

# Psychology News



Celebrating Our 100<sup>th</sup> Anniversary

Department of Psychology & Neuroscience  
University of Colorado at Boulder—Spring 2010

# Psychology News

Department of Psychology and Neuroscience  
University of Colorado at Boulder

The alumni newsletter for the Department of Psychology and Neuroscience  
is published annually and distributed to all alumni.

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### On the Cover

The Old Main building on the Boulder campus, where Psychology classes were originally held. This photograph was included in the *Coloradoan 1910* and is from the University of Colorado at Boulder Archives, Western Historical Collection.



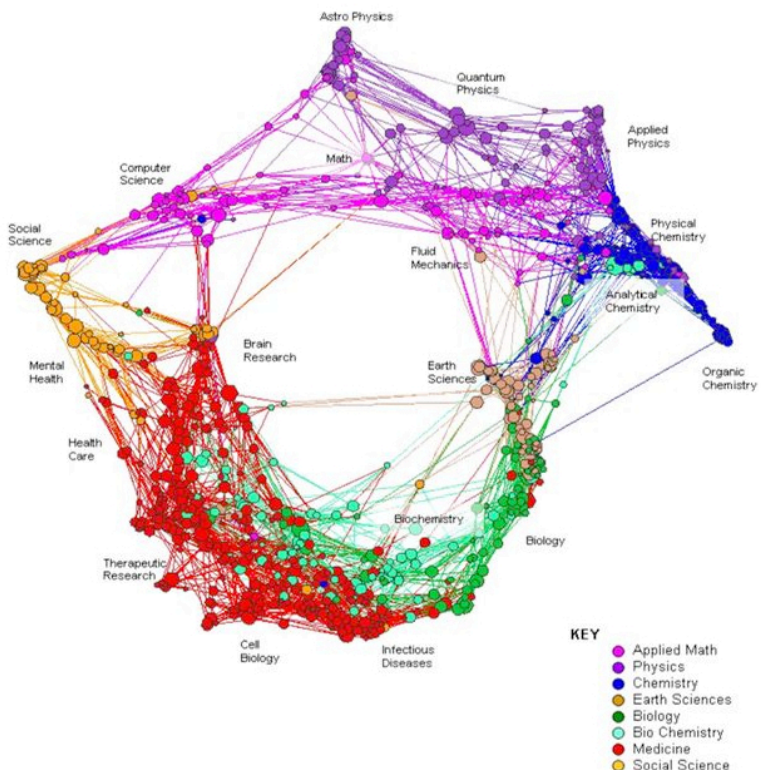
# Message from the Chair



Welcome to our second annual newsletter. One of the aspects of psychology that I love is its breadth and inclusive nature. Our department is part of the Natural Science Division of the College of Arts and Sciences, but we have an equal claim to be part of the social sciences, and it is only a quirk of administrative organization that we cannot be part of both. A recent study illustrates the centrality of psychology. Klavens and Boyack (2009) examined the pattern of citations in more than 800,000 articles in 7,000 scientific journals covering all areas of science. They examined different ways of graphically representing the interconnectedness based on which articles are cited by each of the thousands of individual published papers. They looked at twenty different ways of representing the patterns of citation to find a consensus that would show all the essential features. The essential pattern is shown in the figure below. The sciences form a ring with mathematics at the top and progressing in a clockwise order to physics, chemistry, earth sciences, biology, biochemistry, medicine, social sciences, computer science, and back to mathematics. Medicine is one of the densest areas of this map, shown in red. Major clusters are formed by psychology, neuroscience, health services and medical specialties. This map is a good representation of the research activity conducted in our department. It shows how interconnected our interests have become. We have moved from the isolated, compartmentalized topics of research that existed 100 years ago to a highly interconnected network of knowledge that characterizes science today.

Our department today is marked by excellence in three broad areas: psychology and its focus on the properties of the mind as inferred from behavior; neuroscience and its focus on the brain and nervous system; and genetics, with its focus on how genes and the environment influence thinking, behavior, and brain function. Each of us has specialized knowledge, but we must also be knowledgeable in the related fields in order to remain on the cutting edge of science.

The other aspect that is the hallmark of our department is the widespread interest among our faculty in doing something useful with our knowledge. This focus has become known as translational science: the taking of basic research and translating it into an application that benefits society. The National Institutes of Health have made translational science a major goal when considering funding of research. One result of this emphasis has been the revelation that in the treatment of affective disorders, certain types of cognitive behavioral therapy are as effective as, or even more effective than, drugs. We are exploring the basic mechanisms of pain not only to understand how the mind and the brain work but also with the hope that more effective treatment of pain can bring relief to millions of sufferers. We investigate how people evaluate information and how they make decisions about what they know or think they know with the hope that we can make better decisions in the realm of public policy. We study attention to better understand how we select information from the vast sea of information in which we are immersed; we hope that we can better treat people who are not able to focus their attention effectively. We build vast computer simulations of the brain and mind in order to test hypotheses about perception and memory that are not possible using live animals and people. The performance of these computer models can be compared with the performance of real organisms to gain insight into the nature of the processes that, in the real person, cannot be directly observed, but which are explicit in a computer model. We want to improve the world.



Klavans, R., & Boyack, K. W. (2009). Toward a consensus map of science. *Journal of the American Society for Information Science and Technology*, 60(3), 455-476.

We live in exciting times. The next 100 years will make the past 100 seem like tiny baby steps forward.

—Lew Harvey

# The Early Years

## Decades of Growth and Consolidation

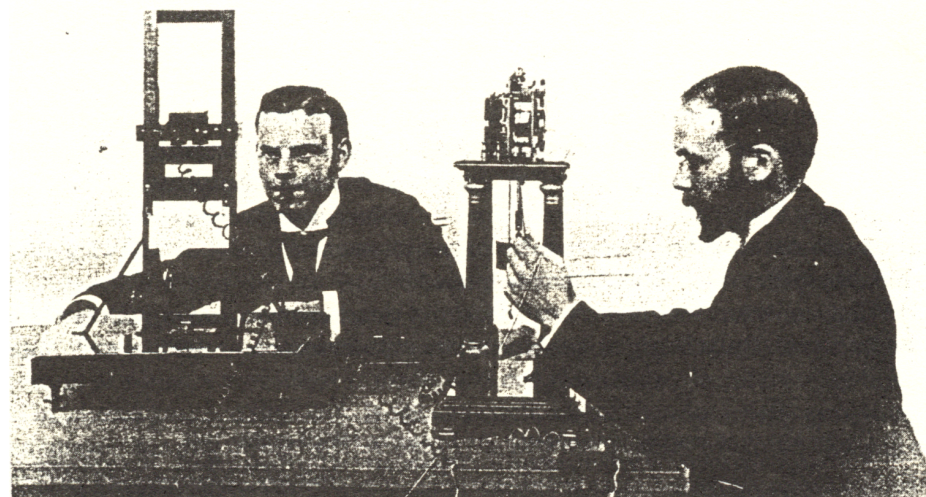
by Kate Bell

Two thousand ten, the year of our 100th anniversary, also marks the beginning of a decade that gives the department a new name: The Department of Psychology and Neuroscience. The addition of the term “neuroscience” acknowledges current developments in the field of psychology. It also reflects that an empirical focus in the study of psychology has been a long tradition at the University of Colorado even before the department formally existed. Let us begin the celebration of our anniversary by looking back.

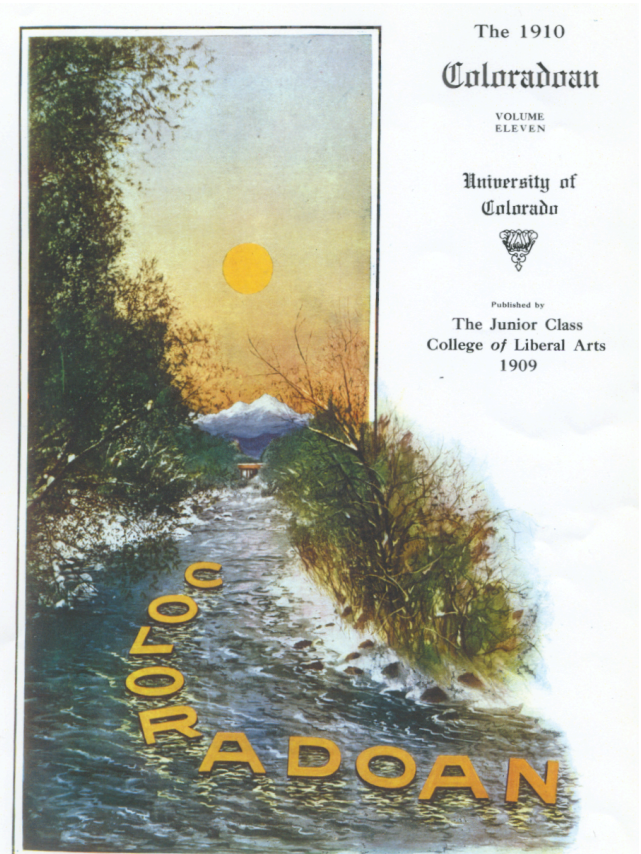
A comprehensive article written by Professor David Chiszar and Professor Michael Wertheimer reviews the historical development of our department from its inception through the 1960s. Entitled “The Boulder Model: A History of Psychology at the University of Colorado,” it was published in the *Journal of the History of the Behavioral Sciences*, January 1988, and will be referenced and quoted throughout the article that follows.

The University of Colorado at Boulder opened its doors in 1877, one year after Colorado became the thirty-eighth state in the Union. Psychology was an integral part of the university’s curriculum from its inception. As was standard at that time, psychology was essentially part of the education curriculum. From the very beginning, the psychology classes offered at the University of Colorado embraced an international, rather than regional, focus, and faculty prided themselves on their contemporary, modern approaches. An excerpt from the article by Chiszar and Wertheimer illustrates this broader, up-to-date perspective in the teaching of psychology at this nascent stage:

*“The early faculty teaching the psychology courses at the University of Colorado were trained at European, indeed German, institutions that at the time were considered the best in the field in the world. And the university catalog of 1899 proudly listed the inventory of the apparatus available in the psychology laboratory, making clear that a fine, traditional set of brass instruments and other typical gear were at the disposal of interested students before the turn of the century.”*



The Gravity Chronometer was constructed by James Cattell in the 1880s to “study the relation between the intensity of the stimulus and the length of the reaction time.” Cattell stated, “What I want to do is find out how fast we think.” The photograph and quotes are from the article “What is a Tachistoscope?” by Ruth Benschoep in the journal *Science in Context*, Spring 1988.



This page is from the *Coloradoan* 1910 and is part of the University of Colorado at Boulder Archives, Western Historical Collection.

