

## **Power for Progress**

by Richard J. Gonzalez, Ph.D., 1952

Provided by the American Heritage Education Foundation, Inc.

[www.americanheritage.org](http://www.americanheritage.org)

*This article was originally published in the September-October 1952 issue of Humble Way magazine. Dr. Gonzalez was a former Director of Humble Oil & Refining Company.*

Progress in man's struggle to raise living standards above a subsistence level has been faster and greater in the United States within the past fifty years than in all the rest of recorded time. By comparison with the life in our own country in 1900 or in other countries today, our advance during this century has been remarkable.

Among the things we take for granted are electric lights, good plumbing, refrigeration, central heat, telephones, automobiles, airplanes, radio, television, and scores of useful appliances in the home. Our parents would have considered themselves fortunate to enjoy even a few of these comforts, but we expect to have all of them for the great mass of people.

We in America seldom realize how much better off we are than most of the people in the rest of the world. Occasionally newspaper accounts of famine and starvation in the Orient make us aware of the vast differences in our economic welfare. Even in normal times, however, life is hard for many people throughout the world. For example, the American Geographical Society describes the life of the poor Egyptian as follows:

"For the fellah, life is hard. His tools are those of his ancestors – the hoe, the wooden plow, the hand sickle, and the threshing board. His dwelling is a crude, fly-infested, two-room mud hut sheltering family, water buffalo, and chickens alike. He owns little clothing and knows few comforts. He depends on the Nile for both drinking water and sewage disposal, and his wife and children collect dung for fuel. Like three-fourths of his countrymen, he is afflicted with disease."

Life such as that described in Egypt is not far different from what it was two thousand years ago. Yet, Egypt had universities and a high civilization when this country was still a wilderness. From this fact we can only conclude that progress is not inevitable, as we sometimes are inclined to think.

How does it happen that we have progressed so rapidly and enjoy so much in this country? A large land area with free trade and common laws has been important, but other countries have had the same conditions, without similar progress. The frontier may have been a factor, but we have continued to make rapid progress since its passing about 1900. Natural resources have helped, but other areas more abundantly endowed with resources have lagged far behind us. If these apparent differences do not explain our success, what are the factors that account for our progress in the past and are indispensable to our continued progress for the future?

Freedom, education, machines, and energy have been the major forces responsible for the high standard of living we enjoy today. Freedom and education are of the utmost importance. Without them

and their underlying spiritual philosophy, the powerful force of individual initiative is crushed and almost lost. But they are not enough. What man can do with his hands and muscles is limited. For economic progress we must have machines and energy to multiply man's productive efforts.

Machines do many things for us. On the farms they cultivate the land and harvest the crops. In industry they make goods in great quantities. They are our means of modern transportation for goods as well as the magic carpet of millions today. In our homes machines perform many tasks.

Productive machines are not operated by human energy. They would stand idle but for mineral energy available in great quantities at low cost. The more machines and energy we have, the less work individuals must do. Thus, we can enjoy today both a much higher standard of living than did our parents in 1900 and more leisure. This is truly the age of energy. We must have increasing supplies of energy at reasonable cost if we are to continue our economic progress.

We in the United States use an enormous amount of energy to do our work. We use ten times as much mechanical energy per capita as the people of the rest of the world. It would take two hundred servants to equal the work which machines do for the average family of four people. Machines and energy do more for us than servants could, and perform their work at a cost that most of us can afford.

### **Energy from Petroleum**

We are even more fortunate with respect to liquid fuel than energy as a whole. In the United States we use daily two gallons of petroleum products per person, or twenty times as much per person as in the rest of the world. In 1951 our domestic petroleum consumption of nearly two and a half billion barrels represented about 60 per cent of the total for the world. The abundance of oil we use provides us with the mobile power indispensable to a productive economy, with automatic heat, and with much of the energy for industry and electric power.

Our great advantage in energy over the rest of the world has come particularly from the remarkable development of oil and gas production. The United States has produced to date about two-thirds of all the oil produced in the world. A large part of the oil and gas resources found elsewhere in the world has been discovered by Americans with the technology developed in this country.

Since 1920, oil and gas have supplied all of the increase in energy used in the United States, while the production of coal has actually decreased in amount. Consequently, oil and gas have displaced coal as the principal source of energy in the United States, and now supply about 60 per cent of our mineral energy. Expansion of oil and gas supplies has been a major factor in our extraordinary economic progress.

It is not a matter of chance or luck that the United States has experienced such a remarkable increase in supplies of oil and gas. Mineral resources have existed beneath the surface of the earth for millions of years, but only recently have they been developed and utilized through man's initiative and ingenuity. Our system of competitive enterprise, by the incentive it provides through permitting operators to realize and keep an adequate profit from their successful ventures, has encouraged the development of

resources. Without such incentive, the expensive and hazardous search for oil would never have been carried on as aggressively as it must be to find the oil we need.