

Tales from West Quad, the Perry Building, and ISR:  
An Unbuttoned History of Psychology at Michigan

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I'm thrilled to be here and deeply honored to be representing UM psychology alumni. More than 25,000 people have earned bachelor's degrees in psychology at UM, nearly 2400 have earned PhDs, and I've always been proud to count myself among them, even when I'm on Purdue's campus. Because of that, a few years ago, one of our graduate students at Purdue asked me, "Why are you so 'gung ho' about Michigan?" I told her that my years on this campus represented one of two times in my life when I thought I was in a culture that consistently valued and encouraged excellence. I've spent most of my life at other public universities—good ones—but they've not had Michigan's expectation that faculty, students, and alumni will be the very best.

My commitment to Michigan has sometimes led to minor problems. Like many alums, I gave my kids their share of UM apparel. My eldest had a UM sweatshirt and I had him wear it to brunch with friends at the clubhouse on the Ohio State golf course when he was a 2-month-old. Most of the locals laughed but one woman was indignant, hissing, "He shouldn't be allowed to wear that in here." She was really bent out of shape, probably because Michigan had beaten Ohio State in the horseshoe a few weeks previously.

A similar story from a few years later: a friend gave my preschool daughter a UM cheerleader outfit. It was great to have her wear this on the Purdue campus. At 50 to 100 feet away, the colors and lettering were easily confused for a Purdue outfit, so people would smile. But at 20-25 feet, the smiles became frowns as people realized what she was wearing.

And one last story in this genre: Several years ago I was invited to a reception at the Purdue president's home. As I entered the receiving line, the provost noticed my UM tie, one purchased at Van Boven's about 40 years ago. He asked, "What's with the tie?" My reply: "This is the next level." Now this provost was an unusually talkative guy, even for an academic. But, for once he was speechless, because he knew it was true. UM is among a handful of public universities that constitute the benchmark against which all the rest are compared.

I hope these stories establish me as a bona fide alum, one qualified to give this talk. Now, the charge from the bicentennial organizing committee was to talk about the history of psychology at Michigan in both general and personal terms, in a manner suitable for a broad audience including faculty, students, and alums. So, here's my plan. I'm going to spend a few minutes providing a semi-formal history of psychology at the U of M. Then I'll talk about three defining features of Michigan psychology that had profound influences on my career. Unlike most talks given in this room, this one will be lean on data but heavy on personal reminiscence and reflection; that's why the title mentions an unbuttoned history.

Let me start with some nuts and bolts of the history of psychology at UM—dates, people, and places. The details I'll describe come from some outstanding histories that are available on the psychology website, two written by Alfred Raphelson and two by Bob Pachella. These are excellent; I recommend them highly if you want more information.

One seemingly simple question would be "When did psychology start at the University of Michigan?" That question turns out to have multiple answers. In 1870, Benjamin F. Cocker, an English clergyman who had no formal academic training, offered the first psychology courses. In 1884, John Dewey, who later became famous as an educational reformer, was the first faculty member to have graduate training in psychology. He taught courses that are familiar today, such as comparative, physiological, and experimental psychology. But others seem strange, including morbid psychology and speculative psychology.

As chair of the Philosophy department, Dewey hired James H. Tufts to establish the first psychology laboratory at Michigan. Tufts gathered the necessary apparatus and by 1890 the lab was able to study reaction times, color perception, and psychophysics.

In 1906, UM granted its first PhD in psychology to John F. Shepard. His dissertation was entitled “Organic Changes and Feelings.” Shepard joined the faculty and stayed at Michigan for more than 40 years. He was instrumental in creating new facilities for psychology.

Shepard’s dissertation was supervised by Walter Pillsbury, who was hired in 1897 and for many years chaired the psychology sub-division of the philosophy department. Pillsbury moved psychology in the direction of the biological sciences, but not until 1930 did UM establish a separate psychology department with Pillsbury as its head. Pillsbury is remembered for many contributions to psychology here and elsewhere, including the Pillsbury Research Award given to students.