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The Department of Psychology was established in 1910 but was still closely tied to the teacher training program, which was the mission of the university as a whole when it was founded. Nonetheless, three of the ten courses offered demonstrated the Psychology Department’s recognition of psychology as a science: *Comparative Psychology* and the two-semester *Experimental Psychology*. These classes, with their scientific bent, reflected the broader field of psychology at that time. In fact, the next year’s *Seminar in Psychology* was replaced by the even more science-oriented *Anatomy of the Central Nervous System*.



After striving towards independence for more than a decade, the Department of Psychology finally gained emancipation from the College of Education in 1922. It was then free to focus more fully on an experimental and physiological approach to psychology, paralleling the development of the field as a science of behavior. Professor Karl F. Muenzinger was recruited in 1923. The hiring of Muenzinger was the beginning of an important era for the department. He created the precursor to the department as we know it today with his rigorous emphasis on research. As Wertheimer notes in his account of the department's history, "Muenzinger single-handedly created research traditions which rapidly became marks of excellence and which continued to distinguish this department." Muenzinger is also credited with developing a master's degree "based upon modern research requirements and upon courses which identified the discipline as an empirical science." Ph.D. training began in 1936-37.

In 1947, Muenzinger became chair of the Psychology Department. During his tenure as chair, Professor Victor Raimy was recruited. Raimy's hiring in 1948 marked a second significant era for the department. Raimy contributed considerable depth to the department in general and to the clinical area specifically; in fact, he was listed as teaching thirteen of the courses offered at that time. Within nine months, Raimy had created a top-notch Ph.D. program in clinical psychology.

A national phenomenon influenced the speed of Raimy's accomplishment: the needs of veterans returning from World War II. Internships for clinical Ph.D. graduate students were soon established with the Veterans Administration's internship programs. Many of our current clinical graduate students continue this relationship of holding internships with VA hospitals across the country.

Another phenomenon that grew from the needs of returning soldiers and the government funding generated to meet those needs was a conference held in 1949 in Boulder, chaired by Raimy. The Boulder Model of clinical training was an outgrowth of this conference—a model that "reflected the department's philosophy that clinicians should receive a thorough foundation in general psychology and research before engaging in more specialized training in clinical practice." The Boulder Model has since been incorporated into many psychology programs throughout the nation.

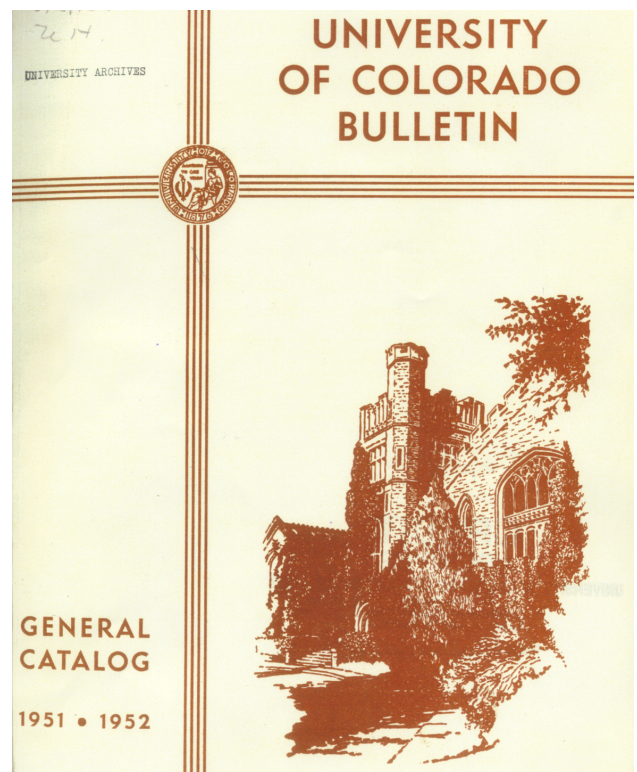
Muenzinger's mission to establish the Department of Psychology as a prominent department at the University of Colorado came to full fruition in 1951. The department had become one of the largest at CU based on the number of graduate and undergraduate courses offered, the number of graduate and undergraduate majors, and the number of faculty members. Lew Harvey, our current chair, credits the faculty's discernment in hiring as a significant reason that the Psychology Department has been able to achieve and maintain such distinction at the university as well as at the national and international level.

The third significant era in the growth of the psychology department began in the late 1950s and early 1960s, when a number of institutes associated with the department were established. These were primarily formed in relation to large, continuing grants awarded to several faculty members, and included the Institute of Behavioral Science, the Institute for Behavioral Genetics, and the Institute for the Study of Intellectual Behavior (which later became the Institute of Cognitive Science).

In the early 1960s, the department also acquired a Regional Centers of Excellence Award. This considerable grant made it possible to increase the size of the department as well as to advertise for top candidates for faculty positions.

This period of rapid growth led to the building of the Muenzinger Psychology building, which was dedicated in 1971. The Computer Laboratory for Instruction in Psychological Research (CLIPR) was founded in 1970 by Professor Daniel E. Bailey. The acquisition of a central computer and the hiring of a professional staff was initially funded by a large facilities grant from the National Science Foundation. Additional funds came from the State of Colorado as part of a construction project that added the "E" wing to the Psychology Building containing classrooms, faculty offices, the child development lab, and space to house CLIPR's computer rooms, staff and shared research space. This addition was completed in 1973, and by the beginning of 1974 all units of the department were finally under one roof.

Our next article will give some insight into the department in its more recent years and offers some glimpses into hopes and visions for the future.



This cover is from the CU Course Catalog 1951-52 and is part of the University of Colorado at Boulder Archives, Western Historical Collection.

# Celebrating Our 100th Anniversary

## A Faculty Perspective

by Alicia Segal

The anniversary of a wedding, birthday or first meeting is often a time of celebration and appreciation, a moment to remember the shared past and muse about the anticipated future.

From this standpoint, we asked two particular faculty members to shed a celebratory light on our department. Although many faculty could do this task justice, these two were sought out in part because of their longevity and their roles in the department: Lew Harvey as our current department chair, and Michael Wertheimer as Professor Emeritus and one of our honored department historians who has been here more than a half century.



Psychology faculty and staff, 1994

prestigious American Psychological Association (APA) awards, honorary degrees, and titles of University Distinguished Professor and College Professor of Distinction. We have had faculty members in prominent positions in the APA and in other major societies, as well as faculty who are very well-known nationally and internationally for their research.

According to Harvey, a series of events led to the distinction of having what he calls “some of the most creative, cutting-edge researchers in the world here.” Beginning in the 1950s, the decision was made to expand as a department and bring in a new, forward-thinking generation of faculty. Over the decades that followed, a refinement of the hiring process was established, with groups of faculty members charged with making proposals for new hires. These groups set out to find the top people in the field, with an eye towards recruiting a younger generation of scholars outstanding in their areas.

In addition, during the past two decades, the department has strengthened its commitment to seeking faculty with a neuroscience component to their research, regardless of their special interests. Equally important, the department adopted the general rule that all of its hires should be people who could collaborate, preferably with at least two other faculty members outside of their immediate area.

These two hiring preferences, a focus on neuroscience and an ability to collaborate, reflect the historical development of the department that continues to this day. The emphasis on science was there in the department since the beginning, with faculty who insisted on experimental psychology and research into basic mechanisms, rather than an applied approach such as training better teachers. The late 1940s ushered in the Boulder Model, which reinforced this science-based focus with its emphasis on research in relation to clinical psychology. Perhaps most importantly, the tide of psychology itself was advancing on this course, and our department was part of that movement.

“Thoughtful people looking at the direction of psychology could see that eventually it would be incorporated into a larger understanding of how the brain works, and that the things that were unique to psychology would not be lost, such as the ability to measure behavior and infer what’s going on inside the mind,” notes Harvey. He comments that, as a department, we’ve had much foresight in our hiring in this respect. “There were some very forward-thinking faculty who recognized that certain potential hires were part of the wave of the future of psychology.”

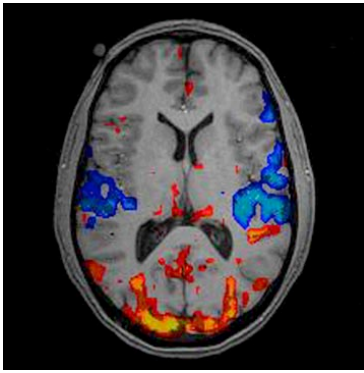
Wertheimer concurs that the development of our department has paralleled broader developments in the field. “We were among the pioneers in terms of a great deal of research being done in this department that related behavioral and subjective psychological features to measurable physiological and biological aspects of the organism. And that’s what neuroscience is all

The unique convergence of personalities, interests and talents seems to be a defining factor in what distinguishes us as a department. The high demand for our graduate programs has brought many adept students who have gone on to significant accomplishments in the field. A large number of our undergraduates have completed our strong Honors program, continuing on to renowned graduate schools and meaningful careers.

At the core, though, faculty has shaped the progress of our department. As Harvey points out, “If you hire good people, the advancement of the department will take care of itself.”

Our department has seen many noteworthy honors given to individual faculty members, including





fMRI scan of the brain (photo from Sciencemuseum)

about. Neuroscience internationally has become a major focus in psychology, and we have had, and continue to have, faculty who are known around the world for their research and theoretical work in this area.”

While high levels of collaboration have been critical to this progression within the department, the emphasis on collaboration has fluctuated over the past four decades, partly in relation to the development of several discrete graduate program areas. On one hand, the independence of the areas has had the advantage of “promoting very concentrated work in each subfield and therefore enhancing research productivity and probably more grants,” as Wertheimer observes. On the other hand, he notes that the separation to some degree reduced the focus on interdisciplinary involvement.

As the department readjusted to the independence of its areas, a desire for collaboration between the areas returned. “Collaboration has been a major theme in our department for at least the last two decades,” according to Wertheimer. “This occurred between faculty in different areas, graduate students working with faculty in different areas, and faculty in various areas doing joint grant applications that have been successful.”

Our department’s willingness to integrate perspectives has not only paralleled the field of psychology, but has also echoed a broader, global trend. “Collaboration on global problems,” Wertheimer says, “is something that has characterized international science in the last decade or two. There is so much that applied behavioral science can contribute to issues such as reducing energy use, reducing pollution, enhancing world health, and dealing with the population explosion: all of these things are in many ways behavioral. Applied behavioral science could be a major player in helping to solve some of these issues before humanity does itself in. That’s one of the areas that is becoming more recognized in the country and internationally, and I hope in our department, too.”

