

Remembering Earl B. ‘Buz’ Hunt

September 30, 2016



After receiving a bachelor's degree from Stanford University in 1954 and spending 3 years as an officer in the United States Marine Corps, Earl Busby "Buz" Hunt launched his academic career in 1957 at Yale University, receiving his PhD in psychology and computer science in 1960. Buz's doctoral thesis applied techniques developed by Allen Newell and Herbert Simon to simulate inductive problem-solving. Buz then held faculty positions at Yale; the University of California, Los Angeles; and the University of Sydney, Australia, before accepting a professorship in psychology and computer science in 1966 at the University of Washington, where he remained for the rest of his career. He cofounded the University of Washington computer science department and was chair of the psychology department from 1971 to 1978. He became a professor emeritus in 2001 while continuing his very active scholarly life.

During the early 1970s, Buz focused on individual differences in cognitive abilities. He felt that the evidence for genetic influences on individual differences in general intelligence should be integrated with efforts to understand the specific cognitive components involved in reasoning and other kinds of

cognitive tasks. Buz embarked on a pioneering cognitive approach to understanding performance on intelligence tests. He focused on explaining how individual differences in basic cognitive processes, such as categorization and memory search, contributed to performance on tests of verbal ability. In the 1980s and 1990s, Buz moved on to related topics, including consciousness, impacts of aging and drugs on cognitive abilities, interplay of language and culture, mathematical and computer models of reasoning and thought, attentional capture, divided attention, time-pressured decision-making, relations between verbal and spatial abilities, and navigation in virtual reality.

Among other significant offices, Buz was the first elected President of the International Society of Intelligence Research (ISIR) in 2011 and the editor of three major journals: *Journal of Experimental Psychology: General*, *Journal of Mathematical Psychology*, and *Cognitive Psychology*. Buz received the American Psychological Association's William James Book Award for his 1995 book, *Will We Be Smart Enough?: A Cognitive Analysis of the Coming Workforce*; the Lifetime Achievement Award from ISIR in 2009; and the James McKeen Cattell Award from the Association for Psychological Science in 2011 for outstanding contributions to applied psychological research.

Buz frequently sought to bring together diverse ideas and fields, a "big picture" approach that was manifest in all of his 10 published books. His 2007 book, *The Mathematics of Behavior*, used work in cognitive psychology, sociology, and economics to describe how mathematical models advanced discussions of complex human behaviors. His 2011 text, *Human Intelligence*, was a similarly broadly integrative effort and is regarded by many as the finest on its topic.

A major theme in Buz's career was pursuit of applications of his scientific work. He studied (with Colin MacLeod) the impact of epilepsy medication on cognitive abilities, developed (with James Minstrell) a prototype expert-system program for teaching introductory physics, and used (with Susan Joslyn) a test of multitasking abilities to identify individuals for jobs that involve time-pressured decision-making, such as air traffic control and emergency response.

All of Buz's achievements were shared with doctoral students, postdocs, and colleagues, several of whom have contributed to this series of remembrances.

Those fortunate enough to know Buz personally appreciate that he was a "character." He was witty and at times piercingly sharp. He was a generous and kind person, yet he did not hesitate to disagree fervently. He strongly advocated for academic freedom of expression and direction of study but also for rigor in research methods. A colleague described him as the "most intellectually honest person I've known." Buz cared greatly for his colleagues and students, aiding their careers generously. He was a loving husband and father and loved the Pacific Northwest. He and his wife Mary Lou raised their four children in a home overlooking Lake Washington, where they lived since 1966. Buz's first goal in life was to seek truth and let nothing stand in the way of finding it.

Jerry S. Carlson

University of California, Riverside

Susan L. Joslyn

Lyle E. Bourne, Jr.

University of Colorado

Buz and I were contemporaries: We started in experimental cognitive psychology at about the same age and time and studied, at least in the early years, many of the same phenomena, concept formation and conceptual rule-learning prominent among them. In 1964, I was honored to be asked by the book review Editor of the *American Journal of Psychology* to comment on Buz's first of several major research monographs, *Concept learning: An information processing problem*. As anyone who takes the time and trouble to look up my review will understand, I had then (and still have) immense admiration and respect for Buz's work and opinions, but we did not always agree. Buz was to me a friend, a mentor, and a fierce competitor. He was unique in many ways and will not soon be forgotten.

Jerry Carlson

University of California, Riverside

Buz Hunt was a close and dear friend. We spent many engaging and productive hours talking about our interests in cognitive and educational psychology, politics, social issues, and family. Buz's ability and drive to analyze and critically reflect on almost any topic were impressive; his curiosity was almost inexhaustible; and his insights were always informative.

