This effect was particularly strong in the temporal and frontal lobes. Our findings show that recalling a past episode evokes a neural signature of the temporal context in which the episode occurred, thus pointing to a neural basis for episodic memory.

Barbara Knowlton, *Pattern Separation in Human Hippocampal Neurons*

The hippocampus (specifically the CA3 and dentate gyrus) may use a mechanism of pattern separation in order to distinguish similar representations or memories. Pattern separation is thought to be critical for the ability to distinguish between similar items in memory. In a collaborative project with the laboratory of Itzhak Fried, we have had the opportunity to investigate whether pattern separation is reflected in human hippocampal CA3 and dentate gyrus neurons recorded from depth electrodes in patients undergoing clinical evaluation for epilepsy. Patients studied target faces, and then were given a recognition test in which foils of various levels of similarity to the target were used. As expected, false alarm rate increased with foil similarity. We isolated neurons within the CA3DG (CA3 and dentate gyrus), entorhinal cortex, parahippocampal cortex, and amygdala. All regions showed neurons that significantly increased in firing rate during recognition of target images. Of these target-sensitive neurons, however, only neurons in the CADG region were sensitive to foil similarity, with the proportion of these neurons firing to the foils tracking the false alarm rate. Overall, our results are consistent with the idea that the role of the CADG region is to orthogonalize similar representations in memory.

Judith Kroll, *What Bilinguals Tell Us About Language and the Mind*

Until recently, research on language and its cognitive interface focused almost exclusively on monolingual speakers of a single language, and typically speakers of English as the native language. In the past decade, the recognition that more of the world’s speakers are bilingual than monolingual has led to a dramatic increase in research that assumes bilingualism as the norm rather than the exception. This new research investigates the way in which bilinguals negotiate the presence of two languages in a single mind and brain. A critical insight is that bilingualism provides a tool for examining aspects of the cognitive architecture that are otherwise obscured by the skill associated with native language performance. In this talk, I illustrate this approach to language processing and consider the consequences that bilingualism holds for cognition more generally.

Randi Martin, *Retrieval and Interference in Working Memory During Sentence Comprehension*

Recent research has suggested that sentence comprehension can be viewed as involving cue-based retrieval and that comprehension difficulty derives from semantic and syntactic interference during retrieval. The present studies examine predictions from this cue-based retrieval approach using data from healthy young subjects and from brain-damaged patients.

Ralph Miller, *Causal Learning in Rats*

Some researchers have argued that humans have a unique ability to learn causal relationships as distinct from relationships that are merely correlative. This distinction is evident in our throwing a switch to turn on a light, but not calling the weatherman to ask that it not rain. Thus, instrumental behavior may be viewed as differentiating between causal learning and the mere signaling of outcomes. Surely the instrumental behavior that is observed in nonhumans implies that at some level nonhumans have a sense of the causal power of their behavior. But are nonhumans capable of perceiving a causal relationship between paired exogenous stimuli such as lightning and thunder? Using intervention by the subject as a measure of causal learning, we assessed the ability of rats to learn causal relationships between paired exogenous stimuli. Graphical surgery techniques were used to determine whether rats learned that one exogenous stimulus ‘caused’ another exogenous stimulus, as evidenced by their manipulation of the candidate cause. First, barpressing was paired with a tone. Then, with the bar absent, the tone was followed by an aversively loud noise. Finally, the bar was returned and the rats were observed to barpress less relative to various control conditions, including those for which the noise was devalued and those for which the tone was extinguished. The behavior of different groups within and across experiments indicated that the rats viewed the tone as the cause of the noise. Control conditions demonstrated that the tone was not a second-order conditioned stimulus and that the decrease in barpressing was not due to response competition. Thus, rats appear to have a sense of causality that is qualitatively like that of humans.

Morris Moscovitch, *Episodic memory and the hippocampus: What function(s) do they serve?*

It is well-established that the hippocampus is crucial for the acquisition of episodic memory. Over the last 15 years, my colleagues and I have argued that it is also crucial for retention and retrieval of detailed memories of past episodes no matter how long ago they were acquired. What function does retaining such detailed memories serve? Our studies suggest that such detailed, episodic memories contribute to performance on tests of semantic memory, spatial memory, problem solving and priming. Performance on such tests is accompanied by hippocampal activation, and damage to the hippocampus leads to impaired performance.

Ben Murdock, *The Terrace Continuous Chaining Paradigm*

Herb Terrace has developed a method of training rhesus monkeys to do the equivalent of learning a short (four-item) serial list and found positive transfer in a paradigm when the position of the items in the transfer list was or was not maintained. I will describe an attempt of a TODAMesque approach to model these data.