So, depending on your criterion, psychology has been at the University of Michigan roughly 150 of the University’s 200 years or just under 90 years.

Having identified the origins of the department, there are several ways we can trace its growth. One is to look at its leaders. I’ve already mentioned that Walter Pillsbury was the first chair of psychology. When Pillsbury retired in 1941, the US had entered World War II, and a new chair was not announced until 1945. This was Donald Marquis and he laid the foundation for the department as we know it today.

Like many of the faculty members at Michigan, Marquis had been trained in experimental and physiological psychology; he was known for his work on conditioning and learning. But during World War II, Marquis had directed the Office of Psychological Personnel in Washington DC. Among his duties was placing psychologists in positions in the government and the military where they could aid the war effort. In addition, he helped to lay the groundwork for the National Science Foundation and to ensure that psychology would be represented in this new agency. These experiences led Marquis to a vision of a modern psychology department that would be much broader than had existed before the war. In particular, clinical and social psychology would become partners with the more established experimental and physiological psychology.

One good example of Marquis’s legacy involves the Institute for Social Research, ISR. During World War II, a group headed by Rensis Likert surveyed people’s attitudes, such as Americans’ attitudes toward the attack on Pearl Harbor. After the war, Marquis arranged for Likert’s group to come to Michigan, where they could continue their large-scale survey research. The result, in 1946, was the establishment of the Survey Research Center. Two years later, Marquis arranged for other social psychologists associated with the Research Center for Group Dynamics to move to Michigan. These psychologists were using social psychological methods and theories to account for people’s behavior in groups. And they pursued applications of their work. For example, they examined how minority employees were accepted by auto workers in Detroit.

In 1949, the Survey Research Center and the Research Center for Group Dynamics were merged to create the Institute for Social Research and in 1965 they moved into a new building on Thompson Street. Today, it’s hard to imagine Michigan psychology, or for that matter, the entire university, without ISR. But without Marquis’s efforts, ISR might never have materialized.

By the time Marquis resigned in 1957, the department had grown from 8 professors to 40 and the department offered topflight graduate training in clinical and social psychology. In 12 years, Marquis laid the foundation for the UM psychology department as we know it today.

There’s not enough time to comment on the many contributions of the remaining department chairs, but I’ll touch on just a few. Lowell Kelly created the area structure that still organizes the department. Bill McKeachie, for whom this wonderful facility is named, was chair for 10 years, from 1961 to 1971. In Bob Pachella’s history of the department, he writes, “If Donald Marquis was the

architect who drew up plans and laid the foundation for the modern Michigan psychology department, then Bill McKeachie was the contractor who constructed much of the edifice.” The faculty more than doubled in size under Bill’s leadership, growing to more than 100 professors. Some of this growth reflected the department’s greater breadth: developmental psychology was added and the department partnered with the school of education to create the Combined Program in Education and Psychology.

In the 1980s, Al Cain initiated the planning that led the department to the current facility in East Hall and that move was completed under Pat Gurin’s leadership in 1995. In addition, Pat spearheaded efforts to diversify the department, increasing the number of women faculty members and the number of faculty members of color. What all these folks have in common is that they’ve kept Michigan psychology as a leader in the field, a department that sets the bar for psychology departments across the country and around the world.

Another way to track the department’s change is to follow the path that led psychology to East Hall. This aspect of the history is interesting because it tracks changes in the growth of the campus overall.

When the first students arrived in Ann Arbor in 1841, there were five buildings: the University building, which included student housing, a library, and classrooms. In addition, there were four houses, one for each of the four professors, who lived, taught, and did their research at home.

Now, jump ahead to 1903. Though not yet an independent academic department, psychology needed more space than was available in University Hall. So the department moved into buildings that had been added on to one of the original professors’ homes and had housed the medical college. When the medical college moved on to other quarters, psychology took over.

