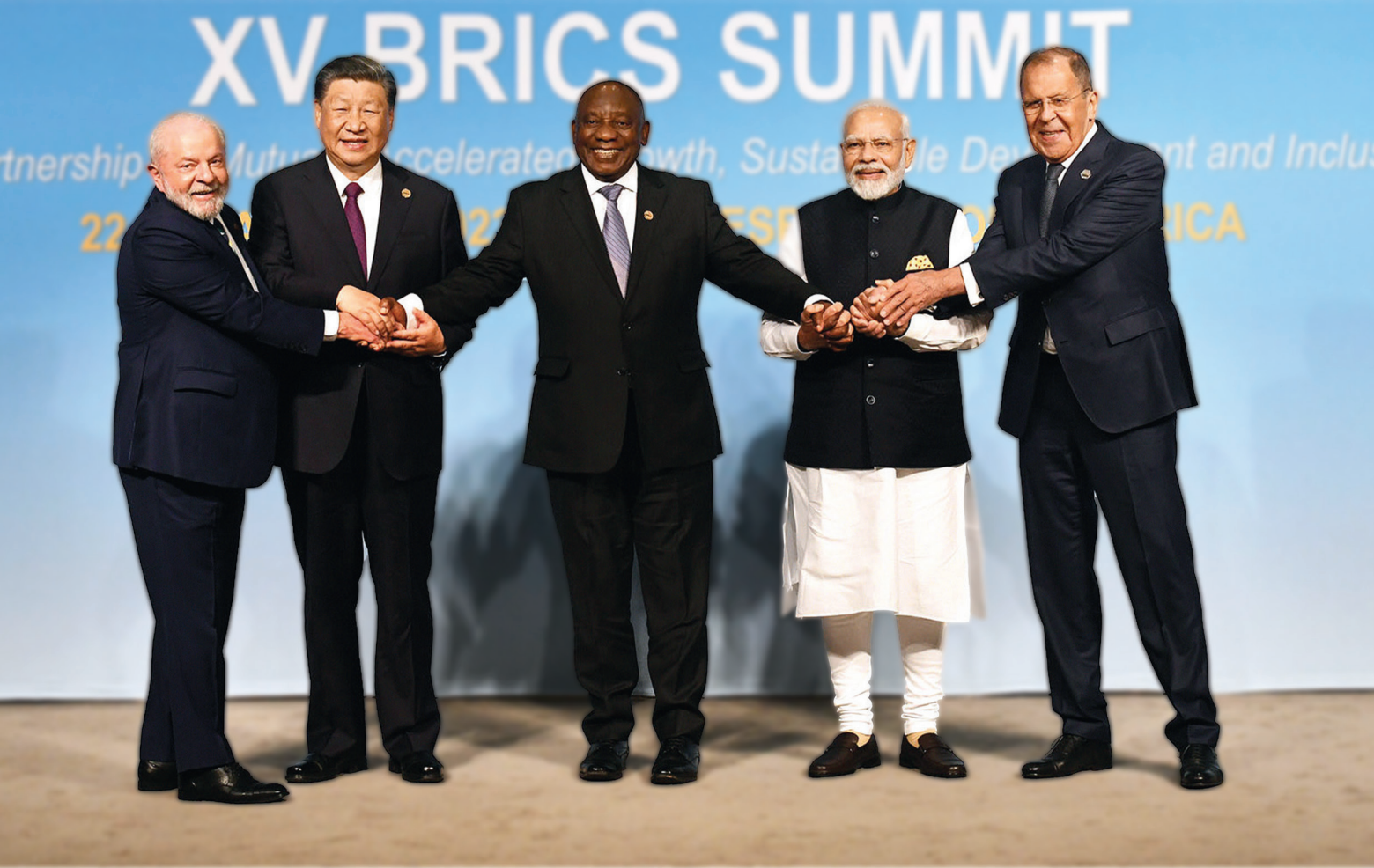




The International
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Colonialism is Over!



An Appeal to the USA and Europe:

**SUPPORT A NEW, JUST WORLD
ECONOMIC ORDER, NOT WAR!**

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Appeal to the Citizens of the Global North

We Must Support the Construction of a New Just World Economic Order!

by Helga Zepp-LaRouche

August 20, 2023—The summit of the BRICS countries, which will take place from August 22–24 in Johannesburg, South Africa, despite all Western attempts to disrupt it, will demonstrate to the whole world that a new world economic order has emerged, opening a new chapter in human history. Nations of the Global South, which already represent the vast majority of the world’s population, are expressing their effective resolve to end forever the past period of some 600 years of colonialism, and to establish an economic system that encourages the sovereign, equitable development of all states on Earth, the elimination of poverty, and the creation of a decent standard of living for all. We, the citizens of the Global North, must wholeheartedly congratulate this development and support it through practical cooperation!

A correct analysis of how this tectonic change in the strategic situation came about is essential. This formation of a new economic model is not the result of the work of “Russian trolls” or “Chinese aggression,” as the mainstream media would have us believe. Rather, it is the result of a huge strategic miscalculation by forces primarily in the USA and Great Britain, which, after the dissolution of the Soviet Union, mistakenly saw themselves as the victors of the Cold War, and derived from this the license to impose their neoliberal economic model on a unipolar world, and to bring the various methods of “regime change” to bear upon all governments who do not want to conform to this “rules-based order.”

The historic opportunity of 1989, to establish what was then a perfectly possible peace order for the 21st Century, was squandered and replaced by the US necons’ Wolfowitz Doctrine and Brzezinski’s policies, which were designed to cement into place the US-British-dominated unipolar world order, which decreed that no nation or group of nations should ever surpass the United States economically, militarily, or politically.

This supposed “end of history” that Fukuyama thought he was seeing, involved the complete deregulation of markets, and the extensive privatization of seg-

ments of the economy that had previously been under state control. There was now little standing in the way of profit maximization in a globalized casino economy, which led to an ever-widening gap between rich and poor, and ultimately to the point that Lyndon LaRouche had predicted in 1971 when President Nixon repealed the fixed exchange rates of the Bretton Woods system, namely the systemic crisis of the neoliberal financial system, which manifested itself in 2008 and which has not been resolved since then, but has only been postponed by unlimited money printing by the central banks, the so-called “QE.”

This policy, which essentially benefited speculation, led to a complex counter-reaction. China was willing to participate in globalization with its reform and opening-up policies, but instead of submitting to the model of Western neoliberal democracy, this 5,000-year-old civilization turned to its own culture, pursuing the model of socialism with Chinese characteristics, and thus set in motion an unprecedented economic miracle. China’s willingness to share the experience of this successful model with other nations of the Global South, in the form of the Silk Road Initiative, led to a renaissance of the non-aligned movement and the revival of the “Bandung spirit”. The countries of the Global South are painfully aware of the fact that colonialism has persisted in its modern form—namely in the unfair trade and credit conditions of the liberal financial system—which President Sukarno and Prime Minister Nehru had already warned about in Bandung 68 years ago.

This colonialism did not end after the end of World War II, as President Roosevelt had intended, but was perpetuated by Churchill and Truman. But above all, after September 11, 2001, under the banner of the “war on terrorism,” the USA concentrated on military and security operations worldwide, the establishment of up to 1,000 military bases, and the training of military forces in almost every continent. Then there were various “humanitarian wars of intervention,” the wars in Afghanistan, Iraq, Libya, Syria, etc. Obviously, the idea of economic development in these countries fell by the wayside.

It should come as no surprise that under these circumstances, a large number of the nations of the Global South are choosing to cooperate with the BRICS countries, which are offering them real economic growth and treatment as equal partners. In this, and in the very concrete experience of the behavior of the former colonial powers (and the current hegemonic power), lies the reason why the nations of the South have refused to condemn Russia's supposedly "unprovoked war of aggression," and to take the side of the "rules-based" West.

The BRICS summit will make this historic realignment visible in the world so dramatically that even the mainstream media and political forces (which until recently, with their usual Eurocentric arrogance, have at best perceived the countries of the Global South as exotic vacation spots), must take note of the new reality. But the all-important question will be how the nations of the Global North relate to this emerging economic order.

Attempting to maintain the long-defunct unipolar world will almost certainly lead to World War III, to which we have come dangerously close with the situation in Ukraine, where the failure of the Ukrainian counter-offensive has exhausted the conventional dimension of the war, so that only ending the war through diplomatic negotiations, or escalating to the use of nuclear weapons, remain as options. The notion that the West must "decouple" from China and the BRI's sphere of influence, or engage in "risk reduction," to use the new, ridiculous formulation, would lead not only to economic self-destruction as in the case of Germany, but this notion also leads to war. For the splitting of the world into two completely separate blocs—a US-dominated, global NATO bloc that continues to cling to the model of the casino economy, and an economically fast-growing bloc of the Global South around the BRICS countries—would not remain peaceful, either.

There is only one sure way to resolve the many existential crises that exist around the world: Instead of viewing and opposing the new economic model of the BRICS countries as an antagonist, it is in the self-interest of the nations of the Global North to cooperate with this emerging New World Economic Order and to jointly tackle the daunting task of overcoming poverty and underdevelopment.

There are currently few signs that the representatives of the transatlantic establishment would be willing to

admit their misjudgments and policy mistakes of the last almost 35 years, with a few exceptions such as former French President Sarkozy. But the ordinary citizens of Europe and the USA should now very urgently check the axioms of their own thinking, inquiring whether they are not perhaps influenced by a Eurocentric point of view and the associated latent racism.

The simple Gretchen question [German idiom for an uncomfortable question—ed.] regarding the relationship of the North to the South is: have we really accepted that it should stay like this forever, that almost a billion people are permanently on the brink of starvation, two billion have no clean drinking water, 940 million have no access to electricity, and the vast majority of humanity, due to poverty, does not have the ability to develop the potential that is inherent in them, and are thus robbed of what is one of the most precious possessions of man?

We must not see the emergence of this new economic order as only long overdue for Africa, Asia, and Latin America, but we should also understand that we too can only get our own ailing economies going again by cooperating with them. President Xi Jinping has made it clear from the outset that the Belt and Road Initiative is open to cooperation with any country in the world, and it is almost certain that the BRICS countries will respond openly to offers of cooperation from Western nations.

However, this requires that we in the West demonstrate unequivocally that we are ready for honest cooperation. Above all, this includes giving up the concept of expanding NATO into a global NATO, and working specifically on a new international security and development architecture that takes into account the interests of all nations, including Russia, Ukraine, China, and all other states. I have formulated ten principles on this topic, the aspects that such a new architecture must take into account.

Our entire future, that of the nations of the Global South, and not least of all world peace, will depend on whether we can win enough forces in the European nations and the USA to seize the extraordinary opportunity that presents itself in the possibility of cooperation with the BRICS-Plus States. We are currently experiencing an epochal change of the kind that happens maybe once in a thousand years, and the great thing is that we can all help shape this new era through our contribution. We can help end the shameful phase of colonialism and begin a human chapter in universal history.

The LaRouche Plan to Reopen the U.S. Economy

The World Needs 1.5 Billion New, Productive Jobs

CHAPTER 1

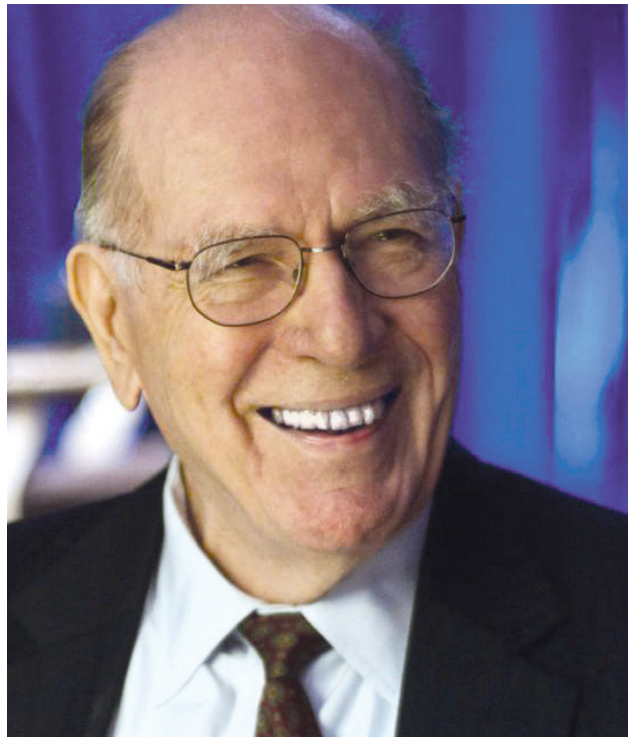
Introduction

The individual who contributes to making society good is worth a thousand times the individual who wanders through life scattering only individual good deeds. For, a bad society will crush the good contributed by its individual members.... Who makes society good thus preserves the goods contributed by thousands and millions of individuals.

Lyndon LaRouche
The Science of the Human Mind, 1984

Mankind is now living with the terrible consequences of tolerating the “bad society,” of which Lyndon LaRouche warned. The COVID-19 pandemic has exposed the criminal failure of the neo-liberal imperial system resulting in hundreds of thousands of deaths, an unprecedented disruption of economic and food supply chains, historic levels of unemployment, and uncounted millions of lives threatened with other diseases and starvation. Looming over this cost in lives and livelihoods is a \$1.8 quadrillion financial bubble which cannot survive, despite the central banks’ hyperinflationary attempts to do so.

This is not a series of individual crises. This is *systemic*, and can only be addressed by a *new system*, based on fundamentally different principles than those of the current monetarist, Malthusian globalist structures. At the heart of this evil, this “bad society,” is the denial of the right of billions of people, including hundreds of millions of Americans, to contribute to the physical development and scientific advance of their economies. That is what has left so many nations defenseless in the face of the virus and ensuing economic collapse. The economic breakdown crisis we are facing today was not created



Lyndon LaRouche. If the world had “listened to the wise words of Lyndon LaRouche,” as former Mexican President José López Portillo had urged, the U.S. and world physical economic catastrophe of the last 50 years could have been avoided. That is why LaRouche, the man and his ideas, must be exonerated today.

by the coronavirus pandemic. It has been in plain view for 50 years of bad policies for anyone willing to think it through, which is why Lyndon LaRouche was able to forecast that this sort of pandemic would necessarily

emerge at some point. And now it has.