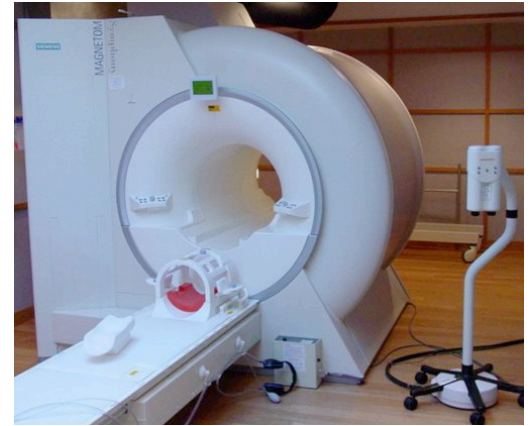
Harvey also envisions our department’s future as being firmly anchored in collaborative endeavors, united by a focus on the brain itself. To this effect, our department is currently planning to bring a functional Magnetic Resonance Imaging (fMRI) brain scanner to the Boulder campus. This technology is eagerly anticipated across all areas of the department. Harvey notes that virtually all of the faculty candidates recently interviewed expressed that they were already doing or had an interest in doing brain imaging.

“The vision for our department is to understand, in as specific a way as possible, how the brain creates the mind,” says Harvey. “Most neuroscientists today think of the mind as something that’s created by the activity of the brain. So the long-term goal is to take all the knowledge we have about psychology and fit it into what we know about the brain. And there’s enough material there to keep us busy for another hundred years!”

Apart from brain scanners, experiments, and the objective recounting of our department’s history, there is also subjective reality to be considered. For many alumni, their Colorado learning experiences have become an integral part of their identity and sense of self. Wertheimer, who has been with the department since 1955 and continues to be a welcome presence in the halls and at faculty meetings, puts it succinctly: “I’ve found it tremendously rewarding to be a member of this department. Being a member of this community is a huge part of my identity, and it’s a source of meaning and identity for many people, from undergraduates to graduate students to faculty, as well as staff: to feel that one is part of this vibrant community.”

Harvey, too, expresses a great fondness for the department. “I love the intellectual excitement of people doing really interesting things. I could never read as much as I get in talking for five minutes with some of our faculty. But that’s what we’re supposed to be doing. Anyone who’s intellectually active should always be learning, and the people in this department are doing exactly that. And there’s an excitement here about knowledge. One of the definitions of having a first-rate faculty is having people who are really excited about learning.”

Wertheimer reflects on the past 100 years and offers some closing thoughts: “The first century of the Department’s existence has been tremendously productive: of enthusiastic, dedicated students who have gone on to make major research and academic contributions in their careers; of internationally renowned scientific breakthroughs by members of its faculty and participants in the research institutes that the department has spawned (Institute of Behavioral Science, Institute for Behavioral Genetics, Institute of Cognitive Science); and of significant support for—and recognition from—national and international organizations, institutions, and granting agencies in psychology and neuroscience. May its creativity and productivity continue unabated in the next century.”



fMRI scanner (photo from Siemens company)

## The Excitable Brain



Professor Dan Barth currently has two major research projects he is conducting in collaboration with Professor Linda Watkins in our department. The first involves post-traumatic epilepsy, which is the kind of epilepsy that results from a traumatic brain injury. Individuals may have a few initial seizures immediately after the injury, followed by several months that are seizure-free. However, after this several-month period, patients may start having seizures again, and when this happens, their epilepsy can become a chronic condition that is very difficult to treat.

Just as the rest of our body has an immune system, our brain actually has its own immune system that consists of cells called glia. When a person suffers a traumatic brain injury, the glia are activated and exude chemicals called cytokines in order to repair damage. The problem is that humans were not designed to survive these sorts of head injuries, and the inflammation incurred as the glia try to repair the damage makes the neurons in the brain more excitable, possibly causing seizures. Instead of trying to suppress the seizures once they start occurring, the Barth Lab is working on suppressing the inflammation before the seizures start.

The second research project involves chronic pain, specifically that involving nerve damage. While studying the somatosensory cortex of the rat, the Barth lab discovered that a tiny area of the brain called the insula became activated when the rat was experiencing chronic pain, which indicates that this area may be required for sensing this type of pain. Chronic pain (also called neuropathic pain) can be a particular problem since it is fairly unresponsive to normal pain medications. The insula, therefore, may provide a new clinical target for treating chronic pain syndromes.

Barth became interested in neuroscience when he was an undergraduate at Boston University in a class taught by Jeffrey Rosen. This professor was outstanding and turned him on to the entire field. After his undergraduate training, Barth worked as an animal tech at Harvard for the next few years. During this period, he spent much of his free time in the medical library reading everything he could about the electroencephalogram (EEG), and then going home to test this knowledge on his friends by trying to induce seizures using a homemade EEG machine and flashing lights. Luckily for his friends, he failed, and after about two years of this, he contacted researchers at UCLA who were also doing EEG work, and became a graduate student there. He has been doing neuroscience work ever since.

## Reckless Genes



Drug addicts have a difficult time understanding the consequences of their actions. They fall into what is referred to as a “spiral of addiction,” or a loss of control over their own behaviors and judgments such that it leads to job loss, self-harm, or alienation of family members. Professor Don Cooper studies the brain regions responsible for making judgments in the face of negative consequences.

The prefrontal cortex is one region of the brain where drugs of abuse alter decision-making capability at the cellular level. Because of the striking similarity between humans and rodents in the neural circuitry underlying addiction, Cooper’s lab uses rodent neurophysiology and drug self-administration as a model to measure lasting drug-induced changes in neuronal decision making. Cooper’s goal is to discover the critical changes in prefrontal cortex neuron excitability in order to develop novel behavioral and genetic strategies to reverse drug-induced pathology and restore proper neural function and decision-making. Using state-of-the-art gene expression profiling, it is possible to determine which genes are activated after repeated cocaine exposure and identify genes that may impair neural communication. One gene, coding for the *trpc5* ion channel, was singled out due to its dense expression in the prefrontal cortex. Using gene targeting strategies to “knock out” the *trpc5* gene, Cooper discovered that animals without *trpc5* in the prefrontal cortex became more vulnerable to cocaine reward. His laboratory and collaborators at the Institute for Behavioral Genetics are currently looking for mutations within the human *trpc5* gene that may impair prefrontal cortical function in human addicts.

Another project that Cooper is involved in has to do with the neurotransmitter dopamine, which is sometimes referred to as the “pleasure transmitter” due to its involvement with reward and motivation. Dr. Junli Cao, in Cooper’s laboratory, tested whether stress might somehow be affecting dopamine cells, so he looked at animals subjected to a social bullying stressor (for example, mice were put into cages with larger, much more aggressive counterparts) and discovered that the dopamine neuronal activity increased in the animals that were submissive or “defeated.” When he gave the mice a couple weeks of Prozac, they were no longer defeated, and their dopamine activity was normalized. Using this approach, Cao and Cooper were able to demonstrate a close association between dopamine neuron activity and resilience to stressors.

Cooper was inspired to go into neuroscience as an undergraduate in a biopsychology class here at CU. At the time, he was struggling with the classic philosophical dichotomy of free will versus determinism. In essence, he was intrigued by the question, “How much free will do we have over our own behavior, versus how much are we determined by our own biology?” For example, do drug abusers have a weak will, or is there something about their biology that makes them more vulnerable to drugs of abuse? He decided that the brain was the right place to look for these answers.



## The Identity Tradeoff

In her current research, Professor Bernadette Park is measuring how students training for graduate and professional careers anticipate managing both career and family aspirations. In work funded by the National Institute of Child Health and Human Development, she and her graduate student Allegra Smith are focusing on implicit expectations or stereotypes that people have for themselves or for the world. They have found an interesting correlation between the association of women with childcare and men with the professional world. This set of stereotypes ends up guiding and sometimes restricting the choices that these students make for themselves. Today women train at comparable levels to men in many professional areas, and also take a fair number of jobs in those areas. However, at a certain point, women begin to cut back with respect to their careers—either they go part time, or they quit altogether, and many times this coincides with having children.



In the study, students of both genders are asked to perform what is called a “Go/No-Go Task,” a speeded task that looks at how easy it is to keep two concepts in mind at the same time. In this task, students are told to “go” (hit the spacebar) whenever a stimulus from one of two categories appears (e.g., self-referent words and baby items), and to “not go” (make no response) when a stimulus from some other category appears. When students are asked about their career plans, they are expected to think about themselves in their future career, and when asked to think about family plans, the students are expected

(Continued on page 15)

## The Relationship between Words and Categories

Some children start learning vocabulary much earlier than their peers, while others learn later in their development and continue to have trouble with language thereafter. Currently, Professor Eliana Colunga has put together computational models that capture some of the processes involved in early language learning—specifically, word learning. These models evaluate how a child learns words based on the structure of the child’s current vocabulary. For example, children learn that animals of the same type tend to be alike in shape and texture or color markings but not necessarily in size.



Colunga started out looking at the “average” child, but has now narrowed her spectrum to specific, individual children, some of whom are considered average or early talkers, while others are considered late talkers. Some of these late talkers will catch up to their normal counterparts; however, some of them will not, and many times it is these children who have trouble with reading, academic achievement, and social interaction. Right now we have no way to distinguish late talkers who will likely regain normal functioning from those who will continue to struggle. However, Colunga has recently made an important discovery: the vocabularies of average and early talkers share a similar structure with regard to categories (e.g., the shapes of solid objects, the materials of non-solids, etc.) while the vocabulary of each late talker has a unique structure, different from that of early/average talkers and also different from that of other late talkers.

(Continued on page 15)

## Love, Marriage and the Blues

The major focus of Professor Mark Whisman’s research is examining the role of interpersonal and cognitive factors in the onset, maintenance, and treatment of depression and other forms of psychopathology. Recently, his work has expanded to evaluate how these factors also contribute to physical health. A particular focus of his research is intimate interpersonal relationships, which can be major sources of stress as well as major sources of support. In longitudinal research he recently conducted, he found that poor marital functioning predicted increased risk of depression in two representative samples obtained from twelve European countries, which supports the cross-cultural and cross-national importance of this aspect of interpersonal stress.



In his ongoing research, he is studying how genetic vulnerabilities contribute to and interact with cognitive and interpersonal factors in predicting depression. To better understand how cognitive and interpersonal functioning influence one another in the development and maintenance of depression, he is examining individual difference variables, such as rumination and dysfunctional belief systems, which may increase the likelihood of interpersonal stress generation. He is also evaluating how interpersonal stressors (e.g., loneliness, poor intimate partner functioning) are associated with health problems such as metabolic syndrome, a group of medical conditions that increase the risk of coronary heart disease, diabetes, and stroke. Finally, he is conducting research on how interpersonal stress is associated with poorer outcome to individual-based treatments for depression, and how couple-based treatments, independently and in combination with individual-based treatments, can improve clinical outcomes.

Whisman was inspired to pursue a research career in psychology by being a research assistant for, and later completing an honors thesis with, Professor Jerry Deffenbacher at Colorado State University. The positive experience he had with the Honors Program at CSU also inspired him to serve as director of the departmental Honors Program for the past six years.