The added buildings were not very high quality—rumor was that they were constructed during a smallpox epidemic when more beds were needed in a hurry and with the idea was that they would be burned after the epidemic. In any case, in 1912, funds were obtained for a new building that would house psychology alongside departments like botany, geology, and zoology. Construction began in 1914, across the street from Hill Auditorium, which had opened in 1913.

The new building was designed by the famous Detroit architect Albert Kahn. And it shared some design features with Hill auditorium, which had also been designed by Kahn. The department moved into Natural Sciences in 1915 and stayed there for about 35 years. But as the department grew during Marquis’s years, more space was needed. No single facility was available, so this began the decades of the great scattering. Administrative offices and some faculty offices were first moved to Haven Hall. But many faculty had offices and labs elsewhere, including Mason Hall as well ISR, the old Perry School, and the Mental Health Research Institute. In the early 1970s, folks in Haven Hall moved to Lloyd House in West Quad. Constructed as a dorm, West Quad was not ideal office space, but it did mean that some faculty had personal sinks and personal showers.

Being scattered across campus didn’t foster a sense of unity in the department and finding space was a challenge for department chairs in the 1970s and 1980s. As I mentioned earlier, Al Cain and Pat Gurin oversaw the processes that resulted in Psychology relocating to the current building in 1995. East Engineering had been built in 1923 and expanded to the south in 1947. In 1986 the entire College of Engineering moved to North Campus, leaving East Hall up for grabs. Psychology and math were the winners. Psych got the original building and math got the newer but plainer addition.

Having described something of the formal history of the department, I want to shift gears and talk about some of the department's defining features, those that shaped my career. Let me start by explaining how I came to Michigan. I was an undergraduate at Ohio Wesleyan University, a small liberal arts college that's 165 miles south of Ann Arbor on US23. I began college planning to study economics, but in my sophomore year, I took a statistics course in the psychology department. The instructor was Harry Bahrick and he was an evangelist for psychologist science; his zeal for the field was remarkable. He persuaded us that psychologists investigated the most provocative, fundamental, and challenging questions in all of science. He convinced me that no other field could be as exciting as psychology; I changed my major to psychology immediately and never looked back.

When it came time to apply to graduate school, I was interested in programs that linked education and psychology. On the one hand, I was excited about experimental psychology; on the other, this was 1970 and I was passionate about radical educational reform that was proposed by people like Neil Postman and Charles Weingartner. Harry was masterful in supporting my enthusiasm for educational reform while suggesting that my contribution to such reform could be in scientific studies of the conditions that foster learning. This balancing act—respecting my wishes but nudging me in a direction that played to my strengths—led me to do a senior thesis in which “freedom of choice” was the independent variable and led me to Michigan's Combined Program in Education and Psychology, starting in 1971.

Before continuing, I want to mention that this almost didn't come to pass. Harry had been a research associate in Paul Fitts' aviation psychology laboratory at Ohio State. When Michigan hired Fitts in the 1960s, he wanted to bring Bahrick along. UM was amenable but Harry wasn't interested. He remained at Ohio Wesleyan, which was Michigan's loss but my gain a few years later.

I arrived here in the fall of 1971, excited but intimidated by the other incoming graduate students, many of who had been undergraduates at high-profile institutions. But the intimidation didn't last long. First, I realized that my undergraduate psych instruction at Ohio Wesleyan had prepared me well for graduate school and I soon found that I was tutoring other students in our intro stat course. Second, the director of the Combined Program, Bill Morse, was remarkably reassuring. Then I quickly discovered that most faculty members were like Bill—they were incredibly supportive. They treated us as colleagues-to-be, were unbelievably generous with their time, and provided amazing mentoring.

With that encouragement, I quickly settled into life here and found the next four years at UM to be a wonderful experience. And I want to mention three features of my experience in this department that affected my entire career. The first is that, befitting a department that's ranked among the best in the world, UM psychology exposed graduate students to the very latest, groundbreaking research. One historical example would be in clinical psychology.

