CONTRIBUTION TO A DIALOGUE

Apollo Mission on Earth: Transforming Our Relationship to the Physical World

by Bill Roberts

Bill Roberts reports from Michigan.

March 26—In the context of LaRouche PAC's "2018 Campaign to Win the Future," representatives of local and state governments, political campaign organizations, state level professional associations, and labor organizations have been in dialogue with associates of Lyndon LaRouche regarding the implementation of LaRouche's Four Economic Laws.

In the course of these discussions, driven largely by the need to find sources of funding for major infrastructure repairs and upgrades, important policy questions have emerged which reflect the need for a more in-depth visualization of what the next fifty to one hundred years of mankind will look like.

These questions include (1) Why cannot user fees capture all of the value in a system of National Banking? (2) Why is capital budgeting, rather than an annual appropriation of funds, required? (3) How do we determine the real, i.e., non-monetary, value of infrastructure? and (4) What will a more productive American work force and economy look like?

While I will not attempt to answer all of these questions right now, I would like to take a look at factors that will help answer the third question, factors that also relate to the other three questions.

After decades of living in a national economy lacking any real long-term goals or a science-driver mission, concepts such as the difference between economic value and financial value is not very well understood by infrastructure specialists or policymakers, let alone most professional economists.

If we are only working on finding ways to fund the maintenance of currently existing roads, bridges, dams, water and sewerage facilities, airports, and electrical grids, then securing Federal funding for infrastructure above the level of $1 to 2 trillion seems like a godsend. But in reality, such an approach is not adequate to secure a future in the way that China is currently demonstrating through its national economic planning. In order to understand why, we must start from the standpoint of human history and reality, not money.

Promethean Fire

Scientific revolutions create economic value by transforming man's relationship to the physical universe, and increase our productivity per capita as a spinoff. The level of energy-flux density utilized by man changes the way we are able to produce and use the various elements of the periodic table. Our ability to mass-produce aluminum, for example, depends upon the ability to produce a lot of electricity, cheaply. For identical reasons, it is not accidental that breakthroughs both in the mass production of chemical fertilizer and in the development of the atomic bomb, occurred within a short distance from the cheap and abundant electricity produced by the hydroelectric generation capacity built by the Tennessee Valley Authority.

In contrast, today, some energy providers will actually send specialists out to your residence, completely free of charge, to replace light bulbs and find other ways of minimizing electricity use, due to the advanced age and deteriorating condition of our power plants and electrical grids, and the lack of new generating capacity. Not only is increased energy capacity **not** being considered from the standpoint of what we could do qualitatively if we had more energy—but we are actually planning ahead for failure, for decreased energy generation capacity per capita.

Interregional City Clusters

Infrastructure upgrades (as with other capital investments)—the expansion of the infrastructure quali-

tatively and quantitatively—are necessitated not by the linear projection of current user habits, but by non-linear changes in mankind's behavior.

For example, over half of the trips on the busiest lines generated by the construction of China's 22,000 km of high-speed rail, are trips that would not occur if it were not for the availability of high-speed trains. Every year during the 40-day Spring Festival, there is a mass migration of roughly 385 million people travelling across the country and back, to vacation or visit family. If, instead, all of these people had cars, it would not be possible for them all to be on the road during this period. A certain proportion of the estimated 2.98 billion trips for *all* purposes during the 40 days, is what are called "generated trips," that is, trips produced as a function of social and economic attributes of households. The extent of construction of China's high-speed rail system is changing the social characteristics of the Chinese population.

Part of China's current economic vision is the development of city-clusters as integrated economic areas. China's National Development and Reform Commission has designated certain clusters of cities, such as those in the Beijing-Tianjin-Hebei (Jing-Jin-Ji) region, as interregional city clusters. Rather than building more rings of highways to expand megacities such as Beijing, which grow much faster than other cities, the plan is to have a larger area connected by fast, modern transportation, so that someone living anywhere in that region can commute to work anywhere else in the region within one hour.

Clusters of very large cities can thus function in the way that individual metro areas do now, with the added benefit that the labor market for any individual employer or city center is now larger—as large as 50 million people. One of the advantages is the option to concentrate, within each city of the cluster, a particular economic specialization, whether it be administration, manufacturing, technological development, or something else. A family does not have to choose between living where one spouse's dream job is, versus another opportunity, but can commute within an hour's time to any of multiple cities. As a result, more of the population can be employed in such a way as to maximize their productivity. It may well be the case that a certain number of these trips do not financially pay for themselves—yet!

But, from the standpoint of the division of labor required in a more advanced and more productive economy, such as an economic platform characterized by commercially available fusion power, such an arrangement is indispensable. To move society forward, capital investment of this sort is required.

Hypothetically, on a train capable of travelling at speeds of 230 mph, a commuter could travel from Detroit, Michigan to Cleveland, Ohio (170 miles) in about 45 minutes. Such a concept of integrating a mega-region with high-speed trains travelling at 230 mph, connecting multiple city centers to achieve economic regions of higher productivity per capita, should be considered for the Northeast Corridor, the Great Lakes Region, the Texas Triangle, and the West Coast.