These qualities of mind and character were major factors in Buz's career. But there was more: He was intellectually honest, with high work standards and an ability to take seriously perspectives and research results contradictory to his own views. He found research projects that were ill-thought-out and/or superficial, self-serving and/or ideologically-based, bothersome. Buz appreciated the significance of the research area to which he dedicated his life, but also recognized its limits.

An area of research that Buz found both vexing and important was the study of racial, ethnic, and gender group differences in intelligence. He recognized that quality of work in this area is particularly important, since results and generalizations drawn from them often find their way into public discussion and can both inform and misinform public opinion and debate, often in strongly emotional ways. Discussing this was a highlight of my long friendship with Buz. Hoping to provide direction and guidance for future research in this area, we collaborated on a paper that proposed 10 principles of design, analysis, and reporting to follow when conducting and evaluating such research. We argued that when scientific investigations have relevance to current social debates, as studies of group differences often do, researchers must exercise particularly high standards of scientific rigor, even more so than when the research goal is solely to promote exploration within science. The paper, "Considerations relating to the study of group differences in intelligence," was published in *Perspectives in Psychological Science* in 2007, along with a series of commentaries.

Buz had a never-ending curiosity and drive to be informed at the forefront of his area's research. His interests were broad and his knowledge deep. He was one of the most engaged and engaging persons I

have met, and he was great fun to work with — witty, humorous, and insightful. He will be missed.

Roberto Colom

Autonomous University of Madrid, Spain

My first encounter with Buz Hunt was a 2-week visit with him at the University of Washington in 1992. I was beginning my own research on the cognitive foundations of individual differences in intelligence, an area in which he was an unquestionable pioneer.

Following that visit, we had many fruitful professional and agreeable personal exchanges. The Spanish Society for the Study of Individual Differences organized a tribute to Buz in 1996, acknowledging his superb and creative contribution to this psychological discipline. Professor Hunt delivered the thought-provoking presentation “Will we be smart enough in the 21st Century?”

Two years later I organized a volume, designed for interested Spanish-speaking readers, discussing the controversial book *The Bell Curve*. I had no doubts about the perfect piece for closing the volume: “The Role of Intelligence in Modern Society,” an article written by Buz and published in *American Scientist* in 1995.

Professor Hunt was a master, but also a friend. Let me recount what I wrote for the back cover of his book *Human Intelligence*: “The resulting text is vibrant, brilliant, and inspiring. ‘Human intelligence’ is a significant contribution to future generations. A new wave of intelligence researchers will stand on the shoulders of this giant book.” I do this myself daily, but I also greatly miss Buz’s personal inspiration and support.

To find a longer, more personal remembrance of Buz, [visit my blog](#).

Thomas R. Coyle

University of Texas at San Antonio

Earl “Buz” Hunt was a dear friend, superb scientist, and titan in intelligence research. I had been familiar with Buz’s research for several years but first met him in person in 2010 at the International Society for Intelligence Research (ISIR) conference. I was chairing a symposium with talks by two students, who were quite nervous about presenting. I was struck by Buz’s kind and generous support for all of us. This was typical: Buz was inordinately supportive of students and colleagues, frequently writing letters for fellowships, promotions, and editorships. He expressed interest in my lab’s work on involvement of factors obtained after removing IQ variance from tests in academic achievement. My students felt like they had met an academic rock star. (Buz was then president-elect of ISIR, one of many distinctions he received.) Buz encouraged me to continue working on the predictive validity of these factors. His suggestions guided my further research.

I met Buz at other ISIR conferences, in Cyprus in 2011 and San Antonio, my hometown, in 2012. It was at these conferences that I took Buz’s suggestion to heart and presented research showing that non-IQ

factors had predictive validity beyond “g” (general intelligence). I met his lovely wife, Mary Lou, who was also kind and generous. Buz encouraged me to present new work on the validity of ability “tilt” (Buz’s very apt term for the difference between verbal and math scores on the SAT, or position on a verbal–spatial dimension independent of general intelligence), a suggestion that set the stage for my current research.

Buz was a hero to me. I think all scientists would do well to think about people who shaped their careers and pay it forward by supporting their students and colleagues in similar ways. My only regret is that I never published with Buz I am hoping that this memorial is a kind of remedy for that. Although other people have influenced my career, Buz was instrumental in guiding my research program. I cherished his friendship, counsel, and goodwill. I benefited from his mentorship, and his influence lives on in my and my students’ research programs as I pass along all that I learned from him.