# Faculty News



**Jerry Rudy** was named College Professor of Distinction by the College of Arts and Sciences, an honor reserved for scholars and artists of national and international distinction who are also recognized by their College peers as teachers and colleagues of exceptional talent. He joins Alice Healy and Charles Judd to become the third faculty member

from the Department of Psychology and Neuroscience to receive this honor.



**Marie Banich** has been selected as a fellow of the Association for Psychological Science in recognition of her sustained, outstanding contributions to the advancement of psychological science. Her selection was made by the Board

outside the standard nomination process because of her significant accomplishments in the field.



**Michael Weiser** re-

ceived a Society for Neuroscience (SFN) Postdoctoral Travel Award to attend the national meeting in October as the representative from the local SFN chapter, the Rocky Mountain Regional Neuroscience Group.

Professor Emeritus **Al Collins** has been awarded the 2009 Boulder Faculty Assembly Award for Excellence in Research, Scholarly and Creative Work. The award was made for groundbreaking work that established some of the genetic and neurochemical factors that influence individual differences in vulnerability to tobacco and alcohol addictions.



CU Psychology professors **Akira Miyake**, **Tiffany Ito**, and **Geoff Cohen**, and CU Physics professor Noel Finkelstein (not pictured) have been awarded a grant from the National Science Foundation to conduct research aimed at increasing the representation of women in Science, Technology, Engineering, and Math (STEM) disciplines. Their research will examine the role



of gender stereotypes on the performance of women in STEM disciplines. Studies show that making salient a negative expectation about a group—such as the stereotype-based expectation that women are not as good at math and science as men are—can lead members of that group to perform below their potential. In this new research, the research team will be studying exactly how concerns about the stereotype impair performance. They will also examine how the effects of stereotypes can be counteracted in order to eliminate performance differences that often occur in STEM disciplines between men and women.

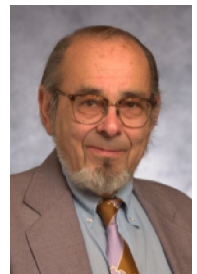
**Sona Dimidjian** and **Tina Pittman Wagers** co-founded the CREST Clinic to provide services for women's mental health. The new clinic is part of the Clinical Research, Education, Services, and Treatment



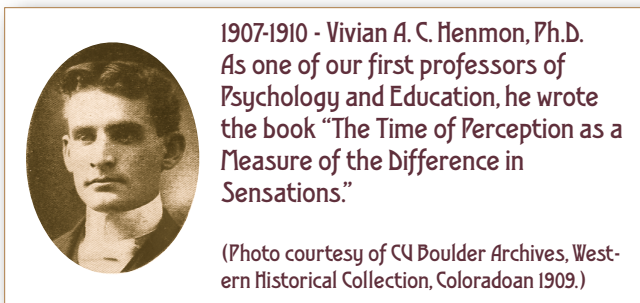
(CREST) Program for Women's Mental Health and provides evidence-based treatment to promote women's mental health and wellness throughout the life cycle. The CREST Clinic offers interventions based on cognitive and behavioral therapies and the clinical application of contemplative practices.

Professor Emeritus **Michael Wertheimer**

received an award for distinguished lifetime contributions to theoretical and philosophical psychology from the American Psychological Association's Division 24, and presented an invited address at the Toronto



APA convention in August 2009. He also presented the main address at a convocation celebrating the opening of the new Adolf-Würth Center for History of Psychology at the University of Wuerzburg, Germany, in September 2009.



1907-1910 - **Vivian A. C. Henmon, Ph.D.**  
As one of our first professors of Psychology and Education, he wrote the book "The Time of Perception as a Measure of the Difference in Sensations."

(Photo courtesy of CU Boulder Archives, Western Historical Collection, Coloradoan 1909.)



Professors Emeriti **Walter Kintsch** and **Ken Hammond** were both honored with pages on the website of the Foundation for the Advancement of the Behavioral and Brain Sciences (FABBS) in recognition



of their contributions to psychology and the donations made in their name. See [www.fabbs.org](http://www.fabbs.org) for information.



## New Faculty



January 2010—**Tor Wager**, Associate Professor, Cognitive Psychology and ICS, Ph.D. 2003, University of Michigan. His research uses modern cognitive neuroscience (i.e., fMRI, PET and EEG) and physiological (i.e., autonomic and endocrine activity) methods to study cognitive control processes, especially the control of pain and emotion. He is particularly interested in how the placebo effect works and how high-level cognitive activity like attention is implemented in the brain.

August 2010—**Joanna Arch**, Assistant Professor, Clinical Psychology, Ph.D. 2009, University of California, Los Angeles. She is currently a postdoctoral fellow at the UCLA Anxiety Disorders Research Center. Her research deals with anxiety, its causes and its treatment. She is especially interested in anxiety in women.



August 2010—**Vijay Mittal**, Assistant Professor, Clinical Psychology, Ph.D. 2008, Emory University. He is currently on a postdoctoral fellowship in Clinical Neuroscience at UCLA. His research focuses on early identification of biological and behavioral markers of vulnerability for schizophrenia and other forms of serious mental illness. He has studied a range of vulnerability markers, including movement abnormalities, history of obstetric complications, and stress.

## Promotions

**Tim Curran** – promoted to Full Professor in Fall 2009.

**Soo Rhee** – promoted to Associate Professor in Fall 2009.

## New Grants 2009

Eliana Colunga, John Merck Foundation, “Modeling Early Word Learning in Typically and Atypically-Developing Children”

Alice F. Healy, American Literacy Council, “Efficacy of DoubleLine with SoundSpel in the Improvement of Children’s Reading”

Tiffany Ito (Principal Investigator), with co-investigators Erik Willcut (PSYC), Akira Miyake (PSYC), David Allen (CU Integrative Physiology), Angela Bryan (U. of New Mexico), and Kent Hutchison (U. of New Mexico), National Institute on Drug Abuse, “Multilevel Analysis of Self-Regulation in Substance Abuse”

Matthew C. Keller, K01 grant from the National Institute of Mental Health, “Evolutionary Roles of Homozygosity and Copy Number Variation in Mental Disorders”

Steven F. Maier, National Institutes of Health, “Behavioral Control, the Medial Prefrontal Cortex, and Resilience in the Face of Chronic Stress”

David J. Miklowitz and Sona Dimidjian, Danny Alberts Foundation, “Mindfulness-Based Cognitive Therapy for Pregnant Women with Bipolar Disorder”

Akira Miyake (PSYC), Tiffany Ito (PSYC), Geoffrey Cohen (PSYC), and Noah Finkelstein (CU Physics), National Science Foundation, “Understanding and Reducing the Gender Gap in Math and Science: Cognitive, Social, and Neural Mechanisms in Identity Threat”

Akira Miyake (PSYC), Tiffany Ito (PSYC), Naomi Friedman (IBG), with Bruce Bartholow (U. of Missouri), and Joshua Correll (U. of Chicago, CU Ph.D., 2005), National Science Foundation, “Collaborative Research: Individual Differences in Executive Functions and Expressions of Racial Biases: Behavioral and ERP Investigations”

Richard Olson, National Institutes of Health, “Differential Diagnosis in Learning Disabilities, Administrative Supplement”

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## Karl F. Muenzinger (1885-1958)

The building itself is a reminder of the man: we use his name on a daily basis and regularly pass by his portrait (painted by artist Dwight Roberts and pictured here) in the second-floor conference room.

As important a figure as he was in our department’s history, we may also wonder about the man himself, the Karl Muenzinger that his students encountered as their professor each day. A memorial essay by David Krech in the *American Journal of Psychology* (September 1959) gives some insight into the humane person that he was: “As a teacher Muenzinger was more than conscientious. He loved teaching and loved his students, showing a loyalty and continued interest in their development far beyond the call of duty. His students recognized this devotion and appreciated it, and very few men have left behind them more devoted friends among their students.”



# Living the Good Life

## Chris Peterson Explores the Essence of Positive Psychology

by Alicia Segal



Other people matter. Professor Christopher Peterson (Ph.D. '76) calls this his bumper-sticker slogan, a phrase that simply and accurately reflects his personal ideology. In addition, it's a significant component of positive psychology and what those in the field call "the good life."

As a professor of psychology at the University of Michigan, Peterson conducts research in positive psychology and has helped to bring this area of study into public prominence via his book, *A Primer in Positive Psychology*. His blog "The Good Life" on the *Psychology Today* website ([www.psychologytoday.com/blog/the-good-life](http://www.psychologytoday.com/blog/the-good-life)) gives weekly insight into the nature of this new field, including results of research.

Peterson's conviction that "other people matter" is his own personal answer to the fundamental question that positive psychology poses: What makes life worth living? This fairly recent branch of psychology emphasizes empirical research into how we thrive, focusing on emotions, traits and relationships that support the positive in life.

Peterson's current research evaluates strengths of character, also known as positive traits. He is particularly interested in how these traits can be measured, as well as their causes and consequences. Curiosity, kindness, hope, teamwork, wisdom, and gratitude are among the several dozen strengths that he considers. Peterson, along with colleague Nansook Park from the University of Michigan, is currently developing what he describes as "deliberate interventions to bolster strengths of character in schools, in the workplace, and in the military."



Peterson's experiences at CU played a multidimensional role in leading him to embrace positive psychology. In the Social-Personality doctoral program (now called Social Psychology), he gained a depth of skill in assessment, measurement, and analysis, particularly in relation to individual differences. This emphasis on psychology as a measurable discipline has stayed with him throughout his career. He now feels strongly that positive psychology is a science and that empirical evaluation is essential to its value and evolution.

The focus in his graduate program on individual differences also affected Peterson's professional direction. He mentions influential professors like Bill Scott, O.J. Harvey, Dick Jessor, Lee Minturn, John Forward, and Stuart Cook, whose work on personality differences was the precursor to his current interest in positive traits.

Peterson's affiliation with Professor Steven Maier at CU also laid the groundwork for future connections that would prove significant. During his program at CU, Peterson took many courses with Maier. Along with psychologist Martin Seligman, Maier conducted experiments that became the foundation for the theory of learned helplessness. This theory explains why people in painful situations sometimes fail to make changes that lie within their power. When past attempts to change a negative situation have failed repeatedly,

some people come to believe that they are helpless to change things. Even when circumstances change to give them more control, they do nothing because they have already given up.

"Positive psychology is learned helplessness turned on its head," says Peterson. "Rather than looking at what goes wrong, you can look at what goes right." Peterson eventually came to study and promote what might be considered a mirror image of learned helplessness.

In addition to this conceptual link, Peterson notes that the collegial contacts he made at CU were important to his professional growth. Through his association with Maier, Peterson made the connection with Seligman, who had been a graduate student with Maier at the University of Pennsylvania and later did research with Maier. Peterson went on to do a postdoctoral program with Seligman, whose book *Learned Optimism* was one of the forerunners of positive psychology, and who is now known as the founding father of the movement.