Lyndon LaRouche challenged us to make society good. What does that look like? Are you among the 50-plus million Americans who are out of work? Need a productive job? So do 1.5 billion other people on this planet.

The world needs 1.5 billion productive jobs which currently do not exist, and could not exist under the current monetarist system. The American economy must be completely reconfigured, employing half of its labor force into real goods-producing—not “gig economy” service jobs—with a target of creating 50 million productive jobs. Those jobs would be driven by the mission of producing the food, health care, infrastructure, and capital goods to rebuild our own nation and to help transform underdeveloped nations, ensuring that they have the power to transform their economies and workforce similarly, creating 1.5 billion new productive jobs globally. The 50 million new jobs in the U.S. is only 3% of the total required worldwide. But it is actually the key to the success of the whole effort, planet-wide. Here’s why.

When Lyndon LaRouche first ran for President in 1976, his campaign theme was, “This man wants to give you a job, rebuilding the world!”

The Physical-Economic Approach

Twenty years later, addressing new potentials for that same idea, LaRouche declared,

There is no need for anybody on this planet, who is able to work, to be out of work! It’s that simple.... If the United States, or the President of the United States, and China, participate in fostering that project—sometimes called the “Silk-Road” Project, sometimes the “Land-Bridge” Project—if that project of developing development corridors, across Eurasia, into Africa, into North America, is extended, that project is enough work, to put this whole planet, into an economic revival....

So that, what we have here, is a set of projects, which are not just transportation projects, like the transcontinental railroad in the United States, which was the precedent for this idea, back in the late 1860s and 1870s. But you have development corridors, where you develop an area of 50 to 70 kilometers on either side of your rail link, your pipeline, so forth—you develop this area with industry, with mining, with all these kinds of things, which is the way you pay for a transportation link. Because of all the rich economic activ-

ity: every few kilometers of distance along this link, there’s something going on, some economic activity. People working; people building things; people doing things, to transform this planet, in great projects of infrastructure-building, which will give you the great industries, the new industries, the new agriculture, and other things we desperately need.

Lyndon LaRouche’s [Four Laws](#) (“The Four New Laws to Save The U.S.A. Now! Not an Option: An Immediate Necessity,” June 10, 2014) will reorganize the U.S. economy to do that. His [proposal](#) for a Four Power Summit between the United States, Russia, China, and India to organize a new international financial system, a New Bretton Woods, should be convened immediately to address the urgent pandemic, hunger and financial crises before us—that is, to replace the modern-day British Empire with a New Paradigm based on sovereignty, development and classical culture.

We must break Americans out of the polarized and controlled agenda of the mass media, which declares that there are only two alternatives—defeat the virus and kill the economy, or “open” the economy even if it means losing lives of the most vulnerable. In reality, the economy was already dead, killed by the \$1.8 quadrillion financial parasite (which the central banks continue to bail out at rates far, far greater than the emergency funds being allocated to people, businesses, and governments). That is *not* the economy that should be reopened. Nor can it be one based on a new, zero-growth “Green” financial bubble to replace the current, collapsing one, which the City of London and Wall Street are now intent on conjuring into existence.

In the following pages, we present to you a mission, and we present to you a method, informed by Lyndon LaRouche’s thinking, for accomplishing that mission.

How Did We Get Here?

In the 1930s, the Tennessee Valley Authority was considered the eighth wonder of the world, taking one of the poorest sections of America and transforming it into a powerhouse of higher energy-flux density economic production. In the 1940s, Americans created a manufacturing and machine tool miracle which allowed allied soldiers to win the war against fascism. In the 1960s, President Kennedy challenged us to land a man on the Moon by the end of the decade, and we did, discovering new physical principles and revolutionizing our economy.

Two years after the Moon landing, on August 15, 1971, our economic sovereignty was stolen by the financial lords of Wall Street and the City of London, who used their monetary power to create a globalized modern-day British Empire.

For the next five decades, most Americans accommodated to that monetarist system, protesting aspects of it at times, but, basically learning how to survive within it. Americans gradually stopped producing and started hustling.

Lyndon LaRouche, instead, challenged that system. He warned that it would inevitably fail, by virtue of its profoundly evil and fatal policy of sacrificing physical economies, human productivity, and lives to speculative financial income streams and the anti-human intentions of the global elite. He developed the scientific principles needed for sovereign nations to reclaim their economies in the tradition of Alexander Hamilton's American System, and urged peoples and nations to act before the inevitable happened.

The inevitable has happened.

The global pandemic has only removed the façade, exposing the tragic transformation of the agro-industrial base of western economies into hollowed out consumer- and entertainment-driven service economies. It has ripped the mask off the equally tragic idea that the “underdeveloped” countries could remain permanently underdeveloped, without genocidal consequences.

Fifty million Americans are unemployed or barely employed, many of them discovering painfully that their jobs have nothing to do with meeting real human needs, and are not coming back.

Throughout the world, but especially in underdeveloped nations, people are faced with the impossible choice of continuing their informal activities and likely contracting or spreading COVID-19, or locking down and subjecting themselves and their families to hun-

ger—and in the case of hundreds of millions of people, especially in Africa, outright starvation. World Food Program Executive Director David Beasley recently warned that 821 million people worldwide are chronically hungry, another 135 million are “acutely food insecure, meaning they are on the brink of starvation.” He added that under the hammer blows of locust plagues, collapse of supply chains and the pandemic that number could double. He warned of 300,000 preventable deaths *daily*, and “multiple famines of biblical proportions.”

How can this be happening in a world where American farmers are euthanizing their livestock and chickens and dumping milk? How can the basic needs of survival be lacking in the face of mass unemployment and underemployment which pre-dated the pandemic?

Because this is the intention of the British Empire. It has been politely rebranded as “globalization,” but Prof. Niall Ferguson, an unabashed promoter of British imperialism, more accurately identified it as “Anglo-globalization.” The spokesmen of that Empire have been explicit, for centuries, about their preference for genocidal Malthusianism, which they are today trying to repackage as “Green environmentalism.”

They Say It Themselves

Take the case of Prince Philip of the United Kingdom, who in 1988 stated:

The more people there are, the more resources they'll consume, the more pollution they'll create, the more fighting they will do. We have no option. If it isn't controlled voluntarily, it will be controlled involuntarily by an increase in disease, starvation, and war.... In the event that I am reincarnated, I would like to return as a deadly virus, in order to contribute something to solve overpopulation.

Or Bertrand Russell before him, whom Lyndon LaRouche called the most evil man of the 20th Century, who stated in 1951:

War has hitherto been disappointing in this respect [population control], but perhaps bacteriological war may prove effective. *If a Black Death could spread throughout the world once in every generation, survivors could procreate freely without making the world too full.* [Emphasis added.]

Or go back a couple of centuries to the evil Parson Thomas Malthus, who wrote in his 1791 *Essay on the Principle of Population*:

We should facilitate, instead of foolishly and vainly

endeavoring to impede, the operations of nature in producing this mortality; and if we dread the too frequent visitation of the horrid form of famine, we should sedulously encourage the other forms of destruction, which we compel nature to use. In our towns we should make the streets narrower, crowd more people into the houses, and *court the return of the plague*. [Emphasis added.]

This kind of imperialism or oligarchism, as LaRouche defined it, is grounded in the idea that man is no more than a creature of his senses, an animal which has to react to the world as it is, a hedonist in search of maximizing pleasure and minimizing pain, and which can be manipulated and culled as needed. The idea of “herd immunity,” which argues, “let nature take its natural course, we have no power over it,” is a recurrent incarnation of this idea.

To the contrary, Lyndon LaRouche located man’s unique ability to create new and better ways of doing things, based on the discovery of new universal physical principles, as the substance of economics. LaRouche’s original and unique conception of Potential Relative Population-Density corresponds to the power of society to maintain a rising total population, with rising longevity, a rising standard of living, and with augmented access to classical culture, such that the rate of future scientific discovery and technological advance can outpace the growth of population per se. This depends on the ability to produce improved market baskets of consumer goods, production goods, and infrastructure, on a per-capita and per-square-kilometer basis.

If such capability falls, then society will predictably devolve, to the point where the Potential Relative Population-Density drops below the actual total population—as has happened globally over the past 50 years, with the disastrous consequences we are witnessing with the coronavirus pandemic today, and as LaRouche warned in [studies](#) in the 1970s and 1980s.

The solution lies in a dramatic about-face in the world’s plunging relative potential population-density, through the equally dramatic increase in the productive powers of labor, a concept at the heart of Alexander Hamilton’s American System and Lyndon LaRouche’s Four Laws.

LaRouche’s Physical-Economic Forecast

With his ability to forecast the future in order to change it, Lyndon LaRouche described the nature of today’s crisis and its solution in 2007:

If the United States—and this is not impossible—if the United States should extend a proposal to Russia, to China, and to India to co-sponsor the formation of a new international monetary financial order, that could be done.... We have now an incalculable crisis worldwide in progress. This is not a financial crisis.... This is a crisis to see who is going to run the world. Is it going to be a group of nations, or is it going to be the re-emergent British Empire which never really went away—which takes over from the United States and establishes its world rule through globalization?

President Donald Trump came into office with the mandate for and the intention to rebuild American infrastructure, revitalize industry, and relaunch our space program; to end perpetual wars and normalize relations with Russia and China; to put an end to the speculative looting of economies with a return to the FDR-era Glass-Steagall law. For the past three years, the British Empire and their American assets have been engaged in an attempted coup against the President to prevent any movement in the direction of those policies. Now is the time for that coup to be defeated, and those policies immediately implemented—along with the full program we present below.

The pandemic, the economic collapse, and the immediate threat to hundreds of millions of lives, now call the question on the fight between the two systems—the one based on encouraging, not millions, but billions of lives to be eliminated; the other, based on increasing the creative and productive output of those same billions and future billions.

What follows is a concept of how to unleash the people of the United States to play their indispensable role in that fight, by creating 50 million new productive jobs, by reconfiguring the American economy and workforce with directed investments in manufacturing, agriculture, space exploration, and advances in thermonuclear fusion, as part of a global crash program to create 1.5 billion new, productive jobs worldwide. These are guidelines of the needed approach, with further details to be filled in based on input from engineers, farmers, scientists, manufacturing workers, and others.

Brother, Can You Spare a Job?

As of the second week of May, 50 million Americans are now unemployed or forced into part-time employment. Even before this employment collapse, about 44 million, did not have *productive* (e.g., goods-producing) employment—manufacturing, construction, mining and drilling, agriculture and forestry, transportation—nor were they scientists or engineers. This exposed a shocking fact: Before the coronavirus crisis struck, the old joke had come true: “Millions are idle!—fortunately, most of them have jobs.” Some 69% of the American labor force (including those who were unemployed, had stopped looking and dropped out of the labor force) did not have productive employment. This was almost 120 million people. (See **Figure 1**.) Now, a very large share of those Americans is truly unemployed, or forced into part-time work.

This shows the absurdity of textbook definitions of unemployment: someone wants to work but doesn’t have a paying job, i.e., not receiving income.

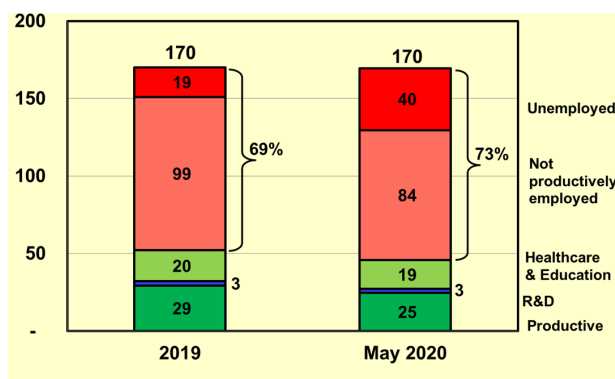
Contrast that monetarist view to Lyndon LaRouche’s concept which started from the standpoint of physical economy: of a person’s participation in the process of producing the physical goods, and related necessary services (such as health and education), required to increase society’s power to provide an improved standard of living and culture to a growing population—a power Lyndon LaRouche referred to as potential relative population-density. Having a “job” in the drug trade and making \$1 million a year is *not* actual productive employment. LaRouche developed a unique pedagogy of “bar diagrams” (see **Figure 4**) to focus our attention on that actual physical-reproductive process:

Since potential relative population-density is a material relationship of society to nature, this potential is determined most immediately solely through activities in the form of production of goods.... This approach must replace the methods of national-income analysis associated with the U.S.A. usage of “Gross National Product.”

From that standpoint, now look at the U.S. and world economies.