Kay Deaux

City University of New York

Sam Glucksberg

Princeton University

Few know that Buz was a first-rate cross-country ski instructor. We (literally) ran into him as we laboriously tromped down a ski trail during a professional meeting in British Columbia, Canada. Buz showed us how to negotiate up- and down-hills, and made us look more skilled than we really were. He did this in academia, too. Buz will be sorely missed.

Randall W. Engle

Georgia Institute of Technology; University of Edinburgh, Scotland

Buz literally inspired my research career, but here I want to feature his sense of humor. As an assistant professor at the University of South Carolina, I had the job of inviting colloquium speakers. Following his publication of “What does it mean to be high verbal?” in *Cognitive Psychology* in 1975, I invited Buz to talk about the article. He agreed, but also wanted to discuss his project assessing the behavior of little-league coaches. Buz described the project, recounting how they had videotaped and categorized coaching behaviors. Buz reported that they had recorded 15,000 discrete behaviors and one indiscreet behavior. He took great joy in describing recording a coach hitting on the mother of one of his players — he set up the scene beautifully and it got a great laugh from the audience. I cannot think about Buz for long before that event comes to mind. I think Buz may have wanted to talk about that project just to tell that story.

Anthony G. Greenwald

University of Washington

My friendship with Buz started recreationally in the summer of 1960, when we met on a softball field in New Haven, Connecticut. It resumed 26 years later when I moved to University of Washington, where Buz was already an established and widely respected figure.

We did our research in quite separate areas, but it shouldn't have taken Buz's departure from life to get me to take a deeper look at his early scholarly work. As I did this in recent months, I read for the first time his 1978 *Psychological Review* article, "Mechanics of verbal ability," one of a few major pieces that marked his transition from work applying math and logic to artificial intelligence (AI) to his pioneering work applying cognitive psychology to the description and analysis of individual differences in human intelligence.

Steve Poltrock and Colin MacLeod (two collaborators who worked with Buz while he was transitioning from artificial to human intelligence) could not tell me what caused the decline of his interest in AI. I imagined that Buz was displeased when, in the late 1970s, parallel distributed processing (connectionist) AI simulations were outperforming ones based on his preferred Newell–Simon symbolic approach. Buz may have admired the Newell–Simon approach because its simulations incorporated symbolic logic and list-processing procedures corresponding to tasks requiring actual human intelligence. I was left just imagining what the conversation with Buz would have been like had I discovered his early work in time to get him to tell me the full story.

Many of my most fondly remembered interactions with Buz took place on tennis courts. There, he became a competitive and ego-involved persona that most of his professional colleagues never met. When Buz missed a shot that he was all set to put out of my reach, I heard a portion of his very extensive vocabulary that was quite different from the calm and reasoned demeanor that he displayed everywhere else I ever saw him.

In tennis, I had the unfair advantage of being 6 years younger than Buz, an advantage that I regretted only when Buz started to slow down enough to require discontinuing our regular tennis games. But this resulted in increased occasions on which my wife Jean and I saw Buz along with Mary Lou and often their grown-up children, a wonderfully close-knit family.

Richard Haier

University of California, Irvine

I met Buz in 1988 when he came to visit my university; he wanted to discuss my recent brain imaging paper. He was already a highly respected senior person in the field; I was quite junior and both flattered and nervous. In 1988, MRI scans were not yet used for cognitive research and wouldn't be for another dozen years or so. I had used Positron Emission Tomography while people solved the Ravens Advanced Progressive Matrices. The surprising finding of inverse correlations between test scores and regional cerebral glucose metabolic rate was the basis for a long, challenging discussion with Buz. It was challenging only because his questions were so insightful and his depth of knowledge so encyclopedic. Buz had that rare combination of second-to-none intellect and graciousness in conversation — not showing off how smart he was but reaching for core insights that were mutually informative. And he did this with a dry wit and a slight smile that beckoned you to join in the pleasure of good discussion. I

remember this conversation nearly 30 years later, but saw the same combination — intellect, graciousness, wit — often when Buz attended meetings and asked questions. His responses to the answers from speakers were always as informative and as constructive as his questions. Buz’s work, especially his recognition of the key role of individual differences in performance of specific cognitive tasks, was ahead of its time. Above all, Buz was a role model for professionalism and inspiration. It was an honor to have known him.

Diane F. Halpern

Minerva Schools at KGI; Claremont McKenna College

I don’t remember how Buz and I met; we just slipped into interchange. Over several decades, we exchanged e-mails, met at conferences, and occasionally talked on the phone. He always was encouraging me to aim higher and do more. He offered me advice when I ran for president of the American Psychological Association and while I held that position. Readers familiar with his work and with mine will not be surprised to learn that we often disagreed; these disagreements caused me to sharpen my thinking, sometimes moving closer to his positions and other times strengthening my opposition. We did not need to agree — in fact, disagreements were welcome. He delighted in the many small details of academic life, particularly the time when a publisher of one of my books insisted on rendering the figure on the cover anatomically incorrectly so we would not upset potential users from conservative states.