After Peterson finished his postdoctoral research and completed training as a clinical psychologist, Seligman asked him to be part of a positive psychology project on character strengths. Peterson had just turned 50 at the time, had been studying depression for 20 years, and was ready for a new chapter in his life. He joined Seligman's project and began a new line of research on strength of character and well-being. Today, that research continues to inspire him, and he has seen positive psychology spark widespread interest from the media and the public.



Peterson believes that positive psychology is a perspective whose time has come. “I think the world has long been hungry for it,” he explains, “knowing that there’s more to what makes life worth living than what they’ve heard about from the social sciences. It was really just a matter of somebody saying it. You can make a good argument that social science has had reasons for being so problem focused, particularly psychology, but enough already!”

Peterson notes that the problem-focused bent of psychology is understandable. It’s human nature, he feels, to try to fix problems, and difficult issues naturally demand our attention. Also, funding for grants has historically played a significant role in the direction that research has taken, and this has often been problem driven.

While research on depression, anxiety, and the various mental disorders has taught psychologists a great deal about how things go wrong with people, less is known about how things go right. This is where positive psychology comes in, balancing what we know about dysfunction with research into the pleasant life (the “life of enjoyment”), the good life (“the life of engagement”), and the meaningful life (“the life of affiliation”). Such research, advocates of positive psychology believe, is critical if psychologists are to help people live happier lives, since happiness is not merely the absence of problems and negative emotions, but rather, the presence of positive factors like meaning, love, and enjoyment.

Peterson finds that his involvement with positive psychology has influenced the way he lives his own life. “It’s made me more mindful about what matters. It’s made me nicer. I’m a nicer person. Anybody who knew me 30 years ago would have said I had a very sharp tongue. I thought I was very funny. I probably was funny. I still try to be funny, but without the sharp tongue. And that’s a direct result of studying positive psychology. A sharp tongue is not what I want to be remembered for when I ride off into the sunset.”

How would he like to be remembered? Peterson says that he is most strongly identified with being a teacher, and that he would like to be remembered as a good one. He notes that this was modeled for him at CU, where he benefited from his association with some excellent professors. He mentions owing a debt of gratitude towards his dissertation supervisor, Michael Wertheimer, who helped him understand what it meant to be a wonderful teacher.

Peterson expresses a deep sense of enjoyment in his teaching role, which supersedes his experiences as a researcher.

“Research is great, but the payoffs are very distant and they’re unpredictable,” he says. “You could work for two years on a project and it may not work out, but you can’t teach a course and not see the payoff immediately.”

He describes the biggest payoffs as being able “to engage with the best and brightest in the next generation, to talk to them and see the little light bulbs go on above their heads.” He takes pleasure in seeing his students progress in their careers and lives, and hearing from them years later. “They always tell me that I planted a seed and maybe they’re just being nice to me, but I don’t argue with them, and it makes me feel very, very good.” His teaching skills have been recognized at the University of Michigan, where he is an Arthur F. Thurnau Professor, an award given to honor his contributions to teaching. Two of his courses, *Introductory Psychology* and *Psychopathology*, have several times been voted “Best Undergraduate Class” at the university.



Peterson’s personal sense of a life well lived revolves around engagement with others. “I think the single

most important contributor to the good life, the fulfilling life, is good relationships with other people. I don’t have my own family, but I have very close friends, my extended family, my colleagues and students, and that’s what’s most important to me.”

Some of his most satisfying memories of interpersonal relationships while at CU involve time spent with other graduate students. “It’s really my fellow students at CU that I learned the most from, and that resulted from the sheer amount of time we spent together, just talking, just doing what we used to call ‘bull sessions.’ I can still remember those conversations.”

When he thinks about Boulder these days, Peterson has many fond memories. “I remember the blue sky. I remember my last summer there, in 1976, when there were meteor showers, so at night you’d see all kinds of shooting stars. I never saw a shooting star before or since. I remember Tom’s Tavern very fondly. Tom served me more meals than my mother ever did, plus with alcohol!”

But it’s the interpersonal connections that he remembers the most. And he feels the same about his current life, noting that his work is what brings him the greatest happiness. “It’s my work, because I get to do it with the people I care about: colleagues and students. I have no illusions. If they write the history of psychology in 100 years, I’m not going to be in it. That’s okay. I’m not going to get a Nobel Prize. That’s okay, too. But in the here and now, I really like what I do.”

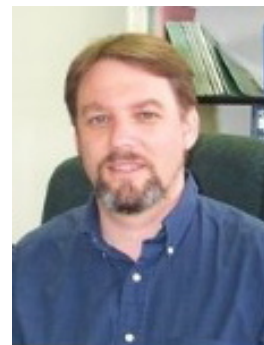
If you would like to learn more about Chris Peterson’s work and take a survey to identify your own character strengths, you can visit the website for the VIA Institute on Character. The VIA (Values in Action) Institute was founded by Martin Seligman and Neil H. Mayerson as a way of classifying and measuring character strengths. Peterson helped develop the classification system and the survey itself.

To visit the site, go to: <http://www.viacharacter.org/Home/AboutVIA/tabid/59/Default.aspx>

# The World of Words

Peter Foltz Pushes Latent Semantic Analysis towards New Frontiers

by Alyson Daly and Alicia Segal



Computerized grading of essays. Automated methods for evaluating clinical disorders such as schizophrenia. Computational assessment of military leadership skills. Are these futuristic, technological visions? The wistful longings of overburdened teachers, soldiers and clinicians? With the help of Dr. Peter Foltz, these are possibilities that are becoming reality.

Since graduating from CU (Ph.D. '93), Peter Foltz has been deeply immersed in language analysis in a wide range of areas. His automatic technology systems can be found in academia, clinical settings, industry, and the military, and all utilize semantic analysis in their processes.

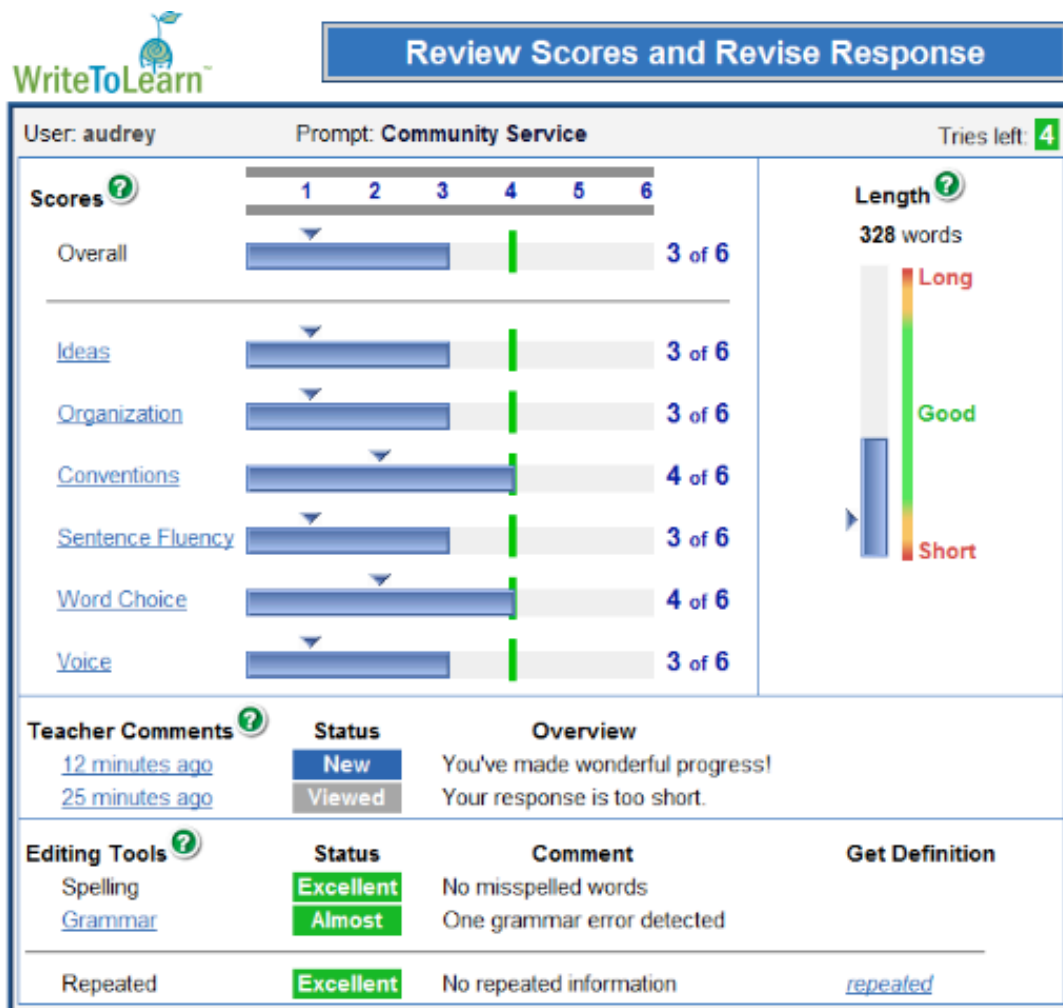
Foltz is most prominently known for research on Latent Semantic Analysis (LSA), a technique developed by CU Psychology Professor Emeritus Thomas Landauer and his colleagues. LSA is a computer model that measures the similarity of meaning of two passages of text. Designed to mimic the way humans think about language, it's used as the basis for many types of language modeling, including automated essay grading and information retrieval.

One example of an LSA function is the comparison of two similar words to measure the extent to which they share the same meaning. For instance, the words "doctor" and "physician" have a semantic relationship which can be determined by how they

appear in related contexts. The capacity to identify such relationships is used by LSA as part of an elaborate essay-scoring system and in other applications where computer-based understanding of semantic relationships is critical to analysis.

Foltz's interest in LSA started when he was a graduate student at CU, working on a project with Professors Walter Kintsch and Gerhard Fischer. The project focused on improving the interface between humans and computers, which led Foltz to develop a neural-network approach to information retrieval. In the process, he discovered related research being done by a group at Bell Communication Research (Bellcore), a company that Landauer was working for at the time. Foltz took a hiatus from his doctorate to work at Bellcore, which influenced the direction of his work and introduced him to Landauer.

After a year at Bellcore, Foltz returned to CU to finish his doctorate. He had originally



Sample screen from Pearson Education's WriteToLearn, which uses LSA technology to help students learn to write better essays.



been attracted to CU's psychology department by the work being done with cognitive modeling and computer interaction, as well as the department's focus on both applied and theoretical work, a mixture that he identified with.

"I've always been a cross between doing theoretical work and getting that work out there into the field," he says. "I don't want to just create a theory and run some experiments and say, 'Well, I've studied it, and now I understand it.'" Foltz recalls that he's always been interested in how to take theory into the real world and get people to use it.