Figure 1 shows the result of five decades of deindustrialization and deterioration of the American economy, once the “Arsenal of Democracy,” into a globalized “service economy” which is now in collapse. Some service

FIGURE 1
U.S. Real Unemployment
(millions)



sector jobs are useful and necessary, such as healthcare and education, and are also productive in that sense; but the lion’s share of service jobs in the American economy today are not—such as financial, hospitality, and so-called professional business services. Taken together with the unemployed, this amounts to a shocking 73% of the current labor force. Moreover, many of the roughly 5 million Americans who had productive jobs and are now not working (and this is almost 25% unemployment among America’s productive workforce), face the potential of their jobs not coming back. How many airline employees, oil drilling company employees, and auto industry employees will be working in those industries next year? If we look at the world labor force from

FIGURE 2
World Real Unemployment
(millions)

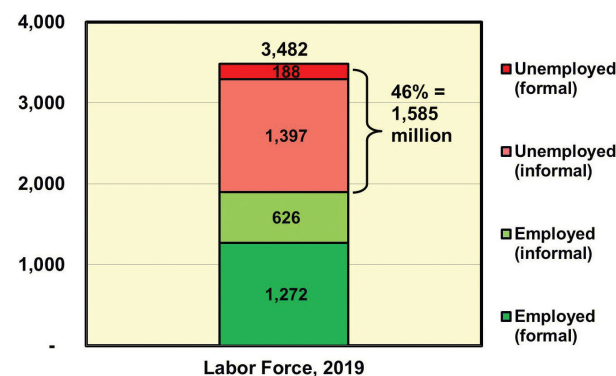


FIGURE 3

World Real Unemployment

(millions)

Real Unemployment, 2019 (millions)	World	Africa	Ibero-America
1) Total Population	7,711	1307	646
2) Total Labor Force	3,482	490	310
3) Official Unemployment	188	33	20
4) Total Employment (2-3)	3,294	457	290
5) Informal Employment, Total	2,023	391	156
6) Informal Employment, Non-agro	1,664	328	144
7) De facto Unemployment*	1,397	283	111
8) Total Real Unemployment (3 +7)	1,585	318	131
9) Total Real Unemployment Rate (8/2)	46%	65%	42%

* (Non-agro informal employment) — (informal employment in the formal sector)

Source: ILO; own elaboration

the same physical-economic standpoint, as shown in **Figure 2**, we find that total real unemployment for the planet can be estimated at about 46% of the labor force.

That is 1.585 billion people who do not produce any physical economic value because, over the past half century and more, they have been dumped onto the human scrap heap by the British imperial system of the City of London and Wall Street—and barely survive from day to day. In the case of Africa the real unemployment rate is 65%. In the case of Ibero-America it is 42%. (See **Figure 3**.)

We arrived at these numbers by not only looking at official unemployment statistics (which grossly understate the reality), but also the masses of people who hustle and scramble so that they and their families can eat from one day to the next, but who don't actually *produce* anything. This is the case with so-called "informal employment" worldwide, which involves a staggering number of people: more than two billion, in fact, which is more than 60% of the planet's total labor force. Youth are particularly victimized by this "informal" disease—in the 15-24 age cohort worldwide, 77% of all employment is informal. According to the [definition](#) provided by the International Labor Organization (ILO):

The informal sector consists of units engaged in the production of goods or services with the primary objective of generating employment and incomes to the persons concerned.... The main intended destination of the production is wholly for own final use.

This includes: (1) Informal employment in agriculture: desperately poor peasants and their families engaged in subsistence agriculture (this is about 25% of the total informal employment); (2) A smaller number of "informal" (or off the books) employees in the formal sector as such

(about 10% of the total); and (3) The deregulated netherworld of street salesmen, service workers, and—in the worst cases—virtual slaves of *Dope, Inc.*'s drug trade and prostitution/pornography black economy, run by the British Empire's banks (about two-thirds of the total).

It can be argued that the first group at least produces enough for their own and their families' immediate consumption, albeit at a horribly low level of productivity. We consider them as "employed," along with the second group, in an effort to present a conservative estimate of real unemployment. The third group, however, produces *zero* net physical economic value. They are de facto unemployed, from the standpoint of the physical economy. Now that the coronavirus pandemic is striking the underdeveloped sector with a vengeance, even the meager daily incomes and food supply of the gigantic informal sector is going up in smoke.

The ILO estimates that people in the informal sector have already had a 75-85% drop in income. As ILO Director-General Guy Ryder succinctly put it on April 29: "These are the real faces of the world of work. If we don't help them now, they will simply perish." There is no greater source of waste on this planet than this mass unemployment—and resultant death by disease and starvation—of millions and even billions of precious



EIRNS/Mark Sonnenblick

A haunting picture of a young Peruvian girl—hungry, exhausted, frightened, with no hope for the future, yet crying out to the heavens for justice—chewing coca leaves in order to be able to perform another day of exhausting "informal labor" in the fields.

human beings. The path to recovery lies in productively employing and mobilizing them to vastly increase the productive powers of labor—the only actual source of wealth in a human economy.

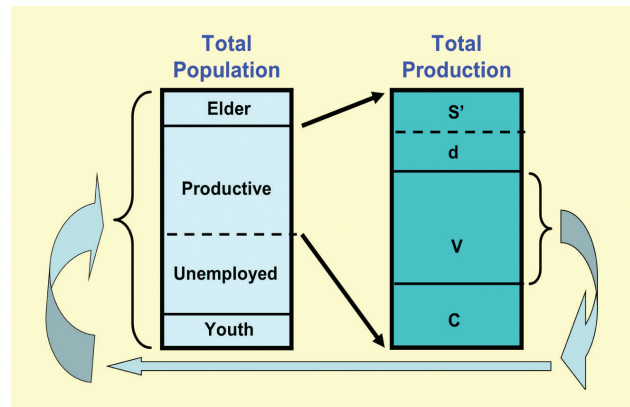
LaRouche on the Bar Diagrams

Since potential relative population-density is a material relationship of society to nature, *this potential is determined most immediately solely through activities in the form of production of goods.* If other forms of activities, other than production of goods (or, the transportation which is the conveyor-belt for the production and distribution of goods), do affect this potential, they accomplish this through the mediation of the relative productivity of the labor producing goods....

Education, medical services, and administration of production and distribution directly affect the productivity either of productive labor or of the organization of the productive process as a whole, and also determine the effectiveness with which necessary services and administration mediate such improvements in productivity....

This labor-force is, so to speak, the input to the productive process defined by production of goods and associated transportation. The right-hand bar depicts

FIGURE 4



the input-output relationships....

This geometric proportioning of the elements of the reproductive cycle is the basic geometry of the economic process for purposes of defining national income.

This approach must replace the methods of national-income analysis associated with the U.S.A. usage of “Gross National Product,” and the “Gross Domestic Product” usages of the UNO and various nations.

(From Lyndon LaRouche’s 1981 report, “The Principles of Statecraft for Defining a New ‘North-South’ Order.”)

CHAPTER 3

How to Create Millions of New, Productive Jobs for the U.S. and the World

Faced with an unemployment crisis similar to today’s, President Franklin Roosevelt created 4-5 million jobs during 1933–44, using a *national credit institution*. He made the Reconstruction Finance Corporation (RFC) act as a large national commercial bank issuing credit for investment in production and infrastructure. (See Chapter 7 for further elaboration of American System credit policies.)

In March and April 2020, the economy and its 50 million un- and underemployed workers have been subordinated to the Federal Reserve’s policy of bailing out trillions of dollars of worthless speculative debt, while industry, small businesses, and other elements of the real economy are scrambling for the equivalent of pennies. Putting the fox in charge of the hen house, Blackrock, the world’s largest asset-management fund, has been put in charge of allocating federal stimulus

money. Blackrock is a leader in the drive for “financial regime change,” placing central banks, and their green fascist agenda, above nations. Meanwhile, the U.S. House of Representatives has now proposed to borrow and spend no less than \$3 trillion in one piece of legislation, without creating a single new, productive project or job.

The failure of the monetarist policies which gave us five decades of deindustrialization and the deterioration of the American economy into a globalized, service economy must now be reversed.

Raising Up America’s and the World’s Workers

Many of the roughly 5 million Americans who *had* productive jobs and are now not working, face the potential of the *demand* that supports their jobs not coming back.

But many auto and auto parts workers this Spring have proven that there are much more important—and more rewarding—services they can perform in the plants where they were making cars and trucks—producing medical devices and public health equipment which is in critically short supply in the nation’s fight against the novel coronavirus pandemic, and gaining in their machining and engineering skills in the process. Some of those workers had to mobilize and demonstrate to get the right to step up and do something better, produce something vital.

Now expand the horizon of that kind of thinking, to the more than 190 nations around the world fighting this pandemic, many of them in the developing sector, with shortages of hospital beds, electric power, clean water supplies, and medical devices and equipment that are far beyond “critical.” Some are virtually defenseless, except by trying to lock down people who must work every day to live. Now they face worsening shortages of food, as well.

Moreover, the United States does not have the hospital infrastructure it needs either. The number of beds per population has been cut by more than half since the 1970s; hundreds of rural areas have no full-service hospital that is reachable in an emergency or for frequent chronic health episodes. Despite the efforts of the Army Corps of Engineers and of hospital administrators to create new beds, tens of thousands of Americans have died at home or in nursing homes without getting hospital treatment in this pandemic, and tens of thousands more have died of diseases *not* COVID-19 because they did not want to go to hospitals which were treating both COVID and other patients. Compare this to the lightning hospital-building mobilization in Wuhan, China in January, where “pop-up” modular hospitals were constructed for serious COVID cases, and temporary ones for mild cases, enabling other hospitals not to take COVID infections at all.

Such modular hospital and clinic facilities can and should be constructed rapidly all over the world. It’s been done before in local crises; doing it worldwide, with the electrical power and clean water supplies needed, will take a new international credit system and the joint effort of the leading technological nations.

The COVID-19 disease is unlikely to disappear or be prevented or cured any time soon, possibly not for several years. That means that all those new facilities for treating the sick while isolating them from their households and coworkers are going to be needed. And there is time to build them if the leading technological

nations of the world act fast, and cooperate.

Those hospitals and power and water supplies can be built fast, and on the absolutely massive scale required, if the United States, Russia, China, India, other leading nations mobilize their labor forces and their people to create new capabilities—new industries, new jobs at technological and even scientific frontiers.

What America’s Economy Was Capable Of

In the period 1935–75 the U.S. economy transformed itself from Great Depression to world powerhouse. And don’t buy the eyewash that this was the “obsolete old industry” period. We have been living since on the scientific and industrial inventions of that time—the transistor, the radar/laser/directed energy beam, the computer, the nuclear reactor, isotope separation, the satellite, jet and rocket engines, etc. The Tennessee Valley Authority’s multi-purpose hydroelectric/navigation/irrigation dam system has been unsurpassed and rarely equalled since for economic development. Some of that period’s technologies have been supplanted by their inferiors: The electric locomotive, for example, is faster, more powerful, more fuel-efficient than today’s dominant diesel-electric traction.

Let’s take a snapshot of that progress using Lyndon LaRouche’s most basic principle of sustained economic progress. LaRouche showed that the share of an economy’s total production going to the *consumption* sustaining skilled, educated *productive* workers and their households had to increase. At the same time the share going to produce infrastructure and other capital goods for production had to increase even faster. That would mean that the capital intensity (capital goods per productive worker) of the economy would increase at the same time as consumption or living standards of productive households rose. Then, LaRouche showed, the economy would be generating “free energy” (call it “surplus” or even “real profit” if you want) to allow improvement in technology, culture, and science in order to put future progress on a sound basis.

But there’s another big factor: overhead. Overhead is the share of the “work” done in the economy which is not productive. Some of it is necessary, even critical: the work of the doctor or nurse, for example, or the teacher. But it is overhead which is supported by the work of the power and goods producers, transporters, miners, drillers, etc. And during the past 50 years of deindustrialization of the American economy, overhead employment has grown massively at the expense of productive

employment. And it has become less and less necessary, to where retail is the biggest economic sector, the MBA is the degree every student wants, and even the mathematics geniuses work at hedge funds and banks instead of teaching science.

LaRouche used the letters “V” to refer to the consumption of the productive employees; “C” to refer to capital goods and their use, as with the generation and use of electricity; “C/V” to refer to the capital intensity of the economy’s production; “D” to refer to the share of employment which is overhead; “S” to refer to surplus production beyond the share of “V” and “C”; and “S-D”—or S’—to refer to free energy generated in the economic system (see Figure 4, Chapter 2).

Figure 1 compares the shifts in relationships among these factors between 1935–75 and 1975–2015, when the economy was heading in a healthy direction and in an unhealthy direction, respectively.

Here is 1935–75:

“V” increased by 1,000%. This is both more productive workers, and a higher standard of living of their households. The *Statistical Abstract of the United States* has for 120 years reported every five years the number of productive workers and their real wages, a reasonable measure of their households’ standards of living.

“C” increased by 2,200%. We use here a basic “marker” for the huge variety of capital goods, namely electricity generation and use in terawatt-hours (a terawatt-hour is a billion kilowatt-hours).

“C/V” increased by 1,400%.

“D,” the overhead ratio in the workforce, never went above 70%; and during WWII it was less than 50% and goods-producing work was more than 50%.

You can get a feel for the “S” being generated, although we don’t show it here as a quantity or share of production, because it is actually *the appearance of inventions which are new to the economy* and of new fields of work. But we know the rate of growth of productivity averaged 2.85% per year. The growth of multifactor productivity—the increase in productivity caused by technological progress—was a high 2.6% per year.

Here is 1975–2015:

“V” *decreased* by 25% because of the mass disappearance of productive employment.

“C” increased by just 70%.

“C/V” increased by 160%, but mainly because of the decline of productive workers, “V.”

“D” rose to 85% *overhead* employment.

We don’t need to mention the fate of “S” or free energy of *this* economy. It’s been below breakeven. Productivity

LaRouche’s Categories of U.S. Economic Output

	CHANGE 1935-1975	CHANGE 1975-2015
V	+1,000%	-25%
C	+2,200%	+70%
C/V	+1,400%	+160%
Productivity	+2.6%/yr.	+1.0%/yr.

growth has averaged 1.9% per year. Multifactor productivity growth has been 1.0% per year.

When the United States was fighting a great war against fascism 80 years ago—and what are we in now, if not an international war against disease, hunger and unemployment?—*more than half* of America’s entire labor force was productively employed. In the 1960s, as we went to the Moon, it was still 35% productively employed, with 400,000 Americans working on the Apollo project. So in 2020, with just 15% of the U.S. workforce productively employed, America was unprepared to be an arsenal of healthcare and nutrition for the world.

Now, the United States can transform its economy quickly into that arsenal, while keeping its sights on its missions to the Moon and Mars.