In contrast, many East and West Coast U.S. cities currently suffer from massively overpriced real estate markets, requiring low-wage earners to live far outside their city centers and commute long distances in dense automobile traffic, to work in dead-end, non-productive jobs. Workers commute to Washington, D.C. from as far away as West Virginia—at least a 90-minute drive each way.

Henry Ford and the American System

An earlier example of how capital expenditures were necessitated by an intention to transform man's relationship to the physical world in a non-linear way, is the case of the Ford Motor Company in its early years. In 1914, when Henry Ford announced a pay raise from $2 a day to $5 a day for his employees, he actually saw it as a cost-*saving* measure, which in fact it turned out to be—even more successfully than he had imagined. He was opposed by his directors, some of whom thought they could get him to give up the idea by ridiculing it! The news was so shocking, that it was probably the biggest international news item in history ever, at the time.

The key to increasing productivity was not simply paying his workers more, although that was part of it; the pay raise was possible *because* of their higher productivity. As Henry Ford's spokesman explained the effect after the fact, increasing the wage of his workers made it possible for them to afford the Model T. That created a ripple-effect of increased earnings throughout the country, which, in turn, made the Model T affordable to many others.

Increasing the number of people who could purchase the Model T by raising wage levels throughout the country, and simultaneously bringing down the cost of his cars, was necessary for one simple reason:

The really massive capital investments that had the biggest effect on cost reduction, required a dramatic growth in the number of cars produced in order to justify the investment. In other words, in order to make the ownership of the personal automobile possible for the average American, Henry Ford had to think on the scale of the U.S. economy as a whole, and transform it.

In addition to more than doubling their hourly wage, Ford also reduced their work day from 10 to 8 hours, a significant drop from the grueling 60-hour work week that was the standard in American manufacturing at that time.

China's approach to international investments is not entirely different. It approaches loans and investments in infrastructure not from the standpoint of always maximizing profits, but sometimes to create the conditions for raising the standard of living and productivity of other nations' populations.

That is why Henry Ford decided to build the massive River Rouge Complex seven years after his plant in Highland Park, Michigan, opened, which itself had been designed to mass-produce the Model T, the first factory in the world to assemble cars on a moving assembly line. Ultimately, to make a car as affordable as possible, he decided he had to control all the costs, beginning with raw-materials extraction, making it possible to introduce cost-saving innovations throughout the entire manufacturing process, and thus requiring a fully integrated manufacturing process. The Rouge was designed to build cars from scratch, bringing in the raw materials directly on barges on the Detroit River.

The 2,000-acre mega-complex was the most technologically advanced manufacturing plant the world had ever seen, employing 103,000 workers at its peak in 1924. In order get the raw materials in, and the cars out, the Ford Motor Company had to purchase a railroad and dredge the Rouge River along a three-mile stretch connecting to the Detroit River.

The early history of the Ford Motor Company is riddled with opposition to Ford's reinvestment decisions by stockholders such as the Dodge brothers, who sued him over his policy. They opposed his boldest plans—the Rouge, for example—to reinvest company profits in state-of-the-art improvements in plant and equipment. Ford eventually gave ultimate authority over expenditures to the production departments, which were tasked with finding ways to bring the cost of production down to the price at which Ford wanted the car to be sold.

Henry Ford's right hand man and closest collaborator over forty years, Charlie Sorensen, described in his book, *My Forty Years with Ford*, how completely revolutionary and anti-British this approach was:

> Until then, American business had operated on the principle that prices should be kept at the highest point at which people would buy. That is still the operating principle of much French and British industry. But the foundation of the American industrial system, which today out produces the world, is the mass production technique worked out at Ford Motor Company coupled with Henry Ford's economic heresies that higher wages and lower prices resulted in more abundant production at lower cost.

Like China's leadership today, Sorensen thought it better to tear down an old factory and build an entirely new one, rather than stick with old habits and old ideas, which, while profitable in the short term, ensured stagnation and eventual failure. Sorensen described his line of thinking in starting from scratch and building a new iron-smelting plant:

> The need for such a superplant was stressed by our experience at Highland Park, which was based on the best we knew how, but also on the same practices that would have been familiar to Egyptian bronze casters of 2500 BC. When something new and different is sought, it is useless to copy; start fresh on a new idea. This means fresh minds at work. Seeking help on planning this new foundry, I had to cast aside all precedent, for there were no engineering groups that could or would satisfy our demands for something different.

Where there is no vision, the people perish.

Like the spirit of the New Silk Road, and like the Americans who understood where real value in an economy comes from, we too must endeavor to cast aside all precedent and craft a vision of the future—not from old habits and tricks, but rather by a total vision for the future, a mission orientation, like the Apollo mission, and then figure out how to make it possible.

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