Today, it's hard to imagine a psych department without a clinical program. Understanding the factors that promote well being and that can reduce mental illness is a fundamental part of a modern department's research mission and training graduate students in clinical science is a fundamental part of its instructional mission. Yet that hasn't always been the case and UM was one of the forerunners in embracing research and training in clinical psychology.

The origins of clinical psychology at UM go back to Donald Marquis. Before Marquis and before World War II, clinical psychology did not exist as an area within scientific psychology. There were psychologists who studied clinical syndromes but treatment was largely the domain of psychiatry. This changed dramatically and rapidly after World War II, largely because many soldiers returned from the war with mental-health problems, what we now recognize as PTSD. In 1945, a report from an APA committee outlined a new program that brought training of clinicians into psychology departments and made mental health research a priority.

Many experts were critical in these developments, but a key player was Lowell Kelly, who came to Michigan in 1946. Through the efforts of Kelly and others, these ideas formed the template for modern clinical science as an academic discipline within psychology and UM was among the first departments to embrace the new model.

Another example of Michigan psychology leading the field, one that affected me personally, is the cognitive revolution within experimental psychology. As most of you know, for the first half of the 20<sup>th</sup> century, behaviorists had argued that for psychology to be a science, researchers need to focus on behavior, not mental events. The aim was to identify laws that governed observable behavior. For example, to study memory, psychologists examined the impact on retention of the properties of a stimulus, such as its familiarity, the rate with which it was presented, or the number of times it was repeated.

This approach generated a substantial body of research establishing reliable influences on retention. But explaining these influences proved to be more difficult, mainly because what the experimenter considered to be the stimulus was often quite different from what research participants considered to be the stimulus. Pesky participants insisted on converting the nonsense syllables used by researchers into something meaningful and they often looked for ways to group stimuli together. In other words, the external stimulus was *coded*, converted into some sort of internal representation that was the fundamental unit for all subsequent memory processes.

These ideas gathered momentum in the 1960s and one of the hubs of this new memory research was here. Don Marquis hired Art Melton in 1957 and Melton directed the Human Performance Center that was established in 1962. Over the next few years, Michigan assembled a first-rate cadre of memory researchers, including Bob Bjork and Jim Greeno. But particularly noteworthy for me was Ed Martin, who joined the faculty in the mid 1960s.

In 1971, Ed had just taken on the editorship of the *Journal of Verbal Learning and Verbal Behavior*, one of the main outlets for research on human memory. In addition, he and Art Melton had just completed an edited book, *Coding Processes in Human Memory*, a volume that captured the essence of the new cognitive approach to memory. So, Ed was at the center of the cognitive revolution as it applied to the study of human memory, and twice a week in the fall of 1971, he described that revolution for me and a roomful of graduate students taking Psychology 751 in the old Perry School.

It was an amazing course. Ed was a superb lecturer. He would walk into the classroom, set down a portable lectern filled with notes, take a sip from his cup of coffee, take a long drag from his cigarette, and start to lecture. His lectures were absolutely mesmerizing. He would outline different theoretical accounts, their predictions, and then describe their match to the data. I was captivated.

At the same time that I was taking Ed's course, I discovered that John Hagen was studying the *development* of attention and memory, using some of the same ideas that I had encountered in Ed's course. All of this created an "ah-ha" moment for me—I wanted to study the development of memory in children. So I asked John if he would be my advisor. He agreed, got me involved in his research, and I transferred from the Combined Program to developmental. Soon thereafter, I had my first publication in a developmental journal. John and I collaborated on an edited book on children's memory and I did my dissertation on individual differences in children's memory.

One other story about Ed Martin: Once I asked him to comment on a manuscript that I had written describing a couple of experiments on memory. In retrospect, the experiments were ill-advised, the manuscript poorly written, and I really had no business asking someone of Ed's stature to spend 30 minutes on this task. When I got it back, the manuscript was covered in red ink, and Ed

signed off by writing, “Join the crowd, we all have manuscripts filed away that should be thrown away.” I've loved that line and used it myself.

