

Sam's Fingerprints

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Rigor, humanitarianism, history, whimsy, compassion, dedication, and insight were evident as Sam Seifter patiently explained the history of the Department of Biochemistry. It was early 1987, and I was preparing to become the next chair of biochemistry. Sam, then a young 70-year-old, made it clear that he would do all in his power to nurture the next generation of growth in the department. He offered to continue to lead the medical school course in biochemistry, including course management, lecturing, and counseling. I attended every lecture the following year and learned as much as the medical students about biochemistry, but much more about Sam Seifter.

Research in the Seifter lab had tackled the difficult problem of connective tissue proteins, typified by collagen. A combination of chemical and enzymology approaches revealed the repeating amino acid sequence of the polymer, the generation of aldehyde-derived crosslinks, the glycation of hydroxylysine residues, and the enzymes involved in covalent modification. His interests always linked the chemistry and biochemistry to medicine in his intellectual construct of how things work. This process was evident in Sam's teachings to medical students, where each biochemical pathway and organ biochemical function was followed by what goes wrong with the pathway or organ system in disease. This was a surprise to me, since traditional medical biochemistry courses of the time were more didactic and held clinical complications of biochemistry at arm's length or incorporated them into special sessions. Sam emphasized that disease and aging were often accompanied by accumulation of denatured proteins, the amyloids. This was before the broad realization that many diseases have a common underlying theme of misfolded proteins. Yet, Sam was already teaching abnormal protein accumulation in relation to the biochemical-clinical interface.

Students flocked to Sam for advice, both personal and scientific, academic tutoring, and career planning. Visiting his office was a trip to his mini-cafeteria. He always kept snacks for visitors and it was common to be offered an orange, a cookie, or a soda to share during the chat. It was a rare event to get through one of these discussions without Sam pulling a dog-eared copy of an organic or clinical chemistry textbook from his bookshelf to help solve your problem. His scientific and history of science recall was without match. Every discussion was not only learning about the matters at

hand, but also about the history of science, complete with references. Often I would discover a student or technician in my own laboratory doing a new assay or procedure that I did not recognize. When questioned, they would always indicate that they had a problem, talked to Sam, and found a new way to solve it.

Every year, as new students wandered the campus, the lobby of the Forchheimer building sprouted a fabulous collection of carefully pressed and preserved botanical samples from Sam's personal collection. Beautiful presentation and labeling made the display as much art as science. The collection was a manifestation of Sam's interest in horticulture, gardening, and medicinal plants. His partner in the botany collection was Shizuko Takahashi, his long-time collaborator in his horticultural hobby and in the gamma glutamyl cycle. The botany display was a clear manifestation of Sam's love of science outside the laboratory and his desire to share it with his extended family, the students and faculty at Einstein.

Sam also orchestrated the annual December holiday party for the Department of Biochemistry. He encouraged and assisted students and faculty alike to provide skits that were always amusing and pertinent and these were interspersed with biochemically-related poems and amusements. But the highlight of the program was always a sing-along song, with piano accompaniment by Sam's wife, Eleanor. In the song, Sam would name every person in the department, including students, postdoctoral fellows, staff, and faculty. The song would include some amusing event of the year or some famous (or infamous) research accomplishment for each of nearly a hundred people. This too, established the feeling of the department as extended family, a feeling that only Sam Seifter could accomplish.

Despite Sam's gentle nature and ability to nurture, he was always a staunch defender of his beliefs, even as a student. As a student speaker at the Congress of Social Problems at Ohio State University in April 1939, Sam spoke up against the position of Frederick H. Kruger of Wittenberg College. Kruger was awarded the Order of Merit of the German Eagle by Adolf Hitler in 1938 and he argued that Germany should be freed from the constraints of the Versailles treaty and that the USA should remain neutral regarding the actions of Germany. Sam spoke up and said that only by the intervention of the USA could the world take a step toward peace.

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Sam also valued the contacts between medical students and accomplished research scientists and was distressed by curriculum changes that diluted scientific reality. A milestone in curriculum reform at the Albert Einstein College of Medicine (AECOM) included several articles in the *Einstein Quarterly Journal of Biology and Medicine* in 1991. Articles by Drs. Joseph J. Smith and Albert S. Kuperman accused scientist-teachers of turf protection and information overload, thereby destroying humanitarian tendencies in the medical student trainees. The idea, since turned into practice, was to reduce the science content of the curriculum to free time for the pursuit of humanistic studies. In a seven page editorial and commentary in the same issue, Sam outlined the history of medical school training and made a passion-

ate and elegant defense of knowledge and learning as fonts of humanitarianism, rather than detractors. This article exemplifies Sam's historic perspective involving topics from the classics through the modern times, and provides numerous lessons taught by history.

AECOM has a unique feeling of family that everyone feels while here, and misses when careers take them elsewhere. Sam Seifter was a major craftsman in generating this feeling. His "College as Family" philosophy shaped Einstein and made it a place of scientific rigor and of heart. Sam's fingerprints cover the surface of our existence and will forever be part of the Einstein heritage.