A New World System of Public Health

America now has a labor force of about 170 million people; 164 million of these people are working or have worked recently enough to be counted in the labor force by the Labor Department (which has forgotten another five or six million who could work but haven’t looked for work in a good while). Just fewer than 30 million are productively employed; another 19 million are in healthcare and education.

At least 100 million Americans in the labor force are not involved in building, operating, or maintaining the *physical economy* of the United States which produces all the goods and services we live on, nor in the creative invention of new physical and biological processes, which is the real source of any nation’s wealth.

What is needed in this global, five-alarm fire of a crisis—and this is “the big one,” as we know it so far—is for some 50 million of those 100 million Americans to enter new, productive employment—or, to replace someone now productively employed, who transitions to a more demanding job in the space program, power engineering, technology development, or scientific research—or to go straight to that kind of new and challenging employ-

ment themselves. With 50 million new productive jobs the United States would be equaling the level it reached in 1944 when the Arsenal of Democracy was going full bore: half of the entire workforce with productive jobs.

New hospitals and public health centers: If the United States joins with the other leading technology powers in mobilizing new hospitals, equipment, staffing, and specialists across the developing nations of South America, Africa, and Asia, that process will create *6 million new productive, skilled jobs in America and well more than 100 million such jobs worldwide.* Here's how.

Under the Hospital Survey and Construction Act (Hill-Burton Act) of 1946, the United States is mandated to have, in every county, a standard of 4.5 hospital beds of various capacities per 1,000 residents. The era of for-profit hospital chains has abandoned this standard, effectively cut it in half or worse depending on the county. The coronavirus pandemic has given us an order: **Restore the Hill-Burton standard.**

In fact, we should work with other major economic powers to restore it worldwide. The President of Ghana, for example, in his State of the Union address May 12, realized that his country must build 100-bed hospitals in 88 districts plus six new regional hospitals as fast as humanly possible—he said in one year!—to save lives in the pandemic. How could Ghana do this? With the help of at least the four powers which must launch a new “Bretton Woods” credit system for critical infrastructure projects and capital goods exports. The President of one of those, China, said on May 19:

We must provide greater support for Africa. Developing countries, African countries in particular, have weaker public health systems. Helping them build capacity must be our top priority in COVID-19 response.... The world needs to provide more material, technological, and personnel support for African countries.

In the United States, we'll add about 600,000 new hospital beds in nearly 1,800 hospitals—600 of 800-bed capacity, and 1,200 of 100 beds each. Across the world, we need to add 10 million, in about 30,000 new community hospitals.

In the United States, this will create 5-6 million new jobs based on the current staffing of our hospitals and hospital wards. These would include about 300,000 physicians and surgeons, 1.4 million registered nurses, 170,000 diagnostic technicians and technologists, and more than 117,000 clinical lab technicians, not to mention pharmacists, dieticians, electricians, plumbers, and

so on. Moreover, at least 500,000 construction workers and engineers will be directly employed for a decade in *building* these new hospitals, and hundreds of thousands more building the materials for them. This is based on diverse workforces of 250-300 building 100-bed community hospitals, and larger workforces constructing the 800-bed hospitals.

The new *world* public health system building can't take a decade—it must be done as rapidly as possible, as in Ghana, to prevent a massive number of human beings dying of COVID-19 or of lack of necessary treatment for other diseases. This will mean more than 90 million construction workers and new professionals to build and staff the hospitals, with isolation and intensive care capacity, clinics, and new “CDCs” and research centers.

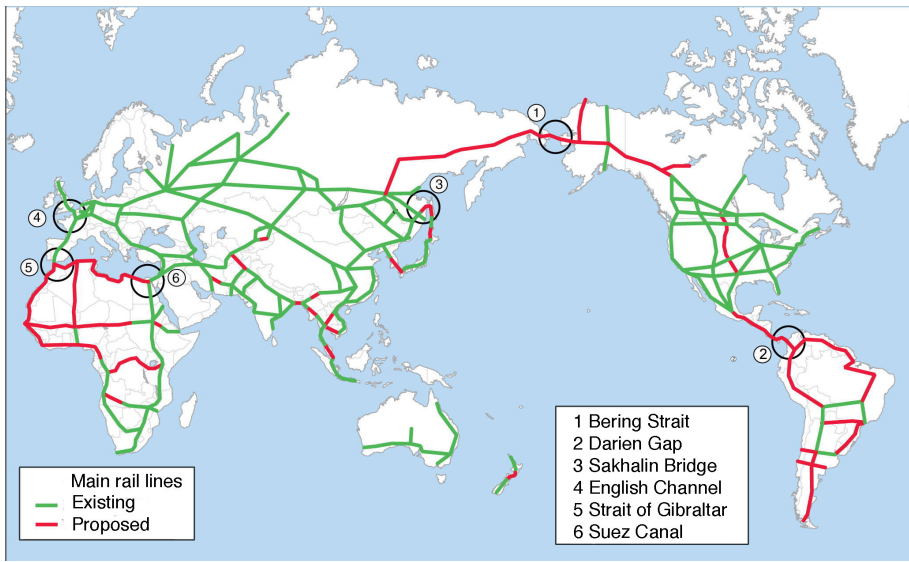
How many construction engineers and medical professionals will go from the United States into this worldwide public health mobilization? We don't know; but we do know that the new, productive employment from it will be in the range of *100 million worldwide, and the American hospital-building aspect of it, 6 million or more jobs here.*

Electric Power: The United States and cooperating powers will need much more electric power to mobilize this production. Powering these new hospitals alone, in countries across the world many of which generate and use 100 kWh/person/year or less (compared to 10,000 in the United States and 7-8,000 in Europe) will mean producing and siting 1,000 or more power plants of 50-100 megawatts each, and fast. Worldwide, more than a billion people have no access to electricity at all. Some 500,000 jobs constructing and operating these plants will be created.

As soon as possible, small modular nuclear reactors (known as “SMRs”), for more reliable electricity generation with higher power efficiency and no need for transporting large volumes of natural gas fuel, should be brought into this process of powering up the world electrically. SMR operational prototypes have been produced and more are being developed in the United States, Russia, China, Canada, and several European countries; the capacity for commercial factory production of these small modular nuclear units does not yet exist. Nonetheless, South African Energy Minister Gwede Mantashe announced May 7 the interest of his ministry in SMRs. His ministry will begin work on a roadmap for the procurement of 2500 MWe of new nuclear capacity, and will consider all options, including SMR projects led by private companies and consortia.

In the United States, Americans have less electric

The World Land-Bridge



power available per capita now than they did in 2005—we’ve been going backwards. Industrial use of power has shrunk 30% since the 1980s. Electricity is the most important capital and machine-tool of all modern societies. If we participate with other major nations in building new infrastructure of several critical kinds—electrifying the railroad corridors for high speed, desalination plants to combat drought, deeper ports and new inland locks and dams all with automated equipment—then thousands of *gigawatts* are needed (a gigawatt is 1,000 megawatts or equivalent of one large nuclear reactor).

Another 10 million jobs will be created internationally just building barely reasonable levels of electric power; more than 1 million in the United States including construction workers, power engineers, and line workers.

The “science driver” for this entire effort is a crash program to develop the electric power of the future—**fusion power**—and the plasma and laser technologies associated with it. This crash program is not negotiable for human progress: Fusion propulsion is the only rocket technology fast enough for travel to and from Mars and elsewhere in the Solar System, and plasmas are the best power technologies for developing the Moon—where we will also mine the ideal fuel for fusion power, Helium-3.

Nearly 5,000 scientists were working on fusion in U.S. labs in the 1980s. That should have doubled by now; instead, funding cuts have reduced it to about 2,000 scientists.

Fresh water: Providing fresh water for all the hospitals, clinics, and research centers to be built throughout the developing countries against the COVID-19 pandemic is only one aspect of the huge need for fresh water, irrigation, and navigation we need to get to work on.

The United States uses far less water than we did 40 years ago for industry (we shut that down!) and agriculture; only urban water use has grown during our great globalization and deindustrialization. This will be changed; and internationally, large water control projects like the TransAqua project in Africa’s Sahel are the key to spreading modern high-technology farming.

President Franklin Roosevelt, with his Bretton Woods system, wanted to help build “Tennessee Valley Authorities” in other conti-

nents—the most successful and famous development project in history was the TVA. He also wanted to create a Missouri River Authority, an Arkansas River Authority, and a Columbia River Authority in the Northwest. Twenty years after his death these ideas became a plan for a truly great project of infrastructure, supported by President John Kennedy and by Robert Kennedy as a Senator. This is the North American Water and Power Alliance (NAWAPA) plan. After their assassinations this great project was abandoned by America’s political leadership in the maelstrom of the Vietnam War.

The Schiller Institute and *21st Century Science & Technology* have revived and updated the NAWAPA plan, which has been described as the equivalent of “a dozen TVAs.” Our [study](#) showed *it will create 6-7 million new productive American jobs over a decade—construction workers, tunnel drillers, heavy equipment makers, civil and heavy construction engineers, and on and on.*

Irrigated agriculture in the Southwest could expand from 22 million to 41 million acres through the NAWAPA infrastructure project. Our study also located 42 coastal and Great Lakes sites ideal for electric-powered desalination of salt water. This means still further development of nuclear electric power.

The TransAqua plan for the African Sahel, another such “super-TVA” project, would recharge the once very large and productive Lake Chad, which has been drying up. *There are estimated another 5 million or more productive jobs to be created carrying out the TransAqua plan.*

Worldwide, this kind of project—new TVAs—will create a very large number of new productive jobs, certainly not less

than 20 million over the next generation.

Electrified, high-speed railroad lines: In the largest new infrastructure project of the 21st Century thus far, China for five years has been building out new railroad corridors across Eurasia; and with South Asian and European countries including Russia collaborating, this network of Pacific-to-Atlantic rail corridors and some North-South routes has already reached more than 10,000 miles. These are not the nearly 20,000 miles of *high-speed rail* corridors, including some magnetic levitation routes, built in China itself in the past decade or so. The Eurasian Land-Bridge lines are not yet high-speed.

Lyndon and Helga LaRouche and the Schiller Institute have promoted the Eurasian Land-Bridge, or “New Silk Road” projects since the 1980s; expanding their idea into the World Land-Bridge by the late 1990s.

The lines built from China to Europe have been successfully replacing air freight, especially during 2020, and increasingly gaining cargo share relative to ocean freight. Nothing except speed—which means electrification and soon magnetic levitation rail—keeps rail from replacing air travel up to 1,000-mile and even longer distances; and this includes travel in North and South America as well as Eurasia, the Mideast, and Africa.

The President of China has put out a goal of connecting every African capital city with high-speed rail, as the President of Russia has proposed finally providing Africa with adequate electricity with nuclear power. The World Land-Bridge to be built out will certainly reach or exceed 200,000 miles. And in addition, *EIR* for nearly 20 years has proposed a grid of about 40,000 miles of electrified, high-speed rail in the United States.

Building a high-speed rail network to a tunnel under the Bering Strait will connect this network to the Eurasian Land-Bridge routes. This is a further 3,000-mile Alaska-Canada rail connector. And a 2,000-mile corridor through Central American and South America down to Tierra del Fuego, Chile has been foreseen for many decades but never built. It is only one axis of a new network of high-speed rail across Central and South America for which European and Chinese railroad construction companies have been planning. It requires “new Bretton Woods” credit issuance.

The manpower requirements to build these double-tracked rail main corridors and connectors are 80,000 new skilled and productive jobs for each 5,000 miles of such high-speed or mag-lev rail. *That’s 650,000 employment to build the “lower 48” electrified rail network; 60,000 more for an Alaska-Canada corridor to the Bering Strait; and about 5 million in the building out of the World Land-*

Bridge. This is the work of up to a full generation.

The all-electric locomotives and train sets are a job for the auto industry, along with its current emergency tasks producing medical equipment and devices demanded by the coronavirus crisis. The 6,000 megawatts of new electric power capacity are part of the build-up we described above. The many millions of tons of steel will demand new productivity from the steel industry.

The Moon-Mars mission and space colonization: Nearly half a million American scientists, engineers, and skilled craftsmen worked on the Apollo project which took human beings to the Moon. That NASA-centered workforce is down to far less than 100,000 now.

If we gear up the Moon *and* Mars mission President Trump and NASA have named Artemis, doubling NASA’s budget to start with, and if we are going to cooperate with all the other space-faring nations that want to send human beings into the Solar System, then *Artemis will employ, directly and indirectly, at least a million scientists, engineers, and skilled workers.*

But as science drivers for the new discoveries, processes, and technologies being developed in *all* of the great infrastructure projects we have been describing here, crash programs for space travel and colonization along with fusion power and plasma sciences will result in far more employment, and professions in frontier industries which as yet scarcely exist.

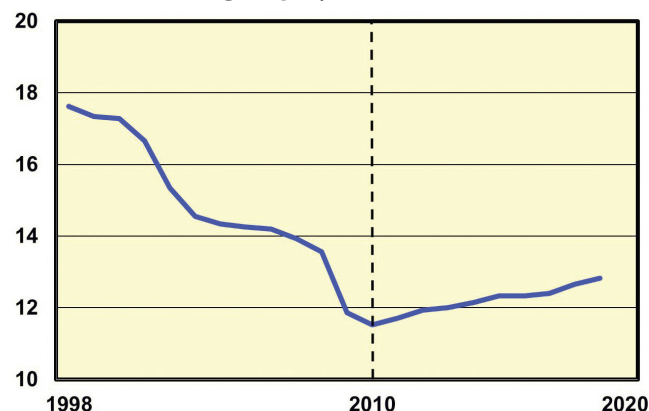
The Coming Transformation of the Economy

Thus we have shown—and could show in much more detail—that *just the direct employment on the international infrastructure projects most urgently needed* to meet “the big one” and transform the world economy in the process, *will create at least 135 million new, productive and skilled jobs and professions worldwide, and 15 million of those in the United States.* This will take place over a generation but its largest component is the mobilization for new world healthcare and public health systems which must be built fast, now. It will in fact create far more *indirect* jobs than that, as reindustrialization on a higher level takes place across the “advanced” economies and, at last, industrial development and high-technology agriculture is brought to the developing sector.