In 1975 I took my first position, at the University of Pittsburgh, which was home to a group of researchers who were deeply committed to the information-processing approach that was at the heart of the cognitive revolution. In essence, this approach used computing as a metaphor for human thinking. At Pitt, I began to wonder what a developmental version of that metaphor would look like. Two events helped this pursuit. First, I began to collaborate with an advanced graduate student, Jeff Bisanz, who represents another UM connection. Jeff was an undergraduate here and we'd met when we were teaching assistants for Lorraine Nadelman's course in developmental methods. Jeff and I had long discussions and many arguments about the nature of a developmental approach to information processing, and those led to a series of papers in the 1980s and 1990s, and a lifelong friendship.

Second, at this same time, personal computing was progressing by leaps and bounds—PCs were getting larger memories, larger hard drives, and faster processors. For example, the IBM PC XT, released in 1983, had 128 KB of RAM, a 10 MB hard drive, and an Intel processor running at 4.77 MHz. By 1997, a state-of-the-art Gateway 2000 computer had 128 MB of RAM, a 6.4 GB hard drive, and a Pentium processor running at 266 MHz. These technological advances allowed PCs to tackle complex tasks more successfully and more rapidly. Jeff and I wondered if similar changes in mental hardware might contribute to changes in cognitive development during childhood and adolescence. In other words, we wondered if ontogeny might recapitulate technology!

For reasons that I won't go into, I decided to focus on the processing speed component. According to the metaphor, perhaps one element of cognitive development is that the mental CPU is upgraded regularly during childhood and adolescence, allowing cognitive processes to run faster. If this were the case, then speeds of different processes ought to show a similar developmental trajectory, reflecting increasing speeds that are possible as the child's CPU is upgraded. In other words, if some sort of mental CPU limits the speed with which children can execute cognitive processes, then growth curves for different processes ought to be similar.

I tested this prediction across a variety of perceptual, memory, motor, and cognitive tasks in different studies. This work showed that mature processing speeds are achieved at about the same rate for different processes. Age-related change in processing speed was typically best described by an exponential function, and the decay parameter of that function—which describes the rate at which speeds approach adult like speeds—was the same for these different processes. This outcome was consistent with the idea that some global influence, like a CPU, sets age-related limits on how quickly children process information.

Of course, the CPU was just a metaphor. An immediate question was what sort of mechanism in the developing brain would produce systemic effects like those attributed to a CPU. In fact, there are important changes in the central nervous system during childhood and adolescence, periods when processing speed changes so dramatically; for example, there are age-related changes in the number of transient connections in the central nervous system as well as age-related increases in myelination.

I first began thinking about this issue in the mid 1990s and frankly I was ill-prepared to study it. I had little formal training in neuroscience and, consequently, couldn't navigate myself around the brain if my life depended on it. In addition, 25 years ago the kind of brain imaging work that is commonplace in today's social, cognitive, and affective neuroscience was just getting underway, and doing that sort of work with children was a pipe dream.

So as a first and crude approximation, I reasoned that if processing speed reflects changes in underlying neural functioning then children with impairments to the central nervous system should have slower processing speed. I did a meta-analysis that showed this to be true for children with intellectual disability. Others reported similar findings for children who had experienced closed head injury, in which trauma leaves the brain and dura matter intact but the brain is injured nonetheless. Following such injuries, children have slower processing speed, and the degree of slowing tracks the degree of impairment; children with severe head injury are significantly slower than those with only mild or moderate injury.

Obviously the grain of analysis here is crude. Fortunately, in recent years advances have allowed scientists to do imaging work with children. This sort of research finds that age-related increases in processing speed during childhood and adolescence are predicted by age-related increases in the brain's white matter, which is made up of myelinated axons. The correlations are often modest and differ across brain regions, so there's much that left to explore. But the evidence suggests that developmental change in processing speed is due, at least in part, to changes in basic neural function.