When Foltz talks about his graduate studies at CU, he describes the experience as "a very good basis of learning." He is especially appreciative of his association with the Institute of Cognitive Science (ICS), which encourages interdisciplinary work. With that influence, he took courses in complementary fields such as education and computer science. "I think that gave me a much wider exposure to a lot of different areas, and all those areas come into play in the work I'm doing now—quantitative methods, education, computational modeling, as well as psychology and cognitive modeling. So I think ICS certainly gave a good, broad base of knowledge in all of those different areas."

After graduating, Foltz left Colorado to do two years of postdoctoral work at the University of Pittsburgh's Learning Research Development Center. His work there examined the reasoning process that students go through as they put together and integrate information from multiple texts. He also developed automatic technology for scoring such written representations.

Following his postdoctoral studies, Foltz went on to become a professor at New Mexico State University, where he continued to work on automated methods for analyzing essays and written answers. His domain of study expanded to include human-computer interaction, user-interface design, the development of computer information-retrieval systems, and research on memory recall. In addition, he developed automated methods of looking at clinical disorders, including a process for evaluating schizophrenia by analyzing language from patient interviews.

Throughout his years of study and teaching, Foltz had maintained an ongoing relationship with Landauer based on their common research interests. They were each working separately on methods of assessing essays, and were then able to compare their technologies and develop a system that they believed could grade essays as accurately as humans. In 1998, supported by what they felt was solid evidence, they announced their findings at the annual American Educational Research Association meeting. The story was picked up by the press, not without some ensuing controversy.



"We were inundated with calls from reporters who wanted to do a story," Foltz says, "and unfortunately, most of their stories took the slant of *Computers to Replace Teachers*." Foltz disagreed and tried to convey that his system could help both teacher and student use their time more effectively. "I wanted students to do more writing. I think writing is one of the best ways to learn. Teachers don't have enough time to grade multiple revisions of an essay, so one way to do that is to have a computer that can give them feedback on their writing."

Foltz says that particularly in content-based responses, where students might read a chapter and write a summary

about it or respond to a content-related question, his system was able to give immediate, effective feedback. For example, his program could tell students where to look in the chapter to revise their essay, which they could then resubmit, and keep revising and resubmitting until they were satisfied with their work.

Although they attempted to correct the misperceptions of the press, Foltz says that he and Landauer continued to get calls from reporters whose slant was "this is evil, it's going to replace teachers." Once the word was out, however, teachers began to call Foltz constantly to request the software. At that point, Foltz, Landauer and Darrell Laham (a graduate student in Landauer's lab at the time) formed a company, Knowledge Analysis Technologies, to commercialize their technology and make it available to the public. They also developed language-based technologies for the Department of Defense that analyzed how well military teams worked together, identified leadership capacities, and evaluated overall performance of the teams.

In 2004, Knowledge Analysis Technologies was acquired by Pearson Education, a company which uses LSA technology for automated assessment of speech and text. Foltz is currently Vice President of Product Development with Pearson Education. Knowledge Technologies, as part of Pearson Education, maintains offices in Boulder and Palo Alto and is affiliated with the international Pearson media company whose businesses include the Financial Times Group and the Penguin Group.

Following his time in New Mexico, starting a company in Boulder gave Foltz an opportunity to come full circle and return to a place that he treasured. "When I left CU in 1993, I assumed I would never get to come back and live in Boulder, given that CU doesn't typically hire its own. I knew that generally when you go into academia, you find a job in another place. But I really, really loved Boulder, and by starting a company here, I've had the chance to get back."



# Going Pro

## Mitzi Martin Takes Her Degree in Unforeseen Directions

by Dan Robinson



In a popular series of television commercials, the National Collegiate Athletic Association reminds us that the vast majority of college athletes “go pro” in something other than sports. A similar principle holds true for psychology majors: the vast majority go on to careers outside professional psychology.

If CU ran a series of commercials on this theme, Mitzi Martin (B.A. '93) could star in one of them. Although Martin has never worked directly in the field of psychology, her education as a psychology major at CU has informed her life and career in far-reaching ways.

### The CU Experience

A native of Michigan, Martin visited CU in her senior year of high school and fell in love with the Boulder campus, despite getting sick the weekend she visited and experiencing a Boulder snowstorm—in September. “I came back home and told my parents, ‘That’s the best school ever. I’m totally going there.’”

Martin entered CU as an undeclared student and ended up choosing psychology as her major because she found the classes interesting. “To be honest, I was a bit lost,” she recalls. “I had to declare a major, and I didn’t know what I wanted to do, so I went with something I liked.” A business major might have been more practical, she says, but “something inside of me was leading me in the right direction.” She calls her time in Boulder “fantastic from an educational standpoint, from a social standpoint, in basically every way.”

### Showbiz and Beyond

In the summer between her junior and senior years at CU, Martin did an internship with the Cable News Network (CNN) in Los Angeles. To her delight, the internship led to a full-time job after graduation—one that made her the envy of her friends. She went to work for the program “Showbiz Today” and soon found herself interviewing actors, artists, and musicians, including Ben Stiller, Mary Chapin Carpenter, and the cast of *Melrose Place*.

Martin quickly decided, however, that she didn’t want the level of public exposure that came with being an on-camera personality. After a year in Los Angeles, she returned to Michigan to be closer to her family. Her first job back in her home state was running fundraising events for the Metro Detroit Chapter of the Arthritis Foundation. That job led to a marketing position with an automotive manufacturing company, which led, in turn, to a position in corporate recruiting.

Of all her jobs, Martin says, her position as a recruiter in the automotive industry was the one in which she used psychology the most. “As a recruiter,” she says, “you have to understand the psychology of the individual, the psychology of the company, and how the two fit together.”

Drawing on her background in psychology, Martin was able to look deeper into the recruiting process and make some surprising choices. “The hiring manager was usually looking for someone who did the exact same job at another company in our industry,” she says. “But that wasn’t always the best person for the job.” For example, she once found the perfect replacement for an important plant manager in an unlikely person: the head of manufacturing for the supermarket chain Piggly Wiggly. Martin remembers the reactions she got: “Everyone’s looking at me, saying, ‘We’re in the auto industry. Why are you giving us this Piggly Wiggly guy?’ The thing is, his skills turned out to be spot-on for the position.”



Selling the candidate to the company was only half the challenge: Martin also had to sell the company to the candidate, and that meant understanding the person’s psychology. “We were doing national searches,” she says, “and a lot of these auto plants were in the middle of nowhere. You can’t just assume that monetary compensation will do the trick. You have to look at the whole person, think about what the move would mean for them and their family. What’s their lifestyle, and how do they want to replicate that lifestyle in the new location?”



Once the hiring was done, Martin would also get involved in preparing the employee mentally to make the transition. She had excellent retention rates.

### Going Pro in Parenthood

Martin met her husband, Patrick, at a Tupperware party, a fact they still like to laugh about. “My cousin invited me to a Tupperware party, and I went, sort of against my will,” she says. “I didn’t even know they still *made* Tupperware.” One party led to another, and “the next thing I know, I’m at my second Tupperware party in three months,” she recalls. “I had a lot of Tupperware. And then suddenly I had a boyfriend.”

The couple married in 1999. They have three daughters, Victoria, Makenzie, and Peyton; and one son, Patrick.

### Coming Full Circle

When Martin was seven months pregnant with Makenzie, her company laid off all its employees in the state of Michigan. All at once, her carefully laid plans to continue working from home while having a family were derailed. With some trepidation, she became a full-time mother—and continued in that role for the next four years. She then started her own interior-design business, Clever Transformations, matching home makeovers with personal transformations her clients were trying to make in their lives. At yet another crossroads in 2007, she returned to full-time parenthood and had her fourth child.

Paradoxically, the experience of being a parent—in particular, of watching her children go through the educational system—has led Martin to consider her next career move. She has always been interested in education, and by observ-



ing the experience of her children and their peers, she has become convinced that schools must do a better job of serving children who aren’t classified as “special-needs kids” but who face unique and real challenges, whether it be hearing loss, Attention Deficit Disorder, or childhood-onset depression. To make a difference in this area of need, Martin is considering returning to school for a master’s degree in counseling. In the end, it seems, she may “go pro” in psychology after all.

In the meantime, Martin is already giving back to the institutions that provided her education. She has organized several major fundraising events for the high school she attended in Michigan, and she recently

made a financial contribution, through her family’s foundation, to the Women’s Mental Health and Wellness Clinic, founded by CU psychology faculty members Sona Dimidjian and Tina Pittman Wagers. The clinic is part of the Clinical Research, Education, Services, and Treatment (CREST) Program at CU. Martin’s contribution furthers the work of the CREST Program to support outreach and education of the community about depression and the mental health needs of women.

“I believe in education, and I believe in research,” says Martin. “I think this is important work, and I’ve always wanted to give back.”

Wherever her future leads, Martin will continue to draw upon the education she received as a psychology major and use it for the greater good. Although she may never star in a psychology television commercial, she exemplifies the impact that our department’s graduates have, and will continue to have, on the world at large.

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### Research News: The Identity Tradeoff (Continued from page 7)

to think about themselves in their future family situation. Interestingly, the study found that the female students tend to switch back and forth between the identity (career or family) they are suppressing and the one they are displaying. For example, they will suppress the family identity while enacting the career identity, but when asked to think about their future family, they will, in effect, switch identities and suppress the career identity. This identity tradeoff is considered to be “cognitively expensive,” and can be very psychologically stressful, and might even lead to depletion of executive control functions. However, while female students tended to trade off identities, male students tended to only activate the career identity.

Park was first inspired to go into psychology through her undergraduate research methods course, which was taught through the psychology department at the University of Oregon, by Professor Myron Rothbart, under whom she went on to conduct her undergraduate honors thesis.

### Research News: The Relationship between Words and Categories (Continued from page 7)

One of the next steps in Colunga’s research is to identify the relationship between category recognition and word learning. She will try to determine if late talkers have trouble recognizing categories, which in turn leads to other language problems in general, or vice versa.

Colunga started working with computational models when she was studying computer science and cognitive science at the University of Indiana at Bloomington. However, most of her work was with artificial intelligence, primarily engineering, while she really wanted to understand how these different processes worked in humans. Eventually she ended up joining a behavioral lab and very much enjoyed the interplay between creating viable models of prediction and testing them on living human beings. In her own words, she “just got hooked.”

# Alumni News

Please go to the Alumni News wiki to read stories and updates from the alumni listed below, who all sent us news this year. The wiki also contains entries submitted for last year's newsletter.

## How to get there:

1. Log on to the Alumni News wiki via our department's home page (<http://psych.colorado.edu>)
2. Click on the "Resources" tab on the left-hand side of the page
3. Click on Alumni News
4. For login information, email [psychology.news@colorado.edu](mailto:psychology.news@colorado.edu).