Buz Hunt was a towering figure in the fields of cognition and intelligence. Like so many others, I will miss him.

Wendy Johnson

University of Edinburgh, Scotland

Three years ago this fall, I opened my email to a message from Buz Hunt. I was always glad to hear from him — his messages were likely to make me laugh out loud, an always-welcome relief from the email chore. This one asked for my thoughts about a prospectus he had drafted for a book he was thinking of writing. He said he wasn’t sure he’d do it, but he’d gotten far enough in thinking about it that he wanted feedback. We had formed a strong friendship through working together on projects for the International Society for Intelligence Research and shared perspectives on many of the outstanding issues in understanding human intelligence. I knew he was ill and suspected he wasn’t sure he’d actually write his book because he knew he likely wouldn’t live to finish it. I had just finished a book myself and had been toying with an idea for another one, so I was curious about his.

Not for the first time, I was amazed at how similar his idea was to mine; he would have been my first choice to discuss it with, had I gotten that far. But I didn’t want to appear to steal or horn in on his idea, and how do you say to someone, “I think you think you’re going to die before you finish this, but what if you had a coauthor not so encumbered?” I wrestled with that but finally drafted an email expressing pretty much that sentiment, stared at it awhile, and pressed send. Literally within hours, I got his response: “YES, you’re on! I’d been thinking about enlisting a coauthor and you were among the top of

the list!” The book theme is wildly, perhaps crazily, ambitious, but Oxford contracted us, knowing it’d likely be me finishing it. We’re (Buz will be fully a coauthor) trying to recount the development since prehistoric hominids of what passes for cognitive ability in our modern world and speculate about how it will continue to evolve in the future. This was Buz all over: courageously challenging his own end with relentless ambition to push the boundaries of understanding human intelligence. I am so pleased that our discussions while drafting chapters enlivened the last years of his life and most recent years of mine, and hope that I can finish the book to realize both our dreams for it.

David Lubinski

Vanderbilt University

Buz Hunt was a brilliant and dominant force in the field of intelligence specifically and psychology more generally. He not only crafted *Will We Be Smart Enough?*, a cognitive analysis of the workforce, which earned him the American Psychological Association’s William James book award, but he also published a textbook, *Human Intelligence*, which many, including myself, consider the best modern overview of the field. These two volumes combine to tell a powerful story: Buz showed us why it was essential to take into account this critical domain of human psychological diversity in order to understand the human condition comprehensively.

Buz was also impressive in person. At the annual conference of the International Society for Intelligence Research (ISIR), an organization for which he served as president and that bestowed upon him its Lifetime Achievement Award, colleagues and students profited immensely from his erudition, penetrating intellect, and scientific wisdom, all of which he generously shared. That his interests were equally distributed across theoretical and applied endeavors was refreshing — almost as refreshing as the manner in which he eschewed trivia while being forthcoming in sharing his views. It was not always comfortable debating scientific issues with Buz, but one always came away with a greater appreciation of the phenomena under analysis and the nuances involved.

I had the privilege of interviewing Buz for ISIR’s annual Distinguished Contributor Interview in 2005. A taste of the scope of his interests and the impressive way in which he examined important psychological problems can be [seen here](#).

Buz’s legacy is a rich one: He made the field of intelligence scientifically better and the scientists in it better contributors and people. I will very much miss the positive influence he had on the field as well as the influence he had on me, but the substance and worth of his published work ensures that his contributions will continue to teach us all for many years to come.

Colin M. MacLeod

University of Waterloo, Canada

During my time as a grad student at the University of Washington, Buz was department chair and Editor of *Cognitive Psychology* and frequently served on committees in Washington, DC. Add to that a thriving lab with several grad students and postdocs, and a home with four active children, and you have a

daunting role model indeed. Given all his work, it was a good thing he could type so quickly — he was the fastest typist I have ever met! He once told me that he wanted to publish a paper on typing with Abe Peck, just so the author line would be “Hunt and Peck.”

Despite how busy Buz was, the people in his lab functioned like a family, getting together often and taking trips to the Hunt family cottage on Hood Canal to dig for geoducks. I recall (barely) a grad course that met one night a week at the Hunt home complete with generous supplies of port, as a result of which Buz’s students became some of my closest friends.