Another issue concerned the cognitive consequences of age-related change in processing speed. Other researchers, notably Sandra Hale at Washington University in St Louis suggested a cascade model in which developmental change in processing speed increases the functional capacity of working memory, which facilitates reasoning. Consistent with the cascade model, developmental increases in processing speed typically predict increases in working memory, which in turn predict developmental increases in performance on reasoning tasks.

In short, my work on developmental change in speed of information processing is consistent with three key ideas: that speed of information processing increases with age at a similar rate on many tasks, in a manner that suggest they reflect some underlying global mechanism; second, that this global mechanism might reflect changes in the developing central nervous system; and, third, that increased processing speed allows children to perform more competently and more efficiently on a range of cognitive tasks.

None of these ideas was anticipated directly in my experiences at Michigan. But my years here introduced me to information processing as an approach to understanding developmental phenomena and I've spent most of my career exploring that approach. So, thanks Ed and John for the introduction.

A second feature of Michigan psychology is valuing and emphasizing interdisciplinary work. Of course, the department has the area structure that's common in psychology departments at research universities. But faculty members have been encouraged to cross those boundaries and there has been institutional support for such boundary-crossing. One example would be Michigan's joint doctoral programs, including the Combined Program in Education and Psychology as well as the joint programs in social work and psychology and in women's studies and psychology.

A second example would be research centers that attract psychologists to work with scholars from other disciplines. The list is long. In my time here, it included the Institute for Social Research, The Center for Human Growth and Development, the Mental Health Research Institute, and the Institute for the Study of Mental Retardation and Related Disabilities. Some of these remain today, like ISR and the Growth Center. Others remain but renamed and with somewhat different directions; for example, the Mental Health Research Institute lives on as the Molecular and Behavioral Neuroscience Institute. And others have disappeared. But over the years, they all provided homes where psychologists could cross paths with anthropologists, biologists, demographers, economists, educators, engineers, health-care professionals, political scientists, psychiatrists, and sociologists.

I wasn't expecting this boundary-crossing. I came to Michigan expecting to learn to become a psychological scientist and expecting to spend my time interacting exclusively with other psychological scientists. In my mind, that sort of focus was the essence of graduate training. So when I saw my advisors collaborating with experts in anthropology and special education, I was surprised. Yet it was obvious that such interdisciplinary collaboration allowed more thoughtful pursuit of research questions and was intellectually rewarding for the folks involved. Consequently, I left Michigan with my eyes open for such collaborations should they become available.

In my career, this kind of collaboration emerged in work with atypical children. For example, in the 1990s John Hagen and I collaborated again, working with folks in the Growth Center and the UM Medical School to determine the impact of Type I diabetes on children's cognitive development and their success in school.

But the example that I want to describe in more detail involves a long-term collaboration with colleagues in Purdue's department of speech, language, and hearing sciences. The collaboration began innocently enough. In 1981, a graduate student in that department, Marilyn Nippold, was taking my graduate course in cognitive development. During office hours, Marilyn described work that she had done providing language therapy to children with specific language impairment—a disorder known as SLI. These are children with intelligence in the normal range, but who are delayed in their language development, particularly in their expressive or spoken language. And one of their characteristic symptoms is that they experience word finding problems. When speaking, they often have unusually long pauses, as if they were searching for a word. And their speech is filled with fillers like *uh* and indefinite words like *stuff* and *thing*.

Marilyn further explained that speech language therapists saw word-finding problems as reflecting broken or inefficient mechanisms to retrieve words from a child's vocabulary. In other words, therapists assumed that children know the words they are trying to retrieve, but for unknown reasons they could not access to them. Therapy for these kids focused on teaching ways to access these words when they didn't come to mind readily.

