

REFLECTIONS ON BEING A MENTOR

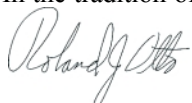
In many ways science and technology advances because of the mentor/student tradition. It is safe to say that key to successful undergraduate research is the establishment of a successful mentor/student relationship. I can best reflect on some of the important dimensions of this relationship by recounting a very special mentor in my career, Glenn T. Seaborg (1912-1999), a man of great scientific accomplishments and public service. For those unfamiliar with Glenn Seaborg, discoverer of plutonium and 9 other elements, Nobel Laureate, advisor to ten US Presidents, author of hundreds of books, thesis advisor to 62 graduate students, and acclaimed by many for having element 106 named after him while still alive, suffice it to say that he was listed in the Guinness Book of World Records as having the longest “Who’s Who in America.” But for many like myself, Glenn Seaborg was a great man because he was a great mentor.

A mentor has a commitment to his or her life’s work that is contagious. Certainly this was true of Glenn Seaborg. I first joined the Berkeley “new element group” as a post-doctoral student under Glenn’s direction in 1974. I quickly learned that, above all, he valued hard work and at the age of 62 he was still outpacing most of his students and younger colleagues. His advice to students was simple, “work hard.” He would go on to comment that he had seen many exceptionally bright people unwilling to make the extra effort. As a result they never made it to the “top of the mountain” where they could enjoy the view of a scientific breakthrough and its future. Glenn had a commitment not only to the discovery of new elements and isotopes that occupied four years of my life, but also to energy and environmental issues and science education which I later made my life’s work. As I look back at each step along the way, I was guided by Glenn Seaborg’s commitment and his own efforts to address critical problems and issues in these areas.

Mentors have a commitment to the successes of their students, and raise students’ expectations for what they can accomplish. I think of Glenn Seaborg as a research mentor and as a reliable supporter for his students’ programs and projects throughout their careers. Glenn always found interesting projects for his students. For example, in August 1940 he suggested to a young Arthur Wall, one of his first graduate students, “the search for the next transuranium element, element 94, may provide a suitable subject for Wahl’s Ph.D. thesis.” The subsequent discovery of Plutonium had literally earth shaking consequences. On a smaller scale, Glenn also had a way of guiding the writing of papers, which in my and other students’ early attempts were hardly up to the standard of Glenn Seaborg’s authorship. With a suggestion here and a sentence added there during the course of several rewrites Glenn would transform loose logic and grammatical errors into a tightly written publication that reflected the full value and significance of the work he had guided you to undertake. I still recall the day I reviewed the galley proofs of a paper we coauthored thinking it was perfect and I had found all the errors, when Glenn returned it to me, noting that I had left out a bar on the Greek letter lambda in small print of one of the figures. It was a never ending challenge to live up to Glenn’s commitment of excellence, but in exchange in later years he was always willing to give a talk or speak with teachers and students in support of programs I organized, literally giving hundreds of hours to help with the education of young people and at the same time contributing to my own success in an education outreach career.

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Not all students are fortunate enough to have a famous scientist for a mentor. However, every scientific mentor will help to shape the lives of his/her students, moving them ever closer to using the full measure of their often-unrealized abilities. In retrospect, the final vote on who is a mentor and who is not remains with the student. Thus, the final lesson for these students is that they must earn the name mentor; it cannot be assigned to them. In the tradition of mentor-student relationships we can expect that they too will become mentors.



Rollie Otto Ph.D.

Center for Science and Engineering Education