But this, above all, will take a great collaborative push from the leading technological powers—LaRouche always pointed to the United States, China, Russia, and India, but others will join—to launch a new global credit

FIGURE 2

U.S. Manufacturing Employment (millions)



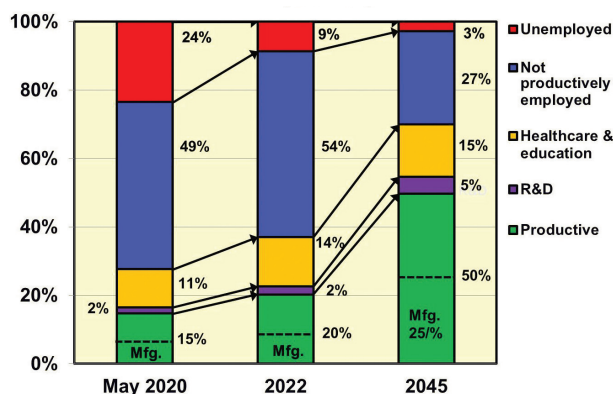
system, a new Bretton Woods as *FDR intended it*.

U.S. speculative post-industrial policies have caused a precipitous collapse in manufacturing employment, 1998 to present, which has never been corrected (see **Figure 2**). In 1998, U.S. manufacturing employment stood at 17.6 million workers. Then the take-down: It fell through the remaining Clinton years, and through the George W. Bush years, until it stood at 13.1 million in October 2008; then the 2008 financial-economic crash smashed the economy, and manufacturing employment plunged further to a level of 11.5 million in March 2010. Thus, from 1998 through March 2010, manufacturing employment fell 5.7 million workers, a fall of a full third.

FIGURE 3

Transforming the U.S. Labor Force

(% of total)



Under Obama and then Trump the U.S. gained back 1.4 million manufacturing jobs through February 2020, but the U.S. is still 4.3 million manufacturing jobs below the insufficient levels it had in 1998, and more than 30 million manufacturing jobs beneath where it would be

under LaRouche’s program.

In the American economy we can immediately start a strong increase in productivity of employment by starting a crash mobilization of hospital construction and public health production worldwide—including, definitely, in the United States. This draws people now unemployed, non-productively employed, and simply those wanting to help create this critical economic infrastructure. Lyndon LaRouche’s economic teams already 40 years ago showed that infrastructure and productivity are directly related. At that same time, LaRouche himself specified that a really productive and technologically advanced “full-set economy” aims for 50% of its labor force in goods production and 5% more in scientific research and development (see **Figure 3**). Technological leaps can then keep coming, be put into new infrastructure, and shift the whole economy upwards.

The LaRouche plan will transform the U.S. economy from service-sector/financial domination to one of productive development. By 2045, one generation from now, the labor force will so surge that the economy will employ 91.5 million productive workers (compared to 30.4 million in 2020), 45.7 million manufacturing workers (compared to 12.9 million in 2020), and 9.14 million research and development (scientific) workers (compared to 3.1 million in 2020)—a tripling in all these critical categories. In 2045, through the increase in the manufacturing sector’s workforce size, and powered by scientific breakthrough-spillovers in fusion, space exploration, and similar advanced areas, the productive powers of labor in the U.S. economy could rise by an order of magnitude.

For the world as a whole (see **Figure 4**), a labor force today dominated by de facto unemployment in the so-called “informal sector,” combined with horribly low productivity subsistence agriculture, will be shifted in a generation to one where half of the labor force will be productive operatives, and another 5% of the labor force will be part of the critical R&D sector. The agricultural workforce will shrink as a percentage of the total, as per capita and per hectare agriculture productivity rises through mechanization, irrigation, use of fertilizers, and increased energy and water inputs. Following the approach taken by China over the past 40 years, where 850 million people were lifted out of poverty, the world as a whole, one generation from now, will be in a position to finally eliminate all poverty around the middle of this century.

Double Food Production: Millions of High-Tech Family Farms

The emergency food aid measures we must now take to prevent a “hunger pandemic,” alongside the health-care gear-up against COVID-19, create the momentum for a new food and agriculture system serving the interests of all nations, now and in the future. This would put an end to the practices of the Anglo-globalist cartel system of food and farm control, which made the modern world vulnerable to food scarcity and disease in the first place.

Two basic considerations are involved: What are the volumes of production needed? What are the factors required to achieve this?

At the time of this report, the 2019–2020 world grains harvest has fortunately had no major crop disasters, which is important for meeting huge food aid needs from the pandemic. But the world harvest, from the current level of 2.7 billion tons yearly of grains production (all types—wheat, rice, corn), must be doubled as soon as possible. The level of 5.5-6 billion tons of cereals grains a year can provide all persons of our 7.8 billion world population with sufficient direct, and indirect (animal protein), consumption, as well as reserves against disaster and supplies for a growing population.

Even before COVID-19, world hunger, which has been steadily increasing for the past four years, reached the level of 821 million people chronically food “insecure” (i.e., without enough food, for lack of the means to buy

it, or because of food scarcity). Of those, 100 million relied on food aid, or they would perish. In the coming months, that figure will rise to at least 265 million, according to estimates by the World Food Program, whose Director-General David Beasley told the UN Security Council April 23, that we face a hunger pandemic of “Biblical proportions.”

Factors of Production

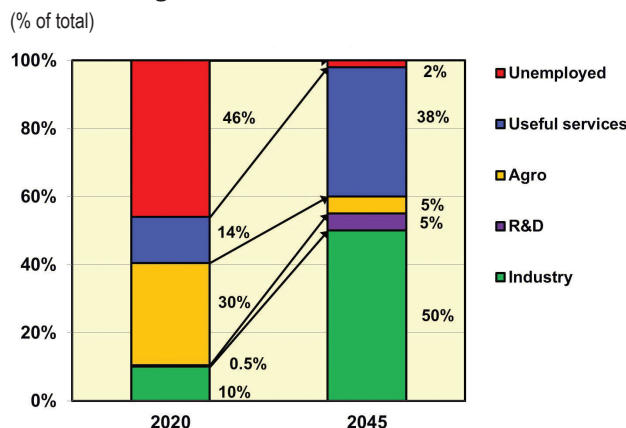
Land and Water: Basic elements in the equation for increasing agricultural output are land and water, both of which can be increased. Africa is in the forefront, with half of all the world’s remaining arable land not yet under cultivation. Sizable areas remain for development in the Americas and elsewhere.

Apart from soil fertility (which can be manmade, as in Brazil’s Cerrado) and favorable temperature regimes, water is the key element. Launching the work needed on the backlog of major hydraulic projects on every continent will open new farmlands. For the United States, Canada, and Mexico, the North American Water and Power Alliance (NAWAPA) will divert some 15% of run-off now flowing toward the Arctic in the Mackenzie and Alaska River Basins, taking it southward to the dry southwest of the continent. This will make irrigation possible from the Canadian Prairies all the way to western Mexico. NAWAPA had backing since the 1960s in Washington, DC, but was thwarted by the London/Wall Street financial crowd.

In Africa, the TransAqua Project, first proposed in the 1970s, will resupply water to the Lake Chad Basin, benefitting the entire Sub-Saharan region, by diverting a small percentage of the flow of the Congo River Basin, which in turn will benefit from new agriculture, transportation, power, and water management systems.

In addition to these large-scale conveyance programs—whose most recent outstanding example is China’s South-North Water Transfer Project, moving water (716 miles) from the Yangtze to the Yellow River Basin—there also is vast agriculture potential from desalinated sea and inland saline waters, through nuclear

FIGURE 4
Transforming the World’s Labor Force



power.

Mechanization: Farm equipment enables high production, with specialized planting and harvesting machinery, and tractors for all purposes. The highest productivity comes from conforming the size and power of the equipment to the scale of operation best for that region. For example, in parts of Brazil or the U.S. farm belt, 48-row corn or soybean planters serve extensive, high-yield farming. In Japan, micro-farms produce high-yield rice, with highly advanced, very small scale planters, drones, and other machines. Germany and Belarus are famous for powerful tractors of all sizes for Eurasian agriculture.

Part of the same picture, is the necessity for high-technology crop storage, and food processing and handling. Food preservation through irradiation will prevent losses, allowing huge gains in supplies, as will more extensive use of long-standing methods, from freeze-drying to ultra-high-temperature pasteurization.

Bioscience: Hybridization and genetic engineering revolutionized crop yields over the past century, but more breakthroughs are possible with R&D, such as CRISPR and other techniques, to improve even the basic profile of crops. For example, there is the C4 Rice Project, to boost yields by half through more efficient photosynthesis. Most urgent is to conduct the basic research to protect against plant and animal diseases, especially zoonoses—diseases which jump from animal to man. COVID-19 is in this category. Currently, there is no vaccine for African swine fever, highly lethal and contagious among pigs. One-quarter of the world's pork supply was lost in 2019 to this disease.

Power: Electricity and all forms of power are critical to every phase of modern food production, beginning with the manufacturing of all the inputs to water systems, irrigation structures, farm and food processing machinery, and storage and transportation. Cooling raw milk in bulk tanks was revolutionary to dairy farming in the 1930s; it improved the average diet with more milk. Even farmers' household electricity is vital to productivity, as the Tennessee Valley Authority showed, when farm output increased after their homes got lighting, heating, refrigeration, cook-stoves, in-home water, laundry machines, and similar advances.

Energy-Flux Density: The metric involved in

this improvement is energy-flux density. This refers to the density of energy brought to bear across the relevant area of function, so that denser amounts create the condition for higher productivity. The rank order of energy itself is evident in the differing sources, going from low-density energy sources such as wood-burning, up through coal, oil, gas, nuclear fission, and, one day, thermonuclear fusion. With high-energy-flux density, farms of a half-acre—using aeroponics, or hydroponics—can yield tons of food.

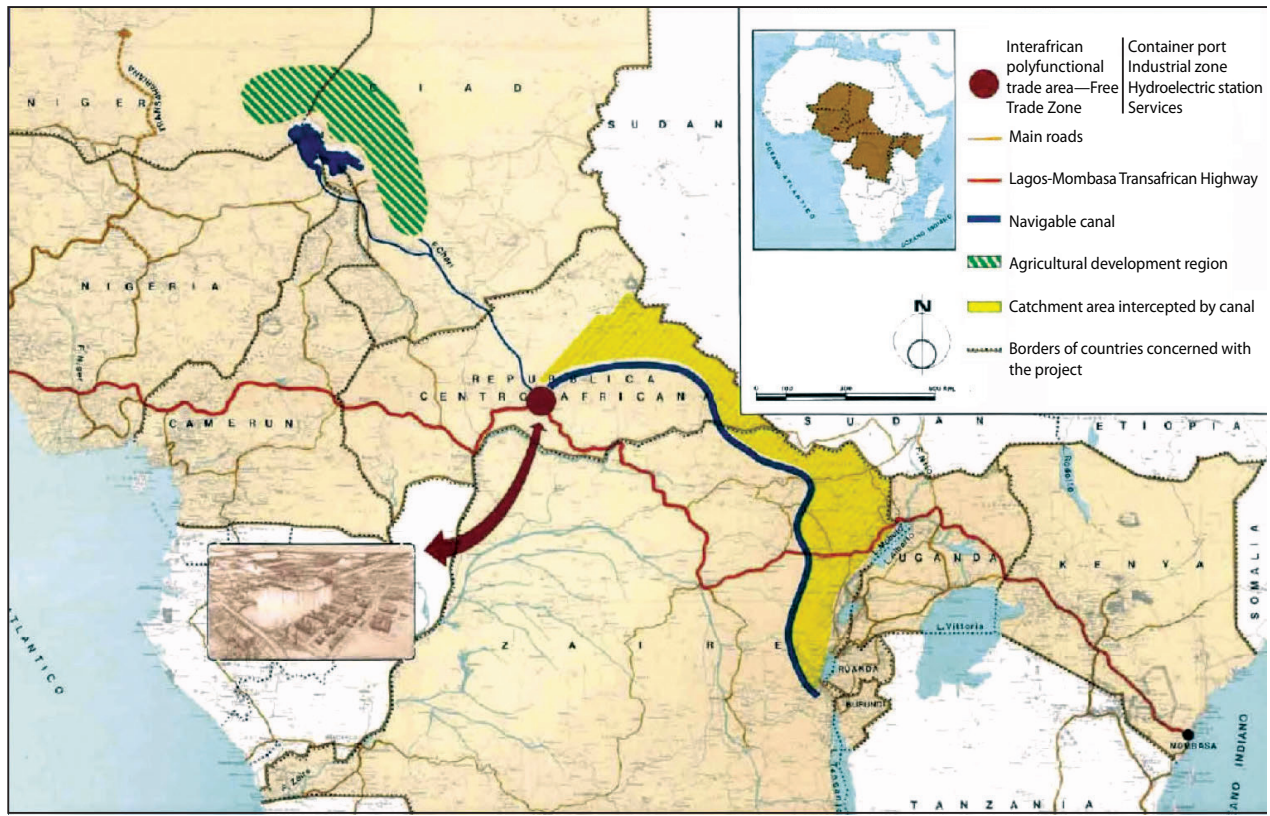
The Astronaut Farmer, Millions of Family Farms

The workforce needed in agriculture, from “field to fork,” is very large, counting those who produce all the inputs, and even using mechanization. This means millions of new jobs. At the forefront are two concepts—the astronaut farmer, and family-scale farming. Space-age agriculture involves satellite monitoring, global positioning, data banks, drones, and more. In command is the astronaut farmer, who must become the norm the

The North American Water and Power Alliance (NAWAPA)



The TransAqua Project



First proposed in the 1970s, the TransAqua project will divert water from the Congo River Basin in the Democratic Republic of Congo to resupply water to the Lake Chad Basin, benefitting the entire Sub-Saharan region with new agriculture, transportation, power and water management systems.

world over. The other requisite is family farming. The ingenuity and mission of family farm members—with the living standard, education, and science to go along—are the best guarantees of food security for every nation and worldwide.