I suggested that perhaps these kids had intact retrieval mechanisms, but they had not learned the words as well initially, making them more difficult to access. In other words, for children and adults with typical language skills, familiar words like *dog* can be accessed easily and quickly, but less familiar words like *aardvark* are often accessed with more difficulty and more slowly. For children with SLI, perhaps many words are like *aardvark*, relatively unfamiliar, making them difficult for kids to retrieve.

After my conversation with Marilyn, I contacted her advisor Professor Laurence Leonard, an expert on language development in children with impaired language. I suggested that some basic tools from the experimental psychology of memory could be useful in determining the extent to which word finding problems reflected the breakdown of retrieval processes, or were simply a by-product of children's less thorough learning of words originally. He was excited and this led to a multi-year collaboration involving the three of us in which we tested samples of children with SLI along with typically developing peers. We tested them on many memory tasks that had in common the fact that they varied the demand or support for retrieval processes. The central hypothesis was simple: if word-finding problems in children with SLI reflect problems with retrieval per se, then their recall should increase in conditions that support retrieval but decrease in conditions that impede retrieval.

For example, in one condition, children might be presented a list of familiar words. Following presentation of the last word, they're asked to recall as many words as possible. Such a free recall task could be compared with a cued recall task, in which retrieval cues are provided for groups of words. The conventional wisdom in the early 1980s was that cued recall should reduce retrieval

demands. Consequently, if word-finding problems reflect deficits in retrieval, then conditions that minimize the demands on retrieval should narrow or eliminate the impaired performance in free recall by children with SLI.

We did a half-dozen experiments that followed this logic and the results were consistent: Children with SLI generally recalled fewer words than typically developing children. But, contrary to the idea that children with SLI have impaired retrieval skills, these children did not benefit from conditions thought to support retrieval and they were not unduly penalized by conditions thought to make retrieval more difficult.

We suggested that children with SLI have less extensive knowledge of words than their age mates do. For example the entries corresponding to words are less elaborate than those of their peers and links between entries are fewer and weaker. And, based on these findings, we suggested that therapy to improve retrieval skills was not worth the time invested. Instead, strengthening children's knowledge of words—in essence, improving their vocabulary—should reduce their word finding problems.

This project lasted from about 1981 through 1986. Larry and I collaborated again from about 1996 to 2006, this time on the role of processing speed in the difficulties experienced by children with SLI. Both of these collaborations were immensely satisfying. They introduced me to novel phenomena and problems. And they challenged me to use my expertise to understand these phenomena and problems. Michigan didn't introduce me to SLI but my years here certainly convinced me that interdisciplinary collaborations have unique rewards.

The third feature that I want to mention is the most difficult to define precisely. I think of it as an entrepreneurial spirit or an openness to pursue opportunities that arrive unexpectedly. Of course as graduate students we're trained to be organized and planful, and researchers commit to similar plans when they submit grant applications describing their proposed research. But what I learned here is that sometimes unexpected opportunities pop up and we need to adjust our plans to make room for them.

One dramatic example of this occurred in the fall of 1973, during my third year of graduate school. Eighteen months previously, in February of 1972, President Richard Nixon visited mainland China, a visit that was an initial step in normalizing relations between the US and China. Afterwards, one of the first groups of professionals invited to visit China were child development experts, including one of my advisors, Harold Stevenson. My recollection is that the invitation came in the middle of the semester and that Harold was busy with dozens of projects. Nevertheless, the chance to spend a few weeks traveling throughout China, visiting with experts as well as touring schools and child care facilities, was an amazing opportunity, one that called for an immediate change of plans and priorities. So in mid-November Harold went to China, spending three weeks visiting nurseries, schools, hospitals, and health clinics. The group published a report of their trip and, as many of you know, that trip kindled Harold's interest in differences between schools in Asia and those in North America.

