Neuropsychopharmacology (2017) 42, 2468–2469
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www.neuropsychopharmacology.org

In Memoriam

Robert W McCarley—Pre-eminent Researcher, Mentor, and Friend

Neuropsychopharmacology (2017) **42,** 2468–2469; doi:10.1038/npp.2017.146

Robert W McCarley, MD, known to all as 'Bob,' died on 27 May 2017. His death was unexpected, and followed a meeting the day before with members of the executive committee of psychiatry, and his weekly Friday meetings with basic neuroscientists in his lab. On Saturday he was driving to his summer home in Westport, MA, with his wife Alice to prepare for a birthday for June, one of their seven grandchildren. He felt ill on arrival and was taken to the hospital, where he died later that day from a heart attack.

Bob was born on 17 August 1937 in Mayfield, KY, and came to Harvard College in 1955 on a full scholarship at the age of 18. Except for one year, he never left. He graduated *Summa cum laude* and was elected to the Alpha Chapter of Phi Beta Kappa. He then spent one year as a Fulbright Scholar in Psychology at Johannes Gutenberg Universitaet, Mainz, Germany. He was also a National Scholar at both Harvard College and Harvard Medical School. He interned at Brigham and Women's Hospital. It was here that he met Alice Bowen, whom he married in 1968. They began their life together first in Brighton and then moved to their Newton home, where they remained and raised their two sons, Robert and Scott.

Bob began his research career while still a resident in psychiatry at Massachusetts Mental Health Center. He worked closely with Dr J Allan Hobson. In 1977 he and Allan published an important paper on the activation-synthesis theory of dreams, which posits that dreams do not have meanings but are the result of the brain's attempt to make sense of the random firing of neurons. Bob's research interests were also in studying the brainstem and mechanisms in the brainstem that control REM sleep. He published *Brain Control of Wakefulness and Sleep* with Dr Mircea M Steriade in 2005. In the previous year, 2004, he published an important paper on adenosine and sleep wakefulness regulation with Drs Radhika Basheer, Robert Strecker, and Mahesh Thakkar.

In 1985 Bob moved from Massachusetts Mental Health Center to the Veterans Affairs Boston Healthcare System (VABHS) in Brockton, MA. He was Professor and Chair of the Harvard Medical School Department of Psychiatry at VABHS, founding Director of the Laboratory of Neuroscience, and Director and later Associate Director of the Mental Health Service. The Laboratory of Neuroscience has two divisions, a basic neuroscience and a clinical neuroscience division, following his two passions, sleep and mechanisms underlying sleep, and schizophrenia and related psychosis.

As a clinically trained and board-certified psychiatrist, he was interested in neuroscience related to schizophrenia, particularly as new technologies made it possible to examine brain physiology and structure in psychiatric populations. This work began in the 1980s with neurophysiology studies of the brain using a form of EEG known as event-related potentials, and with emerging magnetic resonance imaging (MRI) technology to investigate structural abnormalities in patients with schizophrenia. This newer technology, which included the quantitative processing of MR images, was adapted from satellite technology. In 1992 he published a classic paper with Dr Martha Shenton, where they described an important relationship between volume reduction in a brain region involved in thought and language, the left superior temporal gyrus, and a measure of formal thought disorder that reflected disorganized thinking in patients with schizophrenia.

The basic neuroscience division will continue with Drs Robert Strecker, Ritchie Brown, and Radhika Basheer at the helm, focusing on brain control of sleep and wakefulness, while the clinical neuroscience division will continue with Drs Margaret Niznikiewicz and Kevin Spencer at the helm, focusing on schizophrenia and related psychoses, using neurophysiological and neuroimaging techniques. Bob published >450 peer-reviewed papers and received consistent funding from the NIH and the VA for both sleep research and for schizophrenia research. He served as President of the *US Sleep Research Society* and received top research prizes from the *US Sleep Research Society*, the *American Academy of Sleep Medicine*, and the *American Psychiatric Association*, and, in 1998, he received the

Department of Veterans Affairs William S. Middleton Award, the highest honor awarded to a VA biomedical research scientist. He became a member of ACNP in 1994, a fellow in 2001, and a lifetime fellow in 2003. He served on the Program Committee of ACNP. He also served on NIMH study sections for many years, including as Chair. Additionally, he mentored more than 85 post-doctoral fellows from around the world, many of whom are now professors, department chairs, and heads of hospitals.

Bob inspired others by example. He was passionate about science and his incisive mind sharpened fledgling research ideas. He also saw the glass as half full and thus when a paper or grant was rejected, his attitude was one of—'we will just make it better.' There was no turning back. There was no giving up. The message was clear. Success comes from persisting and not giving up on a good idea, and he worked relentlessly to make sure that every grant and every paper found a home. He also believed in his trainees at times when they did not believe in themselves. Moreover, he believed that anything was possible and so roadblocks did not exist for him, nor did he believe they existed for those around him. This led to trainees accomplishing more than they believed they could. In this way, Bob served as a wonderful role model for being a scientist and for perceiving the world around him. He was, in fact, such a force of nature, and so committed to his life, both at home and at work, that it makes it difficult for those who are left behind. It does not, in fact, seem possible that someone with his vision, his drive, and his energy and passion is not here doing what he has been doing over so many years. He is an example to us all. He lived his life the way he chose. Whether he was talking about seeing Parsifal at the Vienna State Opera, or about Chandelier cells and their role in the brain, or about his newfound interest in discovering that hermit crabs inhabited the beach at his summer home in Westport the first year he was there, or the sound of opera in the background when you talked with him on the phone, he was intensely engaged in what he was exploring at the moment, and eager to share it. And finally, it is important to not forget his graciousness. He was always the Southern gentleman. He was a gracious host at dinners with colleagues and friends around the world, as well as at parties at his home with colleagues, friends, and trainees. His life was full and rich and he did what he loved most. He was passionate about his work and those he worked with, and he was passionate about his family. How rare it is to live as one desires—loving family, work, and friends, not to mention opera, sports cars, and the newest technology in computers! He is survived by his wife of 48 years, Alice, his sons Robert (a psychiatrist in Portland Maine) and Scott (a Software Manager in Newton, MA), and seven grandchildren, Emma (13), Maddie (11), Amelia (10), Callie (8), Harper (3), Ian (7), and, June (5). Bob exemplified a life well lived, and, while he will be sorely missed, he leaves behind him a legacy of many who were profoundly influenced by him. He expected the best from himself and from others, and we are all better for this.

Martha E Shenton*,[1] and Marie Fairbanks*,[2]
[1]*Psychiatry Neuroimaging Laboratory, Brigham and Women's Hospital and Harvard Medical School and VABHS Brockton, MA, USA;*
[2]*The Laboratory of Neuroscience, VABHS/Harvard Medical School, Brockton, MA, USA*
E-mail: Shenton@bwh.harvard.edu or marie_fairbanks@hms.harvard.edu