EDITORIAL

One Generation Hence

by Tony Papert

Sept. 8—In memory of the great scientist and statesman Lyndon LaRouche, who would have turned 97 years of age today, let us begin to approach the question of the future role of today's youth in world renewal over the coming quarter-century, in which mankind will master controlled fusion energy and begin the first human settlements beyond Earth, among other noble achievements.

Let us examine the case of U.S. youth from this standpoint, by going back to the population and labor-force bar graphs with which LaRouche frequently began his one-semester political economy course during the 1970s. If we project that the U.S. population will rise to 400 million by 2050, we might assume that about one-quarter will be under age 16, leaving a working-age population, in that sense, of about 300 million.

Applying a labor-force participation rate of, say, 63%, yields a labor-force of about 190 million.

LaRouche has said that the proportion of the labor force engaged in R&D must rise above 5%, or in this case for 2050, attain and surpass 9.5 million men and women. Although there may be no present-day statistics for ready comparison (because of some current, over-broad definitions of R&D), it is clear that a scientific and engineering workforce of that size, wrestling with the problems of fusion energy, space travel, and optical biophysics and medicine, would mean a total revolution in science and society.

LaRouche never ceased to write about the education required for creative scientists. Now at last his ideas will be applied on the appropriate enormous scale.

The same total revolution may be seen perhaps more clearly in the "productive operatives" category of total employment, including operatives in manufacturing, mining, transportation, utilities, construction and agriculture. Roughly speaking, this is the blue-collar workforce. LaRouche has said this category must comprise 50% of the workforce, or, in this case for 2050, some 95 million men and women. Today the U.S. has at most 20 million, after the long downslide beginning with the death of Franklin Roosevelt. Instead, the great majority of the U.S. workforce is overhead—and most of it unnecessary overhead.

For 2050, this will be an enormous shift from unnecessary sales and clerical employment, including the all-devouring "FIRE," or finance, insurance and real estate. Add in the shift, not just from unemployment, but also from underemployment, in which the worker's skills are unused or barely used.

But additionally, recall that neither this huge changeover into R&D, nor the numerically much greater shift from unproductive into productive employment, will take place at the level of today's 2019 economy. They will occur in an economy which is taking off into the exploration of space and the mastery of fusion power and optical biophysics, as LaRouche has specified. Millions of Americans, including today's youth and their elders and juniors, will have to master new knowledge

at a rate probably never seen in history, including areas of knowledge for which we may still lack names today. Not only the scientists and engineers, but the blue-collar workers as well.

The Magnitude of Some Poorly Understood Problems

Now you begin to see the magnitude of some of the little-understood problems to be faced. The U.S. will need the equivalent of Roosevelt's Civilian Conservation Corps (CCC) camps to teach those, especially youth, who may today be unemployable. In the '30s, the CCC camps had to help them overcome malnourishment and attendant ill-health, along with illiteracy and other problems. Today we must add the massive problems of drug use, asocial internet addiction and other mental-cultural illnesses. Our approach will necessarily be different, even if the problem is related. But that is only a mere beginning.

Tens of millions will have to be assimilated into a blue-collar workforce that is already routinely using "3D printing," as it speeds far beyond that level. Some have studied the relation between two-year colleges oriented in this direction, and vocational training. President Donald Trump has asked the help of the German government to bring the German apprenticeship programs to the United States, as have the leaders of many nations.

At the public-school level, the U.S.'s abysmal, totally algebraicized, so-called education (a consumer fraud), must be replaced by a combination of "hard sciences," properly approached, with the classics.

Here, the robotics clubs which today's NASA has found to be a fertile field for recruitment of youth, and the "fab labs" (fabrication labs) which offer youth the opportunity to use the most modern machine-tools as they qualify themselves, point towards the freedom to solve problems in a fresh, original way, rather than the deadly preoccupation with pre-standardized, cut-and-paste methodologies which help make U.S. public schools such a disaster area.

In this connection, remember those heroes of the American space program who made repeated and far-reaching contributions even though they had no advanced degree—no credentials. NASA's great designer Max Faget, who designed the Mercury spacecraft and much of the Gemini and Apollo—and much else—with only a Bachelor of Science degree from Louisiana State University. And Max Faget's top assistant for decades, Caldwell C. ("CC") Johnson, who grew up in the Tidewater of Virginia. His model airplanes so impressed the engineers at NASA's predecessor agency in Langley, that they hired him out of high school and never came to regret it.

Astronautix.com records that, "When the time came to design the Mercury and Apollo spacecraft, Caldwell [Johnson] was an indispensable part of the team that established the designs that were dictated to the contractors and flew in space. It was Caldwell who established the basic layout of America's spacecraft, and Caldwell who came up with the rounded mold line of the Apollo capsule, so that it would easily fair into whatever diameter cylindrical service module was ever settled on."

This is a line that goes back to those stellar geniuses the Wright brothers, and forward to Lyndon LaRouche. Heroes for youth, and deservedly so, who light their path into the future.

Discussions with Brian Lantz and Richard Freeman contributed to this article.