## Forties

Stuart O. Parsons, PhD, MA (BA '48)

## Sixties

Jonathan W. Hays, JD (BA '60)

Jon Hilbert (BA '60)

Rosalind (Linda Bruner) Braga, MA (BA '62)

David S. Gochman (PhD '62)

John W. Madden, III, JD (BA '62)

Gary L. Forsberg, MBA (BA '64)

John Gillis (PhD '65)

Marideanne Bray Blomgren, MS (BA '66)

Diana W. Tripp, MEd (BA '66)

Jacob (Jack) Hautaluoma (PhD '67)

Tom Reiva (BA '68)

## Seventies

Caroline Daniels (BA '70)

Oswald Steward, PhD (BA '70)

Barbara (Glassman) Wilson (BA '71)

Allan P. Jones (PhD '71)

Katherine J. Nevins, PhD (BA '71)

Beverly Cole (BA '72)

Marilyn Jean Hydinger-Macdonald (BA '73)

Carolyn Allen Zeiger (PhD '76)

Susan Kegeles, PhD (BA '76)

Jim Mitchell, MA, MS (BA '76)

Margret (Peg) O'Byrne Nelson, BSN (BA '76)

Steve Wilner, MD (BA '76)

Jerry B. Yager, PsyD (BA '78)

Susan Cortney Remien Winters (BA '79)

## Eighties

Brewster Miner (BA '82)

Vivian Zlobec (BA '82)

Richard J. Tremaine, MBA (BA '83)

Marcy Cooper, MD (MA '84)

Sharon E. Anderson (BA '85 Psych & Education)

Greg Elliott (BA '86)

Susan (Suzette) Mack (BA '86)

Richard Curtis, PhD (BA '87)

Victoria Cotton (MA '88)

Todd L. Owen, PhD (BA '88)

Suzanne Roberts, MSW (BA '88)

Patty Burbridge (BA '89)

Andrew Rittgers, MBA (BA '89)

## Nineties

Beth Lusby, PhD (BA '90)

Monica Ramunda, MA (BA '91)

Wendy Spergel Garfinkel, MSW, MA (BA '91 Psych & Communication)

Pat Thorpen (BA '93)

Michelle Bloodworth, PhD (MA '94)

Jason P. Kring, PhD (BA '94)

Kym (Merritt) Calvo (BA '94)

Tanya L. Tompkins, PhD (BA '94)

Matthew Canepa, PhD (BA '96)

Jennifer L'Hommedieu Stankus, MD, JD (BA '96)

Mary Elizabeth Stimmel, MA (BA '97)

Autumn (Van Kirk) Steward-Campbell (BA '97 Psych & Sociology)

Laura Julian, PhD (BA '98)

## The New Century

### 2000

Heather Harter, LCSW (BA '00)

### 2001

Robert Landauer, BSN (BA '01)

### 2002

Susan Dean (BA '02)

Jennifer J. Reynolds, BSN (BA '02 Psych & Kinesiology)

Kevin Wendling (BA '02)

### 2003

Katherine Elder (PhD '03)

John N. Gaetano (BA '03)

Rebecca (Lummas) Dix (BA '03)

Allison Mitchell (BA '03)

Matthew Whalen, MA (BA '03)

### 2004

Jennifer Akullian, PhD (BA '04)

Chad Breznay MS (BA '04)

S. Joy Fox, MA (BA '04)

Millie M. Riss, PsyD (BA '04)

### 2005

Nick Browning, MA (BA '05)

Zachary Brugman, JD (BA '05)

Alysia Cirona, MD (BA '05)

Roseann Rodriguez (BA '05)

Michelle Welsch, LMSW (BA '05)

Jessica Werner, 2Lt, USAFR (BA '05)

### 2006

Ingo Albrecht (BA '06)

Chrissy Hubbell, MSW (BA '06 Psych & Art)

Hannah Rodgers (BA '06)

### 2007

Rebecca (Ambrose) Collins (BA '07)

Tais Hoelzinger (BA '07)

Victor Levin (BA '07)

Christine Warrick (BA '07)

### 2009

Samantha Davis (BA '09)

Anna Forssen (BA '09)

## What's New With You?

Please give us news about yourself to share in our next newsletter.

Be sure to include your name, degree(s) and year that you graduated from CU. Feel free to add other information about yourself, including activities of interest (current employment, professional activities, family news, etc.) and insights into how your CU degree has helped to shape your life and work.

## Never received our e-mail in September?

If you did not receive an e-mail from us in September requesting news and updates, please give us your e-mail address for future contact and online newsletters. Your e-mail address will not be printed in the newsletter, but will be put on the CU Foundation alumni list unless you specify otherwise.

Send your e-mail address and news to: [psychology.news@colorado.edu](mailto:psychology.news@colorado.edu)



# In Memoriam



**Eva Fifková**  
(1932-2010)

Eva Fifková, Professor Emerita of Psychology and Neuroscience, passed away on February 1, 2010, due to brief complications from pneumonia. Anyone who knew Eva knows that she would not appreciate an effusive memorial in her honor. Indeed, there will be no memorial service to my knowledge. So, out of respect for her wishes, this will be concise.

Eva received her M.D. from the School of Medicine, Charles University, in Prague, Czechoslovakia, in 1957. She immediately began graduate studies at the Institute of Physiology, Czechoslovak Academy of Sciences, also in Prague, where she studied under the great electrophysiologist Jan Bures. She received her Ph.D. in 1963, by which time she had published 30 papers (as a graduate student!). After a postdoctoral appointment at the California Institute of Technology, Eva began her professorial career with us in 1974. Her work, concerning plastic changes in the fine structure of the nervous system produced by functional demands, was groundbreaking and internationally recognized. Long before computers were commonplace in laboratories, Eva was one of the first scientists to pioneer efforts for computer reconstruction of the three-dimensional organization of brain cells and their processes, methods that are still cutting-edge now.

Eva's reserved demeanor belied the excitement she took in her science and the microanatomy of the nervous system. Indeed, the one time I saw her talk in our department, her demeanor inspired me to brace for a "long one." It turned out to be one of the most interesting presentations I have seen here or elsewhere. Eva and I collaborated on a couple of papers after she retired when, as she put it, she finally had time to get some science done (this was after a career of 145 papers). During this collaboration, I would warn my students that if they had a five-minute question to ask Eva they should allow an hour for a response. Once Eva looked down the tubes of a microscope, there was no interrupting her pleasure and enthusiasm to get fast answers. She will be missed.

*(Contributed by Dan Barth)*



**Evan Matthew Sloane**  
(1977-2009)



Evan M. Sloane, who received his Ph.D. from the Department of Psychology and Neuroscience (Watkins/Maier lab) in 2009, was unfairly taken from us by cancer on September 23, 2009. Our sincere love and thanks to all who helped Evan and his family through his ten-month battle and to those who have contributed to his memorial fund. He was the beloved son of Stephen and Cheryl Sloane; loving brother of Lindsay Sloane; grandson of Helen Rosoff; and nephew of Andrea Pearl and Donald Sloane. Funeral services were held at National Funeral Home Chapel, Falls Church, VA, and a memorial service was held at the Koenig Center, CU-Boulder, in October 2009. A tree will be planted in memory of Evan on campus this spring.

Evan grew up in Potomac, Maryland. When he was thirteen, his family moved to Englewood, Colorado. It was there at Cherry Creek High School that Evan developed the two passions he would continue to pursue: knowledge and rock climbing. After graduating from high school in Houston, Texas, Evan moved on to Emory University in Atlanta, Georgia, where he graduated in 1999 with a major in psychology and a minor in French.

In 2001 he was fortunate to secure a position as a lab tech in the Watkins/Maier lab at the University of Colorado Department of Psychology and Neuroscience. He was thrilled to move to Boulder and be part of an intellectually curious community. For Evan, this was a perfect fit geographically as well as educationally. In addition to working in the lab, he taught students to climb through the university's Outdoor Program. In 2003 Evan was accepted into the graduate program in the Psychology and Neuroscience Department. Under the guidance of Professor Linda Watkins he was able to continue his studies and research towards his Ph.D. in pain management.

Evan loved the outdoors. He found climbing to be both a mental and physical challenge. He felt peaceful on a mountaintop or hiking down a trail. He continued to be a highly accomplished climber. He participated in the Rocky Mountain Search and Rescue, was a certified Wilderness First Responder, and pursued his lifelong goal of climbing all over the United States, as well as in Peru, Mexico, and Australia.

Evan loved and was loved by his family, his colleagues, his friends, and his community. They surrounded and supported him while he bravely fought cancer. His intellectual quest never dimmed. He lived life fully and with meaning. He inspired those around him to be better, to learn, to enjoy life.

Memorial contributions may be mailed to CU Foundation, 1305 University Avenue, Boulder, CO 80302, Attn: Mary McGee. Checks should be made out to the CU Foundation, and directed to the Evan Sloane Memorial Fund.

*(Contributed by Stephen and Cheryl Sloane)*

# Wandering the Halls

## Meandering through Muenzinger and Portals into the Past with Building Proctor Kate Bell



This second edition of our newsletter finds me meandering through the archives as the Department of Psychology and Neuroscience celebrates its 100<sup>th</sup> anniversary. As the department's 21<sup>st</sup>-century building proctor, I chose to focus on recollections surrounding Hellem's and the Muenzinger Psychology building, two of the buildings which have housed the department in its first century of existence.

In the beginning, where else could the Psychology Department have resided but Old Main, the structure that was the birthplace of CU? Over time, the Psychology Department moved about campus, being housed in many different locations as buildings were constructed and space needs increased.



Mary Ann (Wood Gundel) Tucker circa 1992

My historical trail begins with the hiring of Mary Ann Tucker in 1966. Mary Ann worked in the Psychology Department as an Administrative Assistant for 39 years and was my mentor when I was hired seven years ago. Mary Ann's memories of the department are a living treasure.

When Mary Ann arrived on campus, the Psychology Department was housed in Hellem's, and the Clinical area's Rainy Clinic was housed in Hellem's Annex (now the School of Education). Room 106 was the biggest room on the first floor; thus, it was used as the main office, with adjoining offices for the chair and Professor William Battig, Director of Undergraduate Studies. At the opposite end of the hallway was a large workroom full of equipment that would be unrecognizable to today's support staff: a sorting machine, a Gestetner Machine (a stencil duplicator), and a ditto machine.

Mary Ann recalls the loads of fun that she had standing at the sorting machine trying to catch the eight pages of the document, hit the stapler, and add to the stack before the next eight pages came spewing out. And, if it wasn't a good eye-hand-coordination day, heading back to her office to re-sort the whole stack. The Gestetner machine required her to type onto a long form that had a wax-like coating, attach the long page to the machine, and turn the crank. Black ink was forced through the cuts in the imprints in the wax to print out on a finished document. If Mary Ann made a mistake in typing, she had to fill in the typed imprint with a fluid that smelled like ether...a few whiffs of which would certainly slow down the process! Then, she would have to roll it back into her typewriter to type the correction...not a process that is very speedy to begin with. And many readers will have fond memories of papers with purple print run off on the ditto machine. It was almost an automatic response the way students would put the paper to their noses for a whiff of that distinctive ditto smell.

