

RETROSPECTIVE

James F. Crow (1916–2012)

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James Franklin Crow pioneered population genetics and influenced policy in human genetics. He was a scholar, citizen, and friend, who touched the lives of students, colleagues, musicians, and many others. He was born on 18 January 1916 in Phoenixville, Pennsylvania. After receiving his bachelor's degree from Friends University in 1937 and his Ph.D. in genetics from the University of Texas at Austin in 1941, he joined the faculty at Dartmouth College. In 1948, he



moved to the University of Wisconsin–Madison, where he remained fully active until his death on 4 January 2012 at the age of 95.

Jim's own research began with studies in the fruit fly *Drosophila* that included speciation, insecticide resistance, and mutation load. He then addressed issues in human genetics, including the impact of inbreeding and the age-dependence of mutation rates in males. When molecular data became available, his research with Motoo Kimura led to the neutral theory of molecular evolution. As his Madison colleague Bret Payseur noted, "Jim remained concerned that some of the fundamental controversies raised in the early years of population genetics were not resolved by advances in molecular biology and mathematical theory."

Crow considered his students to be his legacy. The lecture notes for Jim's General Genetics course were so lucid and up-to-date that students preferred "Crow's Notes" to their textbooks. "Notes" appeared in eight editions and was translated into several languages. Together with Kimura, Jim wrote *Introduction to Population Genetics Theory*, an instant classic.

By 1961, when he was elected to the United States National Academy of Sciences (NAS), Crow had established himself as an intellectual leader and effective administrator by serving as chair of the Medical Genetics Department. He chaired NAS committees that reviewed the mutational effects of radia-

tion and environmental chemicals, and when the human genome project brought issues in forensic science to the fore, he was tapped for more committee leadership by the NAS and the Department of Justice. Jim's skill at leading cantankerous committees and delivering reports on time was legendary. According to Chief Justice Shirley Abrahamson of the Wisconsin Supreme Court, "his ability to teach, to listen, and to think 'outside the box' made him a respected leader."

To his colleagues at the University of Wisconsin, Jim was consistently supportive. He was a mentor to Mike Culbertson, "long before there was a formal mentoring program." Colleagues received much more than minimal feedback. When Sean Carroll recently drafted a book on evolution, he had hoped that Jim might glance at some parts to see if they were historically and scientifically accurate. Instead, Sean received "20 pages of typed notes, with several references to classic work, anecdotes, and other gems of evolutionary genetics." Many were perplexed that Jim could be so productive yet was so recklessly generous with his time. His daughter Cathy has explained that Jim never allowed himself to get hung up on trivia. "He was hard-working and careful, but he was not a perfectionist."

Jim retired from the faculty in 1986, but until the end of his life, he was still going to seminars, reading the literature, and writing. The editor of *Genetics*, Jan Drake, invited Jim and one of us (W.D.) to generate a monthly series of essays called Perspectives. This 22-year partnership worked by eschewing perfectionism. Each year, the "two birds"

A population geneticist is remembered by colleagues for his generosity, clarity, and influence in the field, as well as in policy matters involving genetics.

would divide up responsibilities. The magic ingredient was one of forgiveness: Editorial meetings were entitled "Let's exchange our mea culpas." University of Oregon geneticist Frank Stahl has said that, "I was confident that my contributions would be treated with constructive criticism delivered in a most palatable manner."

For Jim, music was a lifelong passion; he played viola in the Madison Symphony Orchestra for 45 years. He said, "I chose the viola because groups always need a violist." Sally Chisholm, violist for the Pro Arte Quartet, described him also as an "immensely influential" philanthropist, supporting music in Madison. Jim was still performing for fellow residents in his retirement community at age 95.

Throughout 2012 the journal *Genetics* will publish essays honoring Jim's contributions to science and to society. Interviews have been published by *BioEssays* and by The University of California, Los Angeles–Johns Hopkins Oral History of Human Genetics Project. His achievements are reflected in the honors bestowed on him, including membership in the U.S. National Academy of Sciences, the American Academy of Arts and Sciences, the Japan Academy, the Royal Society of London, the U.S. Institute of Medicine, and the American Philosophical Society.

Reflections from his colleagues and friends can best illustrate how James Crow will be remembered. Harvard geneticist Matthew Meselson has described him as, "One of the greats. Jim brought a rare clarity to all his work." Jan Klein, formerly of the Max-Planck-Institut für Biologie in Tübingen, Germany, has said that, "Jim will remain as perhaps the last of a generation of gentleman-scientists—'gentleman' in the sense of a courteous, gracious man with a strong sense of honor and a strong respect for the past." And University of Wisconsin colleagues Rayla Temin and Don Waller have said that, "He made you happy just to be in the aura he cast" and that no colleague was "warmer or more encouraging, nor respected more." Indeed, Jim Crow will be immortalized in the histories related by those who knew him as a scholar, citizen, and friend.

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