‘Give Us This Day Our Daily Bread’

Instead of answering this universal prayer, governments have allowed the monetarist casino system of the past 50 years to de-structure sound agriculture, and even prevent agro-industrial development in Africa at all, a land of vast agriculture potential, home to 1.3 billion people. Governments must exert sovereignty, for the people. Break up the cartels, whose multi-nationals are now monopolizing all food groups and inputs including grains, meat, dairy, produce, fertilizer, agrochemicals, and even seeds—the means to life.

Because of cartel “global sourcing,” commodity speculation, consolidation of food processing, and other practices, millions of people are needlessly suffering hunger, while farmers in the U.S. and elsewhere are forced to de-

stroy food—kill off meat animals, dump milk. This must stop. No one should make speculative profits off food, while the food producers go broke. Put in parity-based farm production prices. No farm foreclosures. Take all other emergency measures to save farming capacity, and expand agriculture massively. Provide emergency pandemic food relief and a future with “daily bread” for all.



CHAPTER 5

A Health System for the Future

The greatest of all resources is the human mind.

It is the source of all revolutionary scientific concepts, powerful new technologies, and beautiful works of art. How many priceless contributions to human progress have been lost due to grinding poverty, a lack of education, or early death? To develop and safeguard this most precious of resources, we require a global health infrastructure, which itself depends on the essential physical infrastructure laid out elsewhere in this report.

We begin with measures to be taken in the United States, then discuss the needs for less-developed countries.

No Debate Between Health and the Economy

Failing to defeat the virus in a timely manner will have far more devastating effects on the economy than will measures taken to stop its spread. The sooner case numbers are brought down and new infections can be tracked individually, the sooner we can take up the task of restarting work—both old jobs, and, emphatically, employment in the development projects discussed throughout this report! China, which responded very

strongly to the virus (something that was obvious to anyone in the world watching at the time), was able to keep cases relatively contained and is already seeing industrial recovery, with year-on-year manufacturing growth already seen in April.

The United States should immediately take up the task of achieving the following:

- Bring testing capacity to a level of 5 million per day (150 million per month) within two months. This level will allow for export of test equipment and materials, of which the United States should become an exporter to assist those nations unable to manufacture their own.
- Hire at least 100,000 contact tracers. This deserves special federal funding earmarked for these positions.
- Produce enough masks and more sophisticated personal protective equipment (PPE) to allow a dramatically increased number of health care workers to perform their jobs safely.
- Fund research for treatments and vaccines, such as the U.S. crash program called Operation Warp Speed, and speedy production and distribution of these new capabilities.



CGTN

Construction of the thousand-bed Huoshenshan emergency field hospital for COVID-19 patients was begun on Jan. 23 and completed on Feb. 2, with thousands of workers working around the clock. This photo was taken on Jan 31. Leishenshan Hospital, built with the same design, was finished on Feb. 8.

Developing a Global Health System

But the broader requirements of developing a global health system for every nation on the planet requires much more.

Basic Health Infrastructure: Water and Sanitation

Ask a group of public health experts what has done the most to improve human health and they will immediately give the answer: “sanitation.” But today more than two billion people lack access to clean water, adequate sanitation, or both. This leads to 800,000 children under 5 dying from diarrhea every year. Proper disposal of sewage and the protection and purification of water sources have saved hundreds of millions if not billions of lives over the nearly two centuries since such measures have begun to be implemented most rigorously.

The deployment of temporary sanitation facilities (which could be mass-produced and then distributed) will be a stop-gap measure while durable improvements in infrastructure are constructed. And that construction will be a source of meaningful employment for literally millions of people across the world.

Hospitals and Medical Equipment

The world as a whole possesses a current inventory of 18.6 million hospital beds. This constitutes a huge deficit. The standard developed by the United States, under the Hill-Burton Act, was 4.5 hospital beds per 1,000 people for each county, in order to ensure the health and well-being of the population.

Current levels are 2.8 hospital beds per 1,000 people in the United States, 0.7 for South Asia, 0.7 for the Heavily Indebted Poor Countries, and 0.5 for Nigeria, which comprises one-fifth of the population of sub-Saharan Africa. To meet a standard of 4.5 beds per 1,000 people, the world would have to increase its hospital bed inventory to 35 million beds, nearly double the current level. This would require the construction of 35,200 new modern hospitals, especially in Africa, Ibero-America, and Asia.

Beds themselves do not save lives. Medical staff are required, and acute cases demand additional equipment, such as ventilators.

The total global inventory of ventilators is hard to determine, but there are certain figures that point to the problems of dealing with COVID-19 in

TABLE 1

Ventilators per Nation

Country	Ventilators per million people
USA	500
Germany	300
India	15
Nigeria	2.5
Sudan	1.9
Central African Republic	0.6
Liberia	0

For the entire world to be at the United States' per-capita level of ventilators would require a global inventory of 4 million.

impoverished nations lacking health infrastructure (see **Table 1**). The United States currently has about 500 ventilators per million for its 330 million people.

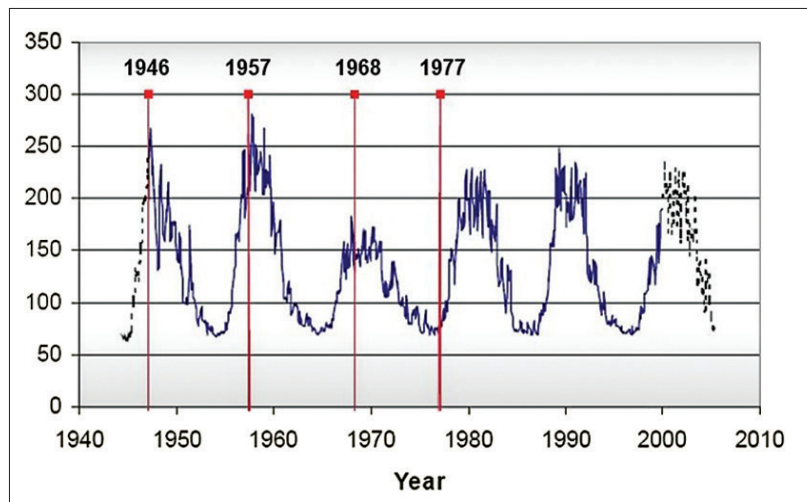
Going on the Offensive: Revolutions in Biology

We must advance our understanding of viruses themselves, such that in the near future we can do more than react to each new outbreak. Viruses perform many functions besides causing disease, and demand to be understood in a broader scope than the Earth itself.

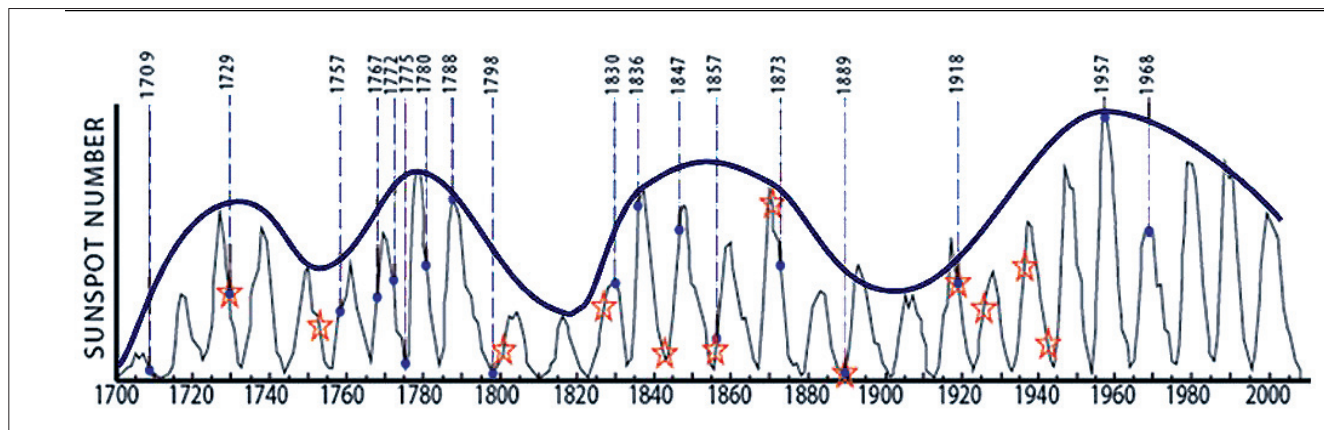
In the opening section of his 1927 writing, *The Biosphere*, Russian scientist Vladimir Vernadsky says,

The history of the biosphere is ... sharply distinguished from that of the rest of the planet, and the role it plays in the planetary mechanism is quite exceptional. It is as much, or even more, the creation of the Sun as it is a manifestation of terrestrial processes.

Influenza Pandemics and Solar Activity: 1940-2010



Pandemic Influenza and Sunspots: 1700-2000



Viruses themselves are an area of study that could give us unique insight into the role of extraterrestrial factors in the shaping of the biosphere and its evolution. After the discovery of viruses in the 19th Century, we have learned that viruses are inseparable from life—they are pervasive throughout the biosphere and are known to infect every type of organism. There are millions of virus particles in each teaspoon of seawater; billions of viruses float in the air currents high in the atmosphere. Inside the human body, just as we have a microbiome of trillions of bacteria, we and other living things also have a virome of likely trillions of viruses living inside us as a regular part of our organism.

Viruses play an important role in a phenomenon called horizontal gene transfer. We normally think of genetic material being passed from parent to offspring, but in horizontal gene transfer, genetic material from one organism is transferred to and incorporated into the genome of another, unrelated organism. This has been known to occur regularly in single-cell organisms, but studies in the past decades have shown horizontal gene transfer occurring between many types of more complicated organisms, such as plants, fungi, and even animals. Some researchers suggest that upwards of 100 genes in the human genome were transferred there at some point long ago by viruses, including genes dealing with metabolism and immune system response. This idea disrupts the typical textbook “tree of life” with its separate, parallel branches, and posits an evolutionary process which is much more interconnected.

Now let’s look at this in the context of the Solar System and galactic environment. First is some very interesting research begun in the 1980s on the seasonal pandemics

of influenza, which, like many other seasonal phenomena connected with solar radiation, breaks out somewhat simultaneously each year in the Northern hemisphere, then migrates across the tropics to the Southern hemisphere, and back north again the following year.

One element that interested researchers was the rhythm of outbreak of new strains of influenza over the past century, which shows an interesting, even if not complete, correlation with the 11-year solar cycle. However, looking over a longer period of time, 300 years, we see the possible fingerprint of a galactic driver. Not only do pandemics tend to occur more frequently during periods when the solar maxima have been more powerful (indicated by the blue curve), but it is also the case that the anomalous years of pandemic during solar minimum were periods during which Earth received a higher influx of cosmic radiation from outside of our solar system, due to bright supernovae.

A question mark left by researchers involved in these studies is the possible mechanism. It is known that viruses can be activated and deactivated by certain frequencies of light. It has also been observed that in some astronauts on the International Space Station, latent viral infections have suddenly become active. While all this research is still quite preliminary and requires further investigation, it is undeniable that the anomalies highlighted here hint at a higher causality and modulator of the development of life on Earth than mere earth-bound chemical reactions.

Fundamental discoveries about these topics could revolutionize the way we understand and treat viruses—and human health in general.

America's Space Mission: Youth's Next Frontier

America's space sector will play a decisive role in shifting 5% of the U.S. labor force into research and development. As specified by LaRouche, this is the key to increasing the productivity of the entire labor force.

Increases in productivity come directly, only, from improvements in technology derived from fundamental scientific discoveries; the higher the rate you convert fundamental physical discoveries into practice, the greater the rate of increase of productivity per capita of population, and per square kilometer of area.

Lyndon LaRouche,
September 2, 2000 [speech](#)

We are faced with an extraordinary challenge: how to address the immediate needs of our own and endangered populations around the world, while simultaneously beginning the transformation of national economies to higher platforms of economic activity. The concept for meeting that challenge is located in the following by LaRouche:

Mankind's existence is based on the fact that mankind is the only species of which we know, which has the willful power to increase the energy-flux-density of life as a whole, on our planet Earth, and beyond.

Lyndon LaRouche
September 30, 2011 [broadcast](#)

The multiplicity of crises which have swept the world since the outbreak of the COVID-19 pandemic points to failure of using our power to increase the energy-flux density of life as a whole on our planet. And, indeed, looking beyond the Earth, we see even greater threats, such as asteroid strikes and space weather. These common threats to the planet motivated Lyndon LaRouche to call upon nations to join in a "Strategic Defense of Earth," to cooperate in the frontier areas of space exploration and thermonuclear fusion and to make the scientific and technological advances to defend the planet.

Such common aims of mankind have often been expressed by those men and women who have gone into space, as did Apollo 11 astronaut Michael Collins:

I really believe that if the political leaders of the world could see their planet from a distance of 100,000 miles their outlook could be fundamentally changed. That all-important border would be invisible, that noisy argument silenced. The tiny globe would continue to turn, serenely ignoring its subdivisions, presenting a unified facade that would cry out for unified understanding, for homogeneous treatment. The earth must become as it appears: blue and white, not capitalist or Communist; blue and white, not rich or poor; blue and white, not envious or envied.

[Michael Collins](#),
*Carrying the Fire: An Astronaut's
Journeys*, 1974



EIRNS

A community forum sponsored by the Schiller Institute, celebrating the 50th Anniversary of the Apollo 11 Moon landing, and in support of the current Artemis Moon-Mars program, Houston, Texas, July 25, 2019.