As the department grew, a staff member was hired to manage this workroom and run off the copies. It was soon discovered that students would try to bribe her for copies of exams or, at the very least, rummage through the trash for copies or used Gestetner forms. Since there was no locked "confidential" recycling bin like we have today, the policy was to lock all trash from the workroom in a small side room.

When faculty and staff moved into the Muenzinger Psychology building in 1971, Mary Ann recalls how everyone was forced to take the stairs in the beginning, as the elevator was reserved for moving furniture. Moving from the smaller, more confined space of Hellem's to the long corridors and six levels of Muenzinger, the new residents would arrive at their new "digs" with their sides heaving.

The main office in Muenzinger was originally planned for the area where the lobby is today. Obviously, that plan changed, putting the main office on the second floor. Originally, the main office had a full kitchen located along the wall where the faculty mailboxes are today. There was a fridge, a sink and a stove, which could be closed off behind wooden, levered doors when not in use. The catch was that the office manager at the time would not allow anyone to use the stove so that the office would not



CU staff member using the Gestetner machine. This photograph is from the CU Course Catalog 1951-52 and is part of the University of Colorado at Boulder Archives, Western Historical Collection.



smell of food. (What? No microwave?!) Those were also the days before the morning Starbucks stop. Mary Ann would prepare a large urn of coffee each morning, and she tells of lots of foot traffic through the office with the professors, staff and students filling and refilling their mugs. The closeted kitchen disappeared, as did the coffee urn, when the main office was remodeled in 1992 when Professor Jack Werner was chairperson.

When Professor Bruce Ekstrand became chair in 1976, his wife did not like the white walls in the lobby, so a “painting party” was formed one Saturday to remedy this problem. Mary Ann rose at the crack of dawn so that she could pick up donuts, put on a pot of coffee, and tape paper along the baseboard of the lobby before the rest of the crew arrived. The “painting party” painted the pillars brown and the walls yellow and burnt orange. Mary Ann seems to remember that there was a touch of turquoise in there somewhere—definitely a cutting edge ’70s look! All that was missing was a large macramé wall hanging!



The clickety-clack of those typewriter keys was background noise in the main-office-without-walls prior to the renovation in 1972. Beth Smith, pictured here, had a long career as Assistant to the Chair.

In earlier days, the Psychology Department graduation ceremony was held on the patio outside the Muenzinger lobby, and the staff would struggle to find chairs throughout the building to accommodate all the graduates and their guests. Eventually, the graduate numbers grew such that it became necessary to rent additional chairs—as well as a tent to protect everyone from the hot sun of late spring in Colorado. The ceremony was held after the university graduation at the football stadium. Mary Ann and other staff would pace along the table filled with cake until the first signs of the stadium emptying. Then, there was the rush of serving cake before the Psychology Graduation would begin.

Those times in the ’70s were also marked by organized picketing of Muenzinger by PETA (People for the Ethical Treatment of Animals). The Maier/Watkins lab would have students and staff sleep in the lab for 24-hour coverage to protect the rats.

There were many fire alarms over the years, but only once was there a fire. It occurred on the fifth floor, which contains only a hallway used for storage. It turns out that a transient was living up there and started the fire. Little damage was done—a near-miraculous result, considering the



Psychology Department main office prior to renovation circa 1970. Who would have thought there was a kitchen behind those closed doors? Photos on this page provided by Beth Smith.

amount of combustible “stuff” that was crammed into the hallway.

Originally, the east end of the fourth floor was also just a long hallway before it was remodeled to house the Institute of Cognitive Science. The hallway was lined with punch cards that had to be fed into the early computers. Now there’s a memory!

In the early years in Muenzinger, there was a woodworking/electronics shop on the 00-level where items needed for experiments were designed and built. Mazes were built for the rats, including a water-filled maze for Jerry Rudy’s research. The tub used for this maze is still up on the fifth floor, I believe!

All kinds of items have passed their time of usefulness. One such example came to my attention recently as building proctor because it seemed like such a staple in our working environment, especially at an educational institution—the bookcase. I had fourteen tall metal bookcases moved out last semester, and now another fourteen (from Lew Harvey’s lab) are about to disappear. Such is the impact of a world lived in the digital age!



The stylish yellow chairs are the first thing most people notice in this photo taken in the Psychology Department Conference Room E214 in the 1970s. Today people can’t get rid of them fast enough!

# Little-Known Facts about Your Predecessors

Take this matching quiz to find out how much you really know about famous psychologists who have shaped the discipline since the founding of our department in 1910.



1. Anne Anastasi  
(1908–2001)



2. William James  
(1842–1910)



3. Donald O. Hebb  
(1904–1985)



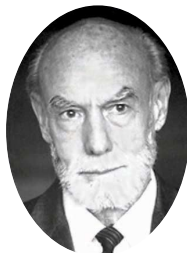
4. Ivan Pavlov  
(1849–1936)



5. Jean Piaget  
(1896–1980)



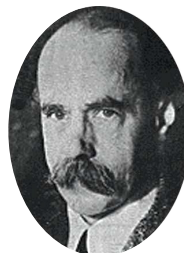
6. B. F. Skinner  
(1904–1990)



7. Roger Sperry  
(1913–1994)



8. Sigmund Freud  
(1856–1939)



9. Max Wertheimer  
(1880–1943)



10. Brenda Milner  
(born 1918)

- a. Was an early user and proponent of cocaine and wrote a well-received paper, *On Coca*, explaining its virtues.
- b. Acquired kuru, an incurable degenerative neurological disorder, through contact with human brains used for research.
- c. This person's theory is known by the catchphrase "Neurons that fire together wire together."
- d. Died of a heart attack shortly before completing the book *Productive Thinking*.
- e. Quoted as saying, "I never had any philosophic instruction, the first lecture on psychology I ever heard being the first I ever gave."
- f. Published first scientific paper at age 10 and completed Ph.D. at age 22.
- g. Known as the "test guru" of psychology and author of the seminal text *Psychological Testing*.
- h. This researcher's discoveries were put to chilling use in Aldous Huxley's novel *Brave New World*.
- i. Invented the "air-crib," an easily cleaned, temperature-controlled box designed to assist in the raising of babies.
- j. This researcher's work with the famous amnesiac known as "H.M." revealed that memory functions could be separated from other cognitive abilities.

Thanks to Gene Gollin, Michael Wertheimer, and Lew Harvey for selecting prominent figures in psychology over the past 100 years. Quotes and little-known facts were found in Wikipedia, the *APA Monitor on Psychology*, and Jerry Rudy's textbook, *The Neurobiology of Learning and Memory*.

Answer Key: a-8, b-7, c-3, d-9, e-2, f-5, g-1, h-4, i-6, j-10



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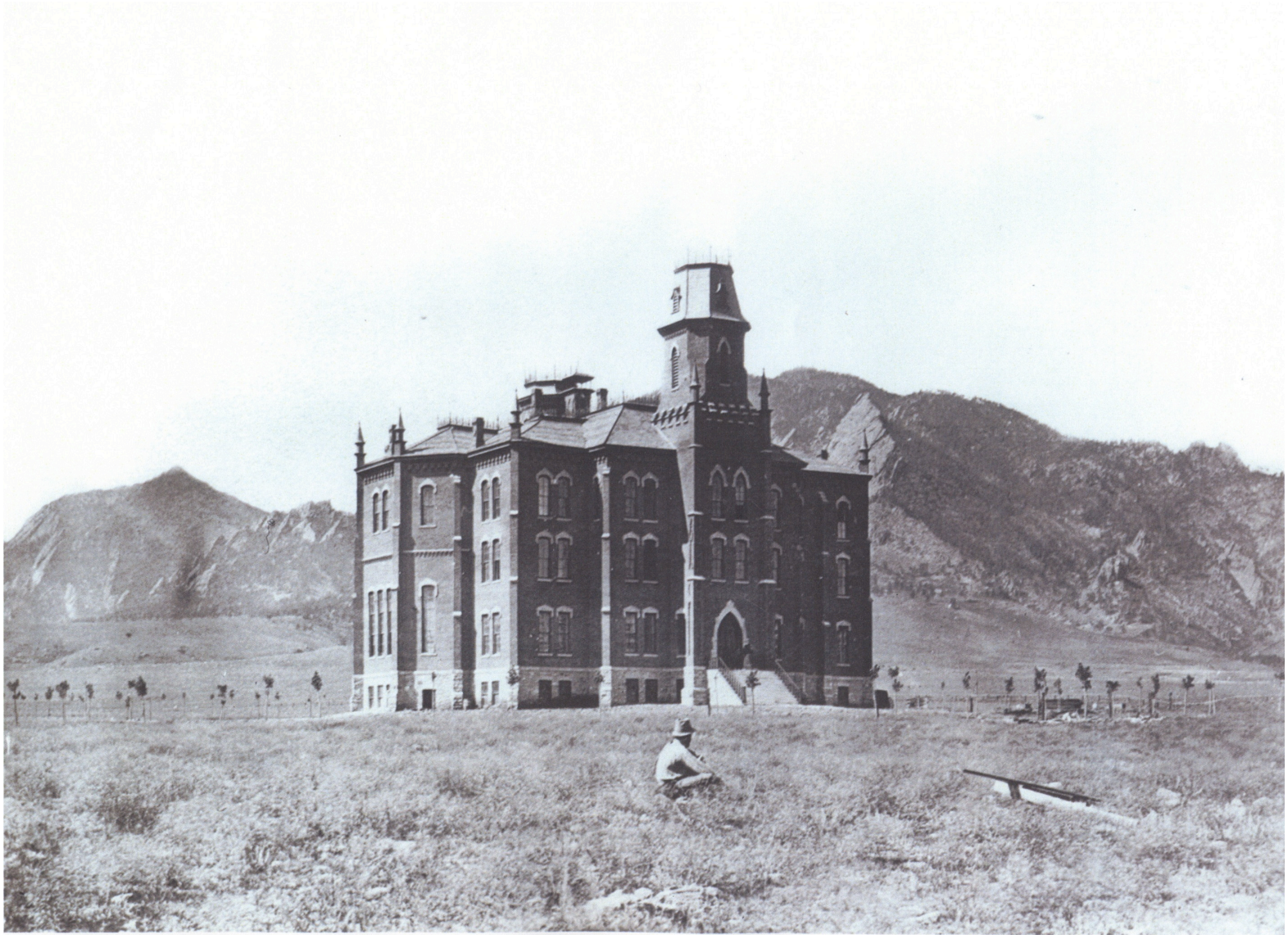
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The Old Main building in 1877, surrounded by newly planted cottonwood trees. Old Main was the original home of the Psychology Department. This photograph is from the University of Colorado at Boulder Archives, Western Historical Collection.