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# Samuel Arch Latt



It was through the tutor system instituted in 1957 by Dean George Packer Berry for the entering first-year class that I first met Sam Latt, a meeting that was to lead to a lasting association and friendship. The circumstances surrounding that first encounter constitute a telling vignette which should be recorded.

Tutors were assigned to a small group of first-year students, who met with them once a week throughout the year. The aim was to create an environment favorable to intellectual inquiry, emphasizing the mutual relevance of science and medicine through an informed, continuing relationship. I had been assigned four tutees at the beginning of the semester.

In October Dean Berry called to say that an unusual situation had arisen for which he wished my cooperation. The subject of our one-sided conversation was Sam Latt. Sam had graduated from MIT with a bachelor's degree in quantitative biology, and a four-year cumulative grade point average of 4.9 out of a possible 5.0 – a truly outstanding record. The Dean indicated that Sam was finding the first-year course work at HMS somewhat unchallenging, and had designed for himself an auxiliary curriculum at MIT to fill what he perceived to be the gaps. Since I was one of the few HMS faculty at that time with past MIT exposure, the Dean thought a tutorial with me might be a means to fulfill the good academic intentions of HMS.

My doubts about the potential problems of the venture were dismissed with a comment characteristic of the Dean that “all problems are actually opportunities, and this is no exception.” Moreover, he supposed (correctly) that in this case it might be difficult to distinguish between tutor and tutee.

Soon thereafter young Sam appeared in my office, a handsome, good-looking six-footer, polite and

remarkably composed and urbane for his age. He turned out to be all the Dean had foretold and more. He was unbelievably well informed on all fronts with an insatiable thirst for knowledge, a constant drive for understanding, and irrepressible intent “to get to the bottom of things” while questioning all premises. No effort was so great, no time so much, no challenge so excessive as to dissuade him. It was that way then, and it remained a permanent part of his character. The tutorial was indeed unique: It consisted of two separate tutorials really – one for Sam, the other for the other four tutees. It was a challenge to keep up with him.

Sam possessed many intellectual gifts, not the least of which was being able to bridge multiple scientific disciplines, integrating different viewpoints and approaches in order to investigate fundamental problems in biology. In his fourth year at HMS he wrote a thesis that described a model system giving experimental validity to the Förster equation, a theory that describes the distance relationship for effective electronic energy transfer between a fluorescence emitting donor molecule and a fluorescence absorbing acceptor molecule.

Sam graduated *magna cum laude* from HMS in 1964 and was the recipient of the Soma Weiss Award. After an internship at the Peter Bent Brigham Hospital, he spent two years at the NIH in Herbert Sober’s laboratory, investigating the role of electrostatic and hydrophobic forces in protein-nucleic acid interactions. He then returned to HMS in 1971 to enter the Ph.D. program in biological chemistry and was also appointed an assistant in medicine at the Brigham.

His thesis was a study on the mechanism of enzyme action and involved a lot of protein chemistry. He chose this project with the full awareness on both our parts that he would ultimately apply his experience to a career in genetics and molecular biology. The thesis, like most, was abstrusely entitled “Spectroscopic Probes of the Mode of Action of Metalloenzymes.” In reality it was a treasure trove of ingenious techniques and approaches for using metals to examine the mechanistic details of enzyme action. He expanded on his earlier fascination with the Förster theory by obtaining structural information on an enzyme substrate complex, and for the first time, measuring the distance between a fixed point on a substrate and a catalytic group of an enzyme at the moment of catalysis.

After receiving his Ph.D., Sam became an assistant professor of pediatrics and an assistant in the clinical genetics division at Children’s Hospital. As expected, he followed through on his original objective to apply fundamental principles of fluorescence to probe DNA structure, with special emphasis on chromosomal analysis. He developed a characteristically original approach, based on his expertise in spectroscopy to investigate everything from DNA synthesis to chromatin to clinical cytogenetics. He quickly emerged as a major leader in his field, with both a national and international reputation for excellence. In 1980 he was promoted to professor of pediatrics and three years later he was also appointed professor of genetics and chief of the clinical genetics division at Children’s Hospital.

To characterize Sam is to describe his visual appearance, which mirrored his intellectual activity. Sam

was *sui generis*. All who knew him will recall the facial expression that overcame him when he talked, listened, thought, debated or appraised: a quizzical, inquiring look, somewhat perplexed, with a faint smile, narrowed brow, slightly closed eyes. His attention would be undivided but expressionless, broken only by the occasional question. Inevitably there would ensue a short silence until the light lit up in a display of seemingly complete relief. Then, of course, there would be a question such as: “Yes, but did you see the recent article by Jones in *Physics Today* which, while not entirely correct, suggests a more reasonable, simpler interpretation?”

Sam managed an extraordinary schedule of research and clinical duties. He was a valuable advisor to the HST and M.D./Ph.D. programs, from which a number of his students graduated with thesis honors. He served on the editorial boards of the *New England Journal of Medicine* and various other professional journals that focused on human genetics and cytogenetics. He was an investigator for the Howard Hughes Medical Institute and was a member of scientific committees for the American Cancer Society, the American Society for Cell Biology, and the National Institutes of Health.

Sam was one of the world’s best non-buyers of premises. A skillful reinterpreter of the old, he was more than anything an originator and an integrator. His seemingly endless store of knowledge, coupled with his sharp awareness of its relevance, flowed from him gently, like “Sweet Afton.” Conversations with him were an intellectual delight, a constant stimulus, and a source of enjoyment.

There was nothing shy about Sam, but at the same time he was a very modest man, never presumptuous, devoid of vanity, completely sincere and always willing to help others selflessly. His characteristic sense of humor intermingled with seriousness, yielding a self-effacing brand of seeming disbelief. His trademarks were enthusiastic attention to detail, rigorous insistence on proof, tolerant disdain for the superficial, gentle correction of irrelevant intrusions, and a constant search for fundamentals. He was a seemingly endless source of new and original ideas.

Sam Latt was a remarkably dedicated, humble man. He always tried, conscientiously, to do his best as a husband, father, son, brother, friend, scholar, scientist, physician, teacher and colleague. No one could ask for more of a man. All who knew Sam will never forget him, and will continue to aspire to his example.

Respectfully submitted,

Bert L. Vallee