The potential is there. At this very moment, leading nations, including the United States, Russia, China, India, and Japan, and the European Union and others, are on their way to the Moon and Mars—this year! We see that Mankind is in the process of building out, in both cooperative and competitive ways, the beginnings of an interplanetary space infrastructure platform for mankind.

"In 2019, the LaRouche movement developed in detail why a 50-year international crash program for lunar industrialization and Helium-3 mining, the

development of fusion-powered space flight, and Mars colonization will be the most important driver for the U.S. and global economies.

A Space CCC: Rebuilding a National Workforce of Rising Productivity

With that mission in mind, now look at the potential for a dramatic increase in the participation of our workforce in the space program, with a special emphasis on the younger generation.

Just as President Kennedy's Apollo project transformed our economy in the 1960s, President Trump's Artemis project, with the stated goal of landing a man and a woman on the Moon by 2024 and developing the technologies to go to Mars and beyond, must become one of the key drivers for the reconfiguration of our workforce.

During the Apollo project mobilization of the 1960s, 35% of our workforce was productively employed (as opposed to 15% today). With 400,000 people working on the Apollo project, and 4.4% of our budget devoted to space (instead of 0.48% today), the economic return to our economy was estimated to be \$10 for every \$1 spent.

As then, a space program is where the nation's leaps in productivity and future lies, and unleashing it is the mission of Artemis, which must be fully transformed as the leading edge of a nation-building revival, vectored once again toward unparalleled rates of scientific and technological progress. The Artemis program can and must be fully conceptualized as a daring, multi-generational project to colonize the Moon and Mars.

Project Artemis is not only vital for the nation and the world as a whole, but it must become a critical

component in rescuing our young people from the no-future, zero-growth, hedonistic culture of today. This is reflected in a 2007 National Research Council report which said,

Students need to believe that what they are doing will contribute to compelling (even transformational) scientific or engineering research and/or contribute to an important national goal such as space exploration. The goals need to be viewed as real and stable and as having the potential to contribute to important advances in a meritorious field.

What are we giving our younger generations today? The millennial generation (ages 23-38) numbers approximately 56 million, and the following Generation Z (just beginning to enter the workforce) numbers 32 million. That is about 90 million people, more than half of the workforce. Does anyone think that we are "firing their imaginations" with jobs in the hospitality "industry," rideshare jobs, or growing and selling legalized pot?

Rebuilding and rapidly transforming the U.S. economy today, to fully participate in creating this "interplanetary space infrastructure platform" for tomorrow will require the development of today's and tomorrow's workforce in many creative ways:

We will increasingly be working with those aspects of nature that lie in the micro-physical and macro-physical domains, requiring an increasingly sophisticated reliance on instrumentation that extends beyond the reach of our five senses. This includes, emphatically, the study of living processes and their applications.

Our workforce will be working with much higher energy-flux densities which require increased precision and sophistication in instrumentation and machine tool design and applications. The concentration spans must dramatically increase. The recent statement by a Pentagon spokesman that the United States needs a "precision manufacturing capability" only indicates the scale of what is required.

As we know, the cultural level of our workforce, and the communities from which they are drawn, must be dramatically and joyfully "up-shifted," to reflect a growing mastery and celebration of the creative capabilities in each person. This requires, as Lyndon and Helga LaRouche have developed, a conscious return to Classical cultural principles. These qualities will necessarily be reflected in the growth and development of our families and family life.

This requires that we mobilize the potential which exists in the young. We must "fire their imagination."



AMPed NH/Desiree Crossley

A student in Nashua Community College's precision machine tool teaching lab, Nashua, New Hampshire.

First Tier

The first tier of a modern day “[Space CCC](#)” can draw again on the model of the original Civilian Conservation Corps (CCC) program of the 1930s and early 1940s.

Looking back at the original CCC’s lifespan (1933–42), there are admirable aspects of the program which could be imitated today. The New Deal CCC effort put a total of 3 million young men—between the ages of 17 and 28—to work, over the years from 1933 to 1942. An average of 300,000 people per year went through the one-and-a-half-year program, with the peak reaching 500,000. This was approximately 5% of all young men in that age range. The enrollee’s family had to be receiving some form of government financial assistance to qualify. It became, at the time, the most popular government program by far.

Today, there are about 30 million Americans identified as between the age of 18 and 24 years of age. So a similar “first tier” program with a scope similar to that of the 1930s might enroll 600,000 a year. Because this time women will also be enrolled, *the program would encompass 1 million or more*. That would require between 5,000 and 6,000 campuses, with facilities, multiple skilled LEMs (what the CCC called “locally experienced men”) assigned to each facility, and 10-20,000 teachers, along with staff and logistics providers.

This time campuses could be urban as well as rural based, with significant educational and cultural components, and collaborate with community-based organizations. This “first tier” would play a vital part in building out a new national infrastructure platform for our nation, and participants can be expected to deploy as productive cadre in building up modern healthcare and food production systems in developing countries. Many will also go on to become part of our advanced high-tech workforce.

As in the 1930s there are advantages to locating Space CCC campuses near work projects. Additional training and broader educational and cultural programs would occur at the facility or nearby. Otherwise, there is too much time wasted and attention spans lost. The initial mapping of prioritized infrastructure projects, urban and rural, will therefore be important, and the logistics then worked through for siting of campuses. Adequate housing on site, as well as flexible study and training/teaching

facilities would be required, making use of now-vacant manufacturing facilities, urban shopping centers and military bases, vacated farms, facilities in rural areas, and so forth.

Clearly the creation of a new CCC today requires that the cultural programs be developed, initiating programs that infuse young men and women with Classical culture, sparking through beauty a passion for discovery and creation. This would optimally include choruses in every campus with maestros, concerts, traveling performances involving the recruitment of well-qualified theater groups, and scientist-pedagogues.

Second Tier and the Machine Tool Principle

What we might call a higher, “second tier” within an overall Space CCC, would be organized, not around workforce campuses, as might less skilled jobs training, but immediately around advanced training centers, those that exist and new “manufacturing and innovation centers” to be built. The second tier would address the young men and women who already have, or soon will have, a high school education or GED, and are ready to think about their future in terms of a career and technical education. NASA’s in-house training programs could provide useful insights. These programs would overlap with and be federally coordinated with existing and expanded apprenticeship programs, which would also need continued federal support and to be further incentivized.

At the core of this is what Lyndon LaRouche calls the “machine tool principle.” In a July 1997 address to a Washington audience, Lyndon LaRouche said:

When you’re dealing with science, scientific discov-



U.S. Army Reserve/Corey Beal

Equipment maintenance training in the U.S. Army Reserve.



EIRNS/Brian Lantz

A community college manufacturing lab in Houston, Texas, showing machine tools driven by computer numerical control (CNC).

ery, when you discover an idea, you've got to prove it, haven't you? You say, "I've discovered a solution to this problem." Someone says, "Well, how can you prove it's true, how can you prove it's right? How can you prove it in nature?"

So, you construct what's called an experiment. It's called a crucial, or proof-of-principle, experiment, to prove that nature works the way your discovery says it works. That's called a Machine-Tool Principle. Now, when you take the apparatus, which you used to construct that experiment, you walk into a guy who designs machine tools, or similar kinds of products. This guy, having seen your experimental device—he probably helped you build the experiment—now says, "Look, I can design a whole group of new kinds of products, and new kinds of machine tools, on the basis of this discovery which you demonstrated, by looking at your experiment, understanding your experiment, I can see how to build a whole new class of products and processes out of that...." And that's the way it works. You combine the development of the mind, with the development of the products and processes, which the mind's discovery of principle has devised. And that's how you produce—that's called scientific and technological progress.

Re-creating a base of skilled machinists is central to this.

What might our Moon/Mars Mission and the broader, renewed national manufacturing base require? There are currently 469,000 machinists working in the United States, according to the U.S. Labor Bureau of Statistics,

for example, with a median income of \$45,750 (\$22 per hour). We are intending to bring back critical supply chains, build 21st Century infrastructure, and build up the high-tech manufacturing base of a U.S. "full set" economy. In the short term, if we were to *triple* this number of machinists needed for such efforts, what would that involve? This would require training an additional 800,000 motivated men and women in at least an initial two-year professional machinist program, over a decade at most. They would already need a high school education or GED, and have a serious interest before entering these programs. There would then be continued on-the-job training, and opportunities for additional certifications and advanced work.

If this initial "burst" effort to produce 800,000 young, new qualified machinists was to be completed within approximately a seven-plus-year period (for example), this would require approximately 125,000 students entering the program each year and successfully completing the program in two years. Multiply that by similar advanced programs for engineering techs, nurses, welders, and plumbers.

How do we recruit people to such jobs? One skilled machinist and teacher explained that the biggest hurdle in getting students interested is convincing them that the work is not dirty, hot, and physically hard. Because people have the idea that this is like working as a car mechanic or otherwise working in a shed, this teacher's community college program has been able to fill less than 50% of the available training program positions. But, once a student starts the program, he or she quickly get hooked by the process of learning the skills, problem solving, and creating.

This returns gets back to the national and international mission.

In galvanizing a full-stop Moon-Mars colonization effort, led by Presidents Donald Trump, Xi Jinping, Vladimir Putin, Prime Minister Modi and others, we will thus provide the missing ingredient to our global workforce quandary.

There is no trade-off among space exploration, feeding the world, and ensuring healthcare for all of humanity! What is required is leaps in physical productivity—waves of "spin-offs" propagating throughout the entire world

AND THE NEW PARADIGM



North American Water and Power Alliance (NAWAPA)

NAWAPA, a project of the John F. Kennedy era, would be the largest power and water infrastructure project ever built. Diverting 10–15% of the runoff waters of the Yukon and Mackenzie river basins through a series of canals and trenches to the western U.S. and northern Mexico would generate 42,000 MW of additional capacity of hydroelectric power, and water for 50 million more acres of irrigable land, doubling irrigated acreage west of the Mississippi.



Renewable Power: Wind and Fusion

Renewable power will be essential during the energy transition. Wind and solar have seen a successful crash program to develop. Nuclear reactors have improved in efficiency and advanced reactors could be mass produced on an industrial scale. Fusion could be mass produced on an industrial scale to speedily overcome the energy crisis.



BRI and NABRI: Create the World Landbridge

Xi Jinping launched the Belt and Road Initiative (BRI) in 2013, and it has now engaged over 140 countries around the world in large-scale development corridors that include transportation, energy, water management, and expansion of trade in general. At a cost of \$4–8 trillion USD, it is estimated to involve 65% of the global population and represents around one-third of global GDP. The proposed North American Belt and Road Initiative (NABRI) coupled with the BRI would be the end of the era of British geopolitics and bring a new peace among nations based on economic development.



economy. This in concert with optimistic waves of up-shift in the cultural life of our societies.

That is, inspiring all of our youth to become the newly upgraded workforce of skilled high-tech machinists and

electricians—as well as engineers and scientists—that we require. We can, in accomplishing this, also inspire our parents and grandparents with new-found hope for our nation's future and our place in the world.

CHAPTER 7

A Hamiltonian Credit System for Development

We will generate the investment credit necessary to carry out the job creation program outlined in this proposal through the American System of economy, rather than continuing with the suicidal policy of trying to bail out a \$1.8 quadrillion speculative bubble with endlessly increasing quantitative easing and other bankers' bail-outs at taxpayers' expense.

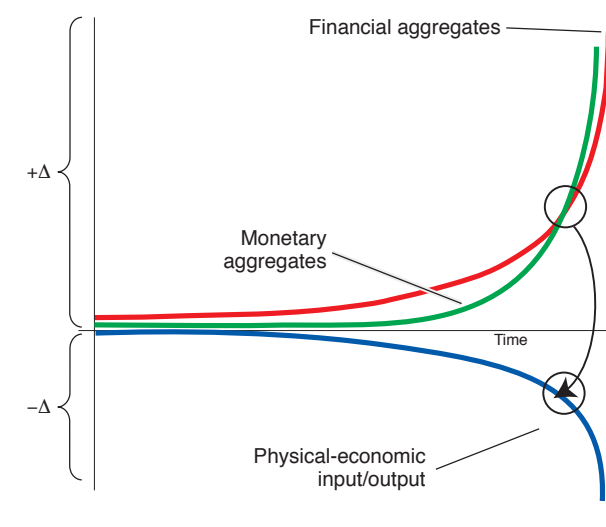
The American System was founded on the knowledge that human invention and creative ideas are the source of wealth; they represent the human capacity to understand the laws of the physical universe and to act on them, more powerfully with every new discovery of those laws. The American System of economy appeared as early as the 17th Century Puritan colonists of the Massachusetts Bay republic. It directly opposed the British free trade system which destroys us today, which teaches that wealth comes from advantage in trade (buy cheap, sell dear) and financial speculation; the Physiocratic system, which peddles the superstition that wealth is simply ownership of land; and the socialist idea that wealth comes simply from physical labor.

No, said the brilliant first American Treasury Secretary Alexander Hamilton: Wealth is the product of human invention which has been provided with *credit* to become new machinery, a new form of power or chemical process, a new tool. Hamilton's idea that the purpose of banks is to "put the savings of the nation in the hands of those able to use it most productively," created commercial banking in America. His creation of national banking enabled a bank, acting between the government and private banks, to leverage the savings of the nation for years into the future, as *national credit for manufactures and infrastructure*. Hamilton's [Report to Congress on Manufactures](#) was the first appearance in America of the full intention that the United States would become a great manufacturing nation, not a playground where European financial speculators prey upon impoverished American farmers.

British monetarism inculcates the idea in the credulous that *money* has a value in itself. The modus operandi is to corral the power to create money in central banks, controlled by private banks and private financial

FIGURE 1

The Collapse Reaches a Critical Point of Instability



concentrations, which can use that power to indebt not only entire industries, but governments as well. And when private debt speculations collapse, print large volumes of money to paper over the losses, and thereby further indebt the population. When a large speculative bubble collapses, the central bankers' job, in a British monetarist system, is to inflate the next, larger speculative bubble. They've been doing it for centuries wherever they're allowed to.

