
IN MEMORIAM

Ray Fuller, 1935–1996

Ray Fuller, a distinguished member of our College, died at his home on August 11, 1996, after a long and gallant battle with chronic lymphocytic leukemia. Ray was best known for his studies on the effects of drugs on biogenic amine neurotransmitters and for his seminal contributions to the discovery and development of fluoxetine (Prozac®). His contributions to neuropsychopharmacology, however, extended far beyond the discovery of Prozac®.

Ray's life and career personify the great American success story. Ray was born and raised in southern Illinois on a farm in the rural town of Dongola, Illinois to be exact. His surroundings as a young boy could best be described as rather humble (anything but that which would have predicted his future career and success as a scientist). His family's farm had no electricity, telephones, or indoor plumbing and was accessible only by a dirt road that was often impassable in the winter. As a young boy, Ray attended a one-room schoolhouse and like many in his family and community, never really expected to go to high school. In fact, when Ray was in the 7th grade, his family moved to Anna, Illinois so that he and his brother could even attend high school. He graduated high school and went on to college at Southern Illinois University where he received his Bachelor's degree in chemistry and a few years later a Master's degree in microbiology. During college, Ray worked in a state mental hospital, then called the Anna State Hospital, on weekends and summers to help pay for his education. It was really there that he became impressed with how little we knew about mental disorders and with how little (in those days) we could do to treat them. In fact, Ray, as a ward attendant at the state hospital would often help give patients electroconvulsive therapy, a rather primitive and frightening procedure in those days. He felt then that there had to be a better way to treat these patients and especially all those other patients receiving virtually no treatment at all. It's amazing to consider that some 30 years later this farm boy from downstate Illinois (as we Chicagoans would say) would, along with his colleagues, Bryan Molloy



and David Wong, literally revolutionize the treatment of mental disorders by their discovery of fluoxetine (Prozac®).¹ How gratifying it must have been for Ray to know that his efforts led to the discovery of a medication that has now been prescribed to over 21 million pa-

¹While Ray's contributions to the discovery of Prozac® are well known, his work was also instrumental for the discovery and development of pergolide (Permax®), a long-acting dopamine receptor agonist used to treat Parkinson's disease, as well as olanzapine (Zyprexa®) a new antipsychotic agent.

tients around the world and which has saved, *literally saved*, thousands if not millions of lives.

Ray went on to receive his PhD in Biochemistry from Purdue University and after a brief two year stint as the Director of the Biochemistry Research Laboratory at Fort Wayne State Hospital, he joined Eli Lilly and Company in 1963. He became a Research Advisor in 1976 and Research Fellow in 1989. Ray held adjunct professional appointments at the Indiana University School of Medicine and the Southern Illinois University School of Medicine. He was also a Visiting Lecturer at MIT. Ray served on the editorial boards of 14 major scientific journals, was a member of numerous professional societies and served as a grant reviewer for many NIH (both intramural and extramural) and non-NIH study sections. During his career Ray published over 500 peer-reviewed or invited articles demonstrating unequivocally that the best scientists in industry not only discover drugs but publish their data—and in the best scientific journals! In fact, Ray was a tireless advocate of the importance of publishing one's data (often not the case in the pharmaceutical industry) and of the peer review process. In an address to the Pharmacology Department Chairpersons on the importance of scientific writing and fundamental training in pharmacology for scientists entering industry (The *Pharmacologist* 34:248–251, 1992) he pointed out that “writing is a tool to clarify thinking” and should therefore be encouraged by scientists in both academia and industry.

Ray received numerous honors and awards including two honorary doctorate degrees from both of his alma maters. Most significantly, he was the 1993 co-recipient (with Molloy and Wong) of the coveted Discoverers Award of the Pharmaceutical Manufacturers Association. This award—one of the most prestigious for any scientist in the pharmaceutical industry—has been awarded to some of the most distinguished scientists in *all* of biomedical research (people such as Sir James Black, Gertrude Elion, George Hitchings, Max Tischler and Paul Janssen to name a few).

As impressive as Ray's scientific achievements and contributions to biomedical research have been—his personal attributes and character were even more impressive. In spite of his many honors and awards, Ray remained a modest and unassuming person. (Not surprisingly, his most prized “award” was a plastic gumball machine filled with Life Savers, a gift from a Phoenix television anchor and Prozac[®] user. The blue base of the gumball machine is covered with Life Saver logos—thanking Ray for “saving my life.”) His office door was always open and he always had time to listen and help

anyone—regardless of rank. Ray approached every activity with the idea that he was going to do it to the absolute best of his ability. At a commencement address he delivered to his beloved alma mater, Southern Illinois University in 1994, he summarized his philosophy of life by closing with three points of advice: “First—be yourself. Nobody else can do that. Second—don't let the fear of making mistakes keep you from finding out what you can accomplish. Third—continue your education—throughout your life.” His scientific, professional and personal standards were impeccable—and coupled with his generosity as a human being—he earned the profound respect of his colleagues around the world. This was best illustrated at a scientific symposium (Focusing on Serotonin: A Celebration Honoring the Scientific Achievements of Ray W. Fuller, Ph.D.) which we held in his honor this past July. The speakers (Mark Molliver, George Aghajanian, Louis Van de Kar, Jim Gibb, Alan Frazer, Herb Meltzer and Mark Geyer) were joined by literally hundreds of Ray's friends and colleagues from around the world. Fortunately, Ray was healthy enough to actively participate (he personally chose the speakers, as well as the food and wine for the dinner the night before!) and was deeply touched by the outpouring of affection and respect paid to him.

As a scientist, Ray exhibited remarkable insight and clarity of thought. He always provided an impartial and objective perspective on every issue—almost always advocating the use of the scientific method and data to drive decision-making. Although Ray was a man of few words, when he spoke his words were always highly influential. He will be greatly missed by his friends and colleagues alike and especially by everyone at Lilly. Ray was fond of collecting quotes and one that he particularly liked and which, in my view, captures the essence of his career and life is from Leo Rosten. “I cannot believe that the purpose of life is to be happy. I think the purpose of life is to be useful, to be responsible, to be compassionate. It is above all, to matter: to count, to stand for something, to have made some difference that you lived at all.” Ray is survived by his wife Sue, his son, Ray W. Fuller, II, his daughter, Angela L. Schock, his mother, brother, and five grandchildren.

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