I was glad when he agreed to serve on my dissertation committee and happier still when, at the end of my graduate years, he offered me a postdoc. Those 3 postdoc years were a terrific time; Buz was an attentive (and patient) supervisor. I had learned careful empirical work from my grad supervisor, Tom Nelson; from Buz, I learned about theory and “big picture” science. You could put any data summary in front of Buz and he would have a compelling theoretical story for you before you knew it. That could be intimidating, but it always made our discussions fascinating.

Buz was generous in encouraging me to take the lead on a variety of projects, and I learned from him how to run a lab. Once I had taken up my academic position, Buz was always just a call away for advice, sharing his experience and insight. And more than that, he was always in my corner, applauding my successes. We became good and trusted friends, and I am glad that my family also got to know both Buz and Mary Lou from our visits to Seattle and their visits to the Stratford Shakespeare Festival close to us. I consider myself fortunate indeed to have had Buz both as mentor and friend.

Steven Poltrock

The Boeing Company (retired)

In 1972, my first year as a PhD student, I had the honor of working with Buz on “Mechanics of Thought,” a book chapter in which Buz developed a theory of cognition that integrated the mechanisms of information-processing theory with the higher-order reasoning work of Herb Simon. The chapter included a program for the mind that would solve pattern-completion problems subject to the constraints of a limited working memory. Buz was a professor in both the Computer Science and Psychology Departments, and this chapter combined ideas from these fields. Preparing this chapter with Buz was an extraordinary experience and influenced my career, which also has drawn on computer science and psychology.

During my graduate school years, Buz created a lab team to study individual differences in the components of the information-processing model (e.g., speed of scanning short-term memory, speed of access to long-term memory) and how those differences were related to individual differences in abilities as measured by traditional intelligence tests. Once Buz had established that laboratory experiments yielded interesting and relevant measures of cognitive abilities, he pursued ways of applying this approach to practical problems. For example, patients with epilepsy complain that their medications impair cognition, so Buz measured their cognitive abilities under different dosages to identify the aspects of cognition that were affected. He collaborated with the Psychiatry Department to investigate age-related cognitive decline. He studied the information-processing components involved in reading.

Buz was always interested in theory, but also interested in its practical application.

My years in graduate school working with Buz were some of the happiest of my life, and not just because of the many hours we spent in the lab. Buz taught me how to cross-country ski and to snowshoe. We hiked in the mountains, spearfished in Puget Sound, and played racquetball and squash. He was intensely competitive, and playing with him was a great pleasure. During the 40 years since graduate school our friendship grew, and my wife and I became members of the extended Hunt family, the center of Buz's life. He was a man with a phenomenal memory, brilliant mind, competitive spirit, intense desire to contribute, and strong ethical code, and he had the warmth and sense of humor needed to be an exceptional husband, father, and friend.

Robert J. Sternberg

Cornell University

I first met Buz Hunt shortly after I received my PhD in 1975. Buz and I disagreed on many things; in particular, the importance of general intelligence (*g*) in human cognition and in the world. But our differences were relatively “minor” (his word). We agreed from the start that human intelligence needed to be understood beyond psychometric analyses of traditional intelligence tests.

Buz, more than anyone else, initiated a formal cognitive approach to studying human intelligence. Charles Spearman and Louis Thurstone both foreshadowed Buz's later integration, and although Lee Cronbach was the first explicitly to call for “unification of the two disciplines of scientific psychology” (experimental and correlational methods), Buz was the first to operationalize intelligence and related constructs through a mixture of experimental and correlational methods. Highlights of his approach were a collaborative paper in *Cognitive Psychology* on what it means to be “high verbal” and a paper in *Psychological Review* on the mechanics of verbal ability. Today, the cognitive approach to intelligence is one of the most active paradigms of intelligence research, with some of it focusing on working memory and some on neuropsychological correlates of intelligence, among other directions. Buz's work was the intellectual inspiration for all of this. I suggested a somewhat different paradigm (which focused on analysis of more complex tasks), but our goals were the same: to understand the cognitive underpinnings of intelligence.

Buz and I disagreed more about his later work, especially his work on intelligence among nations, than about anything earlier, but I know he and Wendy Johnson were working on a book — almost until his death — on intelligence throughout hominid history. I can't wait for Wendy to finish this book: It will be a major contribution.

Buz had a razor-sharp mind — I know because I still have a few razor scars! He used it to nudge the field forward. He was witty, and known for awful(ly funny) puns. I miss Buz, because while one learns from many others, one perhaps learns most from those one respects but with whom one has intellectual differences. Fortunately, I still have many others to disagree with, but none who will be as full of fun and puns as Buz was.