Reflections of Roger W. Richardson

My interest in engineering was probably inherited. My grandfather was a civil engineer and served as Louisiana's "Chief Engineer" for several years during the early part of this century. Five of his six sons, including my father, were civil engineers.

My experience at LSU as an undergraduate chemical engineering student increased my interest in the engineering profession as well as in chemistry and physics. The three years in graduate school, however, really opened the doors for my professional career. The research and opportunity to associate with other graduate students, as well as with faculty members, gave me a love for research and the pursuit of new knowledge and new ways of doing things. These are necessary attributes for succeeding in research at any level.

I had an opportunity to join the faculty at Iowa State, but the offer of a job by DuPont, at the second and largest synthetic ammonia plant in the U.S., was too great a temptation. Industrial research involves much coordination and cooperative effort. Many projects are handled by teams – some as small as two researchers and some of 20 or more – while some "exploratory" work may be carried on by one person. Seeing the application of research results is very rewarding. Industrial plants, the production of new materials, the improvement of an automobile engine, and the more efficient generation of electric power are great engineering accomplishments.

Practicing engineers constantly need their knowledge updated. Continuing study and the acquisition of new knowledge are required. In my own experience, particularly in research, I hardly ever felt that I had enough knowledge to tackle a new assignment or to coordinate a project under my direction. Other engineers have made the same comment to me. For example, during World War II, I worked on the Manhattan Project. This required knowledge of atomic structure and the physics which governs it. Fortunately, I was

working with two or three atomic scientists who educated me, to some extent at least.

During the post-war recovery period, I had the privilege of appearing before the President's Science Advisory Committee several times to discuss some of the many world-wide projects this eminent group of scientists and engineers considered. These involved diversity of ideas from growing crops in the Sahara desert to defense against poison gas and bacterial warfare. Many engineers, if they so desire, can choose to work in foreign countries or to handle and work on projects overseas. They are provided opportunities to visit interesting places and make friends with people of diverse cultures. Visits of this sort were to me some of the finest rewards of being an engineer.

My feelings about our profession can be well expressed by the epitaph my father-in-law, Professor Hamilton Johnson, who served as head of mechanical engineering at LSU for 18 years, requested to have inscribed on his tombstone: "An Engineer Proud of His Profession and Loyal to Every Tenet of its Code."