Cattell Fund Allows Researchers to Extend Sabbaticals

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APS and Cattell Fund Extend Their Partnership

Throughout his career, James McKeen Cattell worked to advance psychology to the highest levels of science. His pioneering use of statistical methods and quantification of data was a central influence in the development of American psychology as an experimental science. In 1921, Cattell helped form the Psychological Corporation and later donated 600 of his 1,000 shares to establish the James McKeen Cattell Fund. (An interesting aside: Cattell published the journal *Science* which he sold to the American Association for the Advancement of Science in the 1940's and which is now one of the most prestigious scientific publications in the world.)

The goal of the Cattell Fund is to support "scientific research and the dissemination of knowledge with the object of obtaining results beneficial to the development of the science of psychology and to the advancement of the useful application of psychology."

In 1974, the James McKeen Cattell Fund Fellowships were created to allow psychological scientists to extend their sabbatical leave for one or two semesters in order to pursue new research. Each year the Fund supports researchers who, like Cattell, are committed to the scientific study of human behavior and the application of psychological research to improving human welfare.

While the Fund and APS have had a shared vision and cooperated for years, this year the cooperation between the two organizations has become official. The recipients of the Cattell Fund Sabbatical Awards will be announced each year at the APS Convention and a profile of each award winner will be published in the APS *Observer*. This union should help the Fellowships gain even greater national recognition and give more researchers a much-needed chance to further their research without the distractions associated with academic life.

Patrick Curran, George R. Mangun, and Dare Baldwin are this year's Cattell Fund award recipients.

Patrick J. Curran is a professor of psychology in the L.L. Thurstone Psychometric Laboratory at the University of North Carolina at Chapel Hill. The lab's mission is to "support the development and application of quantitative methods for psychological research." Curran says that he uses the formal scientific method to gather information about his world, just as others may use personal experience, religion, faith, or even music and poetry. This personal connection with the field is what fuels his desire to pursue research that will set the stage for future scientific breakthroughs in quantitative psychology. Curran has many plans for his sabbatical, including collaborating on a book-length manuscript with his colleague Dan Bauer that will focus on applied statistics in the social sciences. Curran also will be writing, with Andrea Hussong, a series of inter-related papers exploring methods for the simultaneous analysis of data drawn from multiple longitudinal studies. Upon completion of these projects, Curran hopes to "provide some practical statistical tools to applied researchers that might help them to conduct

their own research in new and exciting ways."

Having such a large block of free time is priceless to the outcomes of Curran's research: Without the support of the Cattell Fund, he would not have been able to embark on such an extensive research plan. "Each new discovery rests on the foundations of what existed before it," Curran says. "We must always strive to push forward from where we are today."

George R. Mangun is Director of the Center for Mind and Brain and a professor of neurology and psychology at the University of California, Davis. Mangun received his PhD in Neuroscience from the University of California at San Diego in 1987. No stranger to new initiatives, he launched the Center for Neuroscience (with APS Past President Michael Gazzaniga) at UC Davis in the early 1990s, founded and directed the Center for Cognitive Neuroscience at Duke University from 1998-2002, and most recently founded the Center for Mind and Brain at UC Davis.

The Center's unique mission is to "look at the mind from different perspectives because each of these varied views provides significant theoretical insight that no one discipline can claim." Mangun asserts that neuroscientists and social psychologists should work together to answer complex questions like "how the prefrontal cortex supports our perceptions and emotions of our interactions with others."

Mangun's research investigates the intricate activities in the brain that enable us to interact with our environment, focusing on areas that may be involved in attentional control such as the superior frontal, inferior parietal, and superior temporal cortex. He uses an array of behavioral and psychophysical methods, human electrophysiological measures, and functional neuroimaging. Understanding these systems could eventually provide insight into the deficits in attention and awareness in certain psychiatric and neurological diseases including ADHD, autism, and schizophrenia.

Mangun's sabbatical from his duties at UC Davis will not leave him with any extra time on his hands. First, he will be finishing up the third edition of his textbook, *Cognitive Neuroscience: The Biology of the Mind* (W.W. Norton), with coauthors Gazzaniga and Ivry. Then he will begin a new book, *Neuroscience of Attention* (Oxford University Press).

Mangun also will begin to investigate the neural mechanisms of visual attention that influence interpersonal communication — the neurophysiology of the daily face to face interactions between people. When a conversation occurs, both parties use various cues to focus attention both within the linguistic message and outside, making reference to objects and events in the world around them. Mangun would like "to explore the similarities and difference in how attention operates in this shared, communicative situation."

Mangun plans to take full advantage of his sabbatical and travel to the Netherlands where he will initiate a new project with his colleagues at the F.C. Donders Center for Cognitive Neuroimaging in the Nijmegen (headed by Peter Hagoort). He also will spend several months at University of Magdeburg, Germany, where a new 7T MRI scanner is operational. This scanner will allow Mangun and his colleagues to "attempt to study the fine structure of the organization of visual spatial attention."
When asked about his achievements Mangun quotes an old saying "you build too many centers and you become an administrator." While he enjoys his involvement in the various centers that have thrived in the wake of his direction, he also looks forward to focusing on his research. "I will get a chance to take

new risks in my research and to think and experiment outside my usual ‘box.’ I am looking forward to it.”

APS Fellow Dare Baldwin received her PhD from Stanford University in 1989 and is currently a psychology professor at the University of Oregon where she spends most of her time in the lab with infants and young children. While the children are playing and having fun, Baldwin is hard at work teaching them new words, showing them video clips, and engaging them in unique games, all in an effort to gain a deeper understanding of the neurophysiological systems that allow children to gather and synthesize incoming information very quickly.

Baldwin recently has focused on the relationship between social understanding and language development, exploring whether a lack of social understanding influences a child’s ability to develop language. If there is a causal relationship, then focusing further research on increasing social understanding may have a positive impact on language learning including implications for therapeutic measures used with autistic children who exhibit delays in language acquisition.

In addition to language development, Baldwin is interested in identifying the fundamentals of action processing, or how we make sense of motion. Her initial findings posit that action processing is surprisingly sophisticated even in infancy. To further understand this, Baldwin will investigate whether and how infants identify individual actions within the continuous motion stream. Baldwin also is interested in how humans learn to infer others’ intentions. Infants learn to quickly interpret others’ clues so that the possibility of making a mistake is reduced. Baldwin is now exploring the origins of this early interpersonal skill, hoping ultimately to understand how disruptions in such abilities affect children’s cognitive and social development.