

Reflections of Murray F. Hawkins, Jr.

On joining the petroleum engineering faculty at LSU in 1947 I had no idea that I had thereby become a part of a most unique and dynamic industry, one which in a few decades would routinely commit itself to operations comparable perhaps with launching and recovering space shuttles on a daily basis, and one which would come to hold important, even critical, economic and political implications for the world. It was about this time that U.S. energy usage of petroleum first exceeded that of coal and United States entered the Age of Petroleum. My professional career since then has been spent in keeping abreast of and making some contributions to rapid developments in petroleum engineering and its attendant technology and imparting some of this knowledge to students.

By 1947 the important scientific foundations of petroleum engineering had been established, and happily for me, were contained in a relatively small number of publications, as I was entering the profession with no formal coursework in the area.

Further, industry operations were just starting to utilize the established fundamentals and replacing the not-inconsiderable practical wisdom of tool pushers and superintendents. Petroleum engineering was in fact very largely a post-World War II phenomenon, and at that stage of development coincidentally well suited to many veterans who had become used to an outdoor, rough-and-ready sort of life. In view of the above, I was able to enter the profession near "ground level."

LSU was among the first universities to offer a petroleum engineering curriculum, in the late 1920s. As chemical engineering grew out of chemistry, petroleum engineering at LSU was spawned by geology. The curriculum has retained accreditation by the Engineer's Council of Professional Development since accreditation started in 1934. For several years during the 1950s, enrollment in the petroleum engineering curriculum was the largest among curricula offered by the College of Engineering, not to be so again until the

1980s. During the late 1960s enrollment was so low as to threaten its continuance, owing to severely curtailed employment opportunities and the widely held belief that the Age of Petroleum was about to be replaced by the Age of Nuclear Energy, which promised abundant, cheap energy. Appreciable continued support by oil companies and oil supporting service companies was important in maintaining the curriculum at LSU in this period, during which many departments were closed or merged with other departments.

Development of petroleum engineering and technology came largely from several petroleum production research laboratories established in the United States before and after World War II. Dissemination of this new engineering and technology was primarily through the Society of Petroleum Engineers (SPE) of the American Institute of Mining, Metallurgical, and Petroleum Engineers, and secondarily by trade magazines.

In 1947 the SPE had some 5,000 members, mostly U.S. citizens. Today it has some 55,000 members, with one-third of its sections and one-fourth of its members in foreign countries. Although other countries have made and are making contributions, U.S.-generated petroleum engineering and technology are dominant in the free world, and I suspect much of the rest.

The petroleum industry and LSU's petroleum engineering curriculum are today far advanced from those of 1947. It is a pleasure to see the growth and vitality of LSU's Department of Petroleum Engineering since I retired in 1977. Both it and the industry are, I believe, well equipped to handle future changes and challenges.

Concerning the future, there are many predictions for the industry, both for the United States and for the world. The gloomiest extend the Age of Petroleum well into the next century, and the more optimistic to the end of that century and beyond. Basic to its continuance is a fact marked by Dr. Edward Teller in discussing oil and the atom: "A gallon of gasoline is a convenient, concentrated, easily portable package of energy which will not be easily replaced."