

Reflections of Elton G. Yates

I'm not sure whether or not I agree with the ancient saying that "right timing is in all things the most important factor." Hard work might be pretty important, too—and maybe even luck. But certainly, timing is important. I've been blessed throughout my life and my career in engineering with a certain amount of good fortune when it comes to timing.

As a boy growing up in Slidell, Louisiana, during World War II, I was inspired by America's great wartime engineering triumphs: the D-Day invasion of Normandy, which was the greatest seaborne invasion in history; the exploits of the "Fighting Seabees" of the Navy, who built fighter airstrips on remote jungle islands in a matter of hours; the rapid conversion of peacetime factories to the production of tanks, ships, and planes; and ultimately, the American victory in the race to build the first atomic bomb.

As a young man in the 1950s, living in an oil-producing area and working as a roustabout for Texaco during summers in college, I was caught up in the excitement and potential of

the oil industry. The timing was again right. The oil industry was booming, as automobile and airplane travel became the standard throughout the world, and postwar prosperity spread from the United States to Europe and Japan.

And then my four years at LSU—from 1953 through 1957; they were the most important years of my life, studying in one of the world's great engineering schools under gifted, dedicated teachers. Again, I was fortunate to be at Baton Rouge at the right time—a time of great promise and seemingly limitless possibilities for ambitious young engineers to create great works that improved the lives of people around the world.

It was during those years that Congress approved construction of the Interstate Highway System; jet engines began to replace propellers on commercial airliners; color television was perfected; the transistor replaced the vacuum tube; the laser was invented; computers began to come into general use; most agriculture became mechanized; electrification became virtually universal in this country; a

national urban renewal effort offered better housing for millions of people living in slums; and offshore oil production became widespread and profitable. All around, as construction cranes rose and drill bits probed the earth, a student like me could see, first hand, how engineers of all types were contributing directly to the well-being of the people of the world.

There were, however, the first few warnings of future challenges. It was during those same years that we in the United States began to find out that we might have some serious competition from abroad, as Volkswagens poured onto the nation's highways and Sputnik soared through the skies above.

Then, in the turbulent '60s, we engineers became aware that, in many cases, there were wider consequences of our triumphs, and they were not always beneficial to society. It became increasingly clear, for example, that while interstate highways helped tie that nation together, they also accelerated the decline of the inner cities and rail transport, while contributing to urban sprawl. Society also found, to its dismay, that massive urban renewal projects often intensified the problems they were intended to address, and that better transportation also created added air pollution.

Certainly, these are problems that we can deal with and solve. Indeed, in many areas, such as air pollution, we have made enormous progress in recent years. Nevertheless, we live in a far different world than when I was handed my diploma at LSU: a less optimistic one; a more realistic one.

Today, I believe, we engineers have a better understanding that, in a world of limited resources and difficult choices, we

do not operate in a vacuum; our plans and projects can have unintended economic and social consequences.

Difficult as that may be to deal with, I believe that we engineers, as a profession, are better off for it. It demands from us more discipline, better planning, and more intellectual rigor that it did 40 years ago.

Like anything worthwhile, it presents us with greater challenges, but greater rewards as well. Ever since the first engineer attached a crude stone wheel to a log axle, we, in this profession, have demonstrated the talent and the resolve to meet the challenges presented to us, while still improving the standard of living of our fellow human beings.

And for doing that, the time is always right.