My first chance to take advantage of an opportunity occurred just a few months later. The Society for Research in Child Development was sponsoring a month-long summer institute at the University of Delaware on reading, one aimed at advanced graduate students and junior faculty members. I wasn't interested in reading, had other ideas for the summer, and trashed the announcement describing the institute. But Harold and John Hagen, told me to reconsider. They said the institute would be an excellent opportunity to learn about state-of-the-art research on reading and would allow me to start networking with peers. So I applied, was accepted, and spent an incredible month in Newark Delaware. I learned that I didn't want to study reading but I also got to spend time with about 15 first and second year assistant professors from universities in the US and

Canada. I hoped to be in their shoes in another year and it was terrific to hear their stories about what to do and what to avoid while starting one's career.

I've remembered Harold's experience many times in my career, and tried to take advantage of unexpected opportunities when they arrived at my doorstep. I'll just describe one more. As a graduate student, I had published a few papers in the *Journal of Experimental Child Psychology* and decided that one of my career goals would be to serve as its editor. I achieved that goal in 2001, when I served a 6-year stint as editor of the *Journal of Experimental Child Psychology*.

Having achieved my editorial goal, it would have been easy to retire from editorial life. But opportunity knocked. As I was about to step down from editing the *JECP*, the Association for Psychological Science announced a search to find the next editor of its flagship journal *Psychological Science*. I didn't give it much thought—in fact, as I had done with the announcement of the SRCD reading institute 30 years previously, I trashed the announcement. But then my department head at Purdue mentioned that he thought I would be an excellent candidate and he would like to nominate me; would I consider it?

I had always enjoyed reading *Psychological Science*, largely because the journal published brief reports of innovative findings that were thought to appeal to a broad readership. Editing *Psychological Science* would be a uniquely challenging experience, so I prepared my editorial statement and sent it in. I fully expected to receive, a few months later, an email me thanking me for my application and telling me the name of the next editor.

Well, I got that e-mail but it turned out the next editor was me! And that led to the most intellectually exciting, stimulating five years of my professional life. During those years I read nearly 10,000 manuscripts; toward the end of my term we were receiving a new submission every 3 hours 24/7. And these manuscripts described some of the best, most exciting, most provocative work from all domains of psychological science. At least once a day and sometimes as many as three or four times a day I would read a manuscript that gave me goosebumps because the work addressed an important issue in an elegant way and reported compelling findings.

But there's more to the story. As my editorship was winding down, I wanted our graduate students at Purdue to be able to take advantage of my experiences at *Psych Science*, so I suggested to my department head that I teach a one credit graduate course on scientific writing for psychology. He agreed, I taught it for the first time in January of 2012 and it was well received by our graduate students. Then I had another "ah-ha" moment. Because of the internet, all sciences—including psychological science—have become increasingly international over the past two decades. One result is that psychologists who are not native speakers of English need to publish their work in English language journals. I wondered if non-native speakers could benefit from my writing course. So I asked my friend Wolfgang Schneider if his graduate students at the University of Würzburg in Germany could be guinea pigs in an experiment to assess the value of my workshop for nonnative speakers. It was a big success and since then, May of 2012, I've been all around the world teaching this workshop.

One of my destinations has been Ann Arbor. For the past 3 years, incoming graduate students in Michigan psychology have participated in an orientation program that has included my writing workshop. In fact, I met the first cohort of students on the 40<sup>th</sup> anniversary—almost to the day—of my receiving my PhD in Hill Auditorium. It's been immensely gratifying to get these students started down the same path that I followed more than 40 years ago. I feel as if I'm making small payments to the huge debt of gratitude I owe the department generally and my teachers specifically.

So, to the alumni, I hope that I've captured the spirit of some of your experiences here. To the graduate students, I hope your experiences are valuable in helping you to begin your life's work. And, finally, to the faculty: To the veterans who were here in the early 1970s, many, many thanks for all that you did for me and my peers; every day I thank my lucky stars that I could spend four years in your good company. And, finally, to the younger generation of faculty: it's your privilege and responsibility to maintain the lofty standards of research, instruction, and service that make Michigan psychology the standard of modern psychological science at its very best. Thank you all.