The late Lyndon LaRouche identified the characteristic of this system with his "Triple Curve: A Typical Collapse Function" (see **Figure 1**). Physical economic

production is suppressed in this process, and declines in real terms, while the volume of debt and other financial aggregates increases at an increasing rate; and money (“monetary aggregates”) is printed (electronically or otherwise) at an accelerating rate to pay at least part of debts which are tending to collapse. When these curves become hyperbolic, and particularly when money printing starts to accelerate its rise even faster than debt (“financial aggregates”), while the physical economy plummets, the financial system crashes.

We are going to reverse that disastrous pattern.

The recovery from this deep, global crisis requires the United States to return to the policies of Alexander Hamilton, which made America the world’s leading industrial nation. Hamilton’s policies were employed over 150 years during great crises, not just by Presidents George Washington and John Quincy Adams, but also by Presidents Abraham Lincoln and Franklin Delano Roosevelt, each time lifting higher the American economy—and, in FDR’s case, the economies of several other nations as well.

LaRouche’s ‘Four Laws’

The great economist Lyndon LaRouche applied the American System to industrial and agricultural development of the planet, for more than 60 years until his death in 2019. In a 2014 work he specified it in four fundamental policies:

1. Restore the Glass-Steagall Act to break up the immense “universal banks” in the orbit of the City of London and Wall Street, and put the entire speculative bubble—today exceeding \$1.8 quadrillion—through bankruptcy reorganization (see **Figure 2**, World Financial Aggregates).

2. Establish Hamiltonian national banking to provide credit for recovery, for example, by nationalizing the Federal Reserve and taking it out of the hands of the private financial predators who run it today.

3. Direct credit to develop new-technology economic infrastructure and technologies that increase the energy- and power-density of production, working closely with other sovereign nations on such global infrastructure projects.

4. And finally, launch “science drivers,” including scientific crash programs for advanced fission and fusion power, and exploring the Moon, Mars, and the Solar

System.

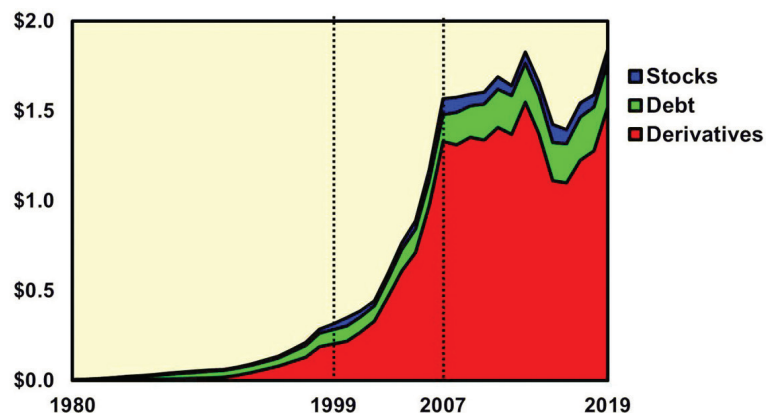
To launch this great mobilization, the United States President and Treasury should start by nationalizing the Federal Reserve Bank, consolidating their direction of the Federal Reserve as a Bank for the economic purposes of the United States—not Wall Street and the City of London.

Then the purposes for which the Fed now prints and issues currency—bailing out financial markets and the biggest banks, acquiring vast hoards of financial assets to prop up their value—will be ended by the new direction of the nationalized bank. Corporations can be set up within the Federal Reserve, not to continue speculation, which must simply be wiped out, but to provide credit to infrastructure, in particular health infrastructure.

The nationalized Federal Reserve, or new Hamiltonian National Bank, will act as the credit channel for new economic infrastructure built nationally, including by buying the infrastructure bonds of states and municipalities.

And whereas the Federal Reserve is now providing nearly half a trillion dollars in loans (“swaps”) to *foreign central banks*, the new bank will instead provide credit for the export of capital goods—especially for the building of hospitals and public health infrastructure in developing countries. It will do this in joint credit operations with the development banks of China, Russia, Japan, India—this will be a new international credit system as President Franklin Roosevelt intended the Bretton Woods system to be after World War II. And the nationalized Federal Reserve can also provide capital to the United States Export-Import Bank and

FIGURE 2
World Financial Aggregates
(quadrillions of dollars)



other agencies that are supposed to help build health, energy, and agriculture infrastructure abroad.

In the United States, we will develop the “science drivers” to accelerate the inventions and breakthroughs in technology and lift the economy to a new level while reindustrializing it. This means doubling NASA’s budget immediately for the mission to return to and develop the Moon in order to go on to Mars. We will finally bring the laser-machine-tool revolution into our industry. Within a few years we will be producing advanced nuclear reactors, inherently safe and made in small modules to site throughout North America and abroad, and using them also for desalination against drought. We will electrify the railroads and make them high-speed—soon magnetic levitation—rail corridors.

The big banks won’t like losing the Federal Reserve that has always backstopped Wall Street speculation. But we will have to break up those banks by reinstating the Glass-

Steagall Act to put them through bankruptcy reorganization. We will need “clean” commercial banks that are not in the business of speculating and broker-dealing with depositors’ funds, but rather, commercial banks that can work with the nationalized Federal Reserve to provide the loans to designers, builders, inventors, and staffers of this new infrastructure for human life.

These actions—domestic scientific and technological development, and international cooperation in building new world public health infrastructure and a “world land-bridge” including high-speed rail—are the means to create many millions of new, productive jobs, 50 million such jobs over a decade. They will transform the knowledge, skills, and occupations of the American workforce in the direction of rising productivity, improved standard of living, and increasing power over nature.

CHAPTER 8

An Appeal to American Citizens: What the World Needs from America!

by Helga Zepp-LaRouche · May 2020

We have come to the point where the citizens of the United States need to recall the best tradition of their history: the American Revolution, the War of Independence against the British Empire, the principles expressed in the Constitution and Declaration of Independence, and the principles of the American system of economics as developed by Alexander Hamilton, Henry Clay and Henry C. Carey.

The essence of all these aspects of U.S. history is very clearly stated in the Preamble to the Constitution:

We the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defense, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.

This intention of the Constitution, expressed in the preamble, to promote the general Welfare not only for the present generation, but also for all future generations, contains an implicit rejection of the so-called “shareholder value” policy and the unbridled free trade



of globalization, promoted then and now by the British Empire, which has not only widened the gap in the United States itself between a caste of increasingly rich billionaires and the growing numbers of impoverished, but is also responsible for the catastrophic underdevelopment in so-called developing countries.

Clearly, the world will never return to the status quo that existed before the coronavirus pandemic broke out. We are at an absolute turning point in history, where we will either be able to put the world in order

with the program we have outlined in these pages, to defeat underdevelopment, or we are threatened with plunging into a dark age. The phase of unrestricted globalization—which the protagonists of a unipolar world have attempted to implement, in particular after the collapse of the Soviet Union in 1991, and which led to a global wave of protests, including the election of Donald Trump—is over for good.

Lyndon LaRouche had forecast the catastrophe now unfolding before our eyes in all its aspects, from his characterization of President Nixon's disastrous destruction of the Bretton Woods System in 1971 and his forecasts of the danger of pandemics resulting from the monetarist policy, to the systemic collapse of the financial system. During the same time, spanning half a century, he presented an unprecedented number of solutions for overcoming the crises in the United States and internationally, and it is in that same spirit that the program herein has been conceived.

Any honest person who reads these analyses and programmatic proposals today, in light of the current pandemic and the destruction of the real economy, will conclude that Lyndon LaRouche was a man of providence. The idea of providence is not meant here in a strictly religious sense, but in that his entire method of thinking was so highly in accordance with the principles of the physical universe, that his analyses and creative proposals were of a tremendous, almost prophetic precision. He thought and worked "in tune" with the intention of the universe, and if correctly understood, of the Creator.

Therefore, the greatest crime committed against LaRouche by his unjust jailing and lifelong vilification by that same McCarthyite apparatus that is responsible for the ongoing coup attempt against President Trump, is not only the outrageous injustice done to LaRouche personally, but above all that it has made it extremely difficult for Americans and others around the world to have access to these solutions. In many ways, the enormous hardships that the population now endures, due to the combination of pandemics and the economic crisis, are the result of the political persecution of this extraordinary thinker.

And unfortunately, his warning that no one would be safe if his persecution were tolerated has been borne out. When one considers, for example, how General Michael Flynn has been and will be prosecuted, the famous quote by Martin Niemöller comes to mind: "When the Nazis came for the Communists, I was silent; I wasn't a communist. When they locked up the Social Democrats, I was silent; I wasn't a social democrat. When they came

for the trade-unionists, I was silent; I wasn't a trade unionist."

It is past time for Lyndon LaRouche, the man and his ideas, to be fully exonerated, and I personally call on President Trump to do so.

But Lyndon LaRouche's ideas are alive, as this program for the creation of 1.5 billion new, productive jobs worldwide underscores. The United States has now reached a breaking point in its history, where the ideas in the tradition of the pledge of the U.S. Constitution will be realized, or the financial reconquest of the American colony by the British Empire will plunge the entire world, together with the United States, into a dark age.

This is the time when the demand that Nicholas of Cusa—who had already laid the foundation for the American Republic back in the 15th Century with his works—set out in his *Concordantia Catholica*, has become a question of survival for the entire world. He established that the only legitimate basis for a nation's existence is its commitment to the common good of all nations, and to such a relationship among all nations. Precisely that was the intention of Benjamin Franklin, of the U.S. Constitution and the Declaration of Independence against the British Empire. It was also the foreign policy conception of President John Quincy Adams, that the United States should be part of an alliance of completely independent sovereign republics, linked together by a common idea, and that America was not called upon to "go abroad in search of monsters to destroy."

The key to building such an urgently needed alliance today is positive cooperation between the United States and China. The coronavirus pandemic has made it undeniably clear that the hollowed-out combined industrial capacity of the global economy is nowhere near sufficient to feed and to sustain in dignity the world population today. Cooperation between the two largest economies in the world is therefore an essential prerequisite for overcoming the impact of pandemics, starvation and poverty in Africa, Latin America, parts of Asia and even regions in Europe and the United States.

Although, thanks to the manipulations of the British secret services and Anglophile politicians in the U.S., a great deal of damage has been done to the U.S.-China relation through the "blame game" regarding the origin and handling of the Coronavirus, and although the current "China-bashing" evokes the darkest memories of the McCarthy period, constructive cooperation between the United States and China not only is absolutely possible, but also points the way toward a new

era in human history. This era must be characterized by the overcoming of geopolitics, and the promotion of the general welfare of all nations on this planet.

Given the existential problems that many people in America are facing due to the pandemic, there may not be much public awareness of the huge gap that exists between the image the United States enjoyed in the world at the time of the American Revolution and during the presidencies of George Washington, John Quincy Adams, Lincoln or Franklin Delano Roosevelt, and the United States that has waged endless wars throughout the world since the end of the Soviet Union under the Bush and Obama administrations. America was once regarded by all republican circles around the world as a temple of liberty and a beacon of hope, as a country whose Constitution served as a model for republican aspirations in many countries around the world. But the admiration and friendship gave way

during the Bush and Obama Administrations to fear, or worse, U.S. military power.

It is five minutes to midnight to deliver on the promise for a constructive relationship with President Xi Jinping and China that emerged in the early days of the Trump Administration. Given the complete discrediting of “Russiagate” and the likely legal proceedings against the British-inspired coup plotters, nothing stands in the way of constructive cooperation between the United States and Russia, as has been indicated between NASA and Roscosmos. If the U.S. now takes the lead in the economic reconstruction program and the creation of 1.5 billion productive jobs in the world, and helps to make the New Silk Road become the World Land-Bridge, then the United States will regain the place it once had in the eyes of the whole world: as a pioneer of freedom and hope for all mankind.

How the International Development Bank Will Work

by Lyndon H. LaRouche, Jr · May 16, 1975

Editor's Note: This proposal was first published in June 1975 as the lead article in a 74-page U.S. Labor Party pamphlet. At the time, Mr. LaRouche was campaigning as the candidate of the U.S. Labor Party for U.S. President.

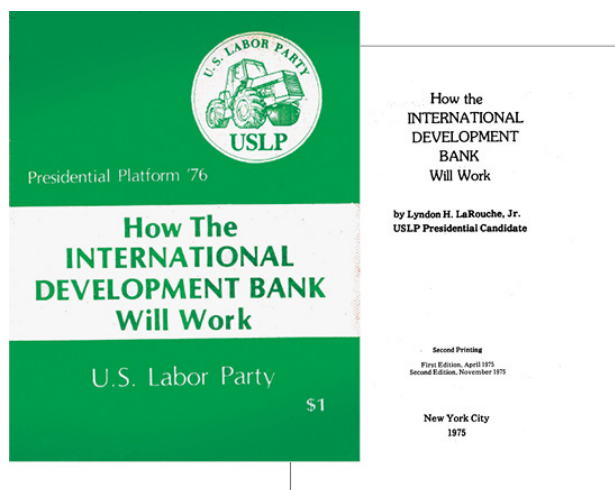
May 14, 2022—In 1975 Lyndon LaRouche, well-known for forecasting during the 1960s that the Bretton Woods monetary and credit system would be destroyed by the British—that event had occurred in August 1971—published this pamphlet outlining an International Development Bank (IDB). LaRouche was essentially proposing to begin recreating the Bretton Woods system as President Franklin Roosevelt had intended and designed it, with the industrial and agricultural development of the underdeveloped nations as its central focus. Within a year, the 1976 conference of the Non-Aligned Nations in Colombo, Sri Lanka adopted LaRouche's IDB outline, and Henry Kissinger, an ally of the British Foreign Office and the Rockefeller family, made LaRouche and the IDB anathema as a result.

This battle between policies of world economic development and perpetual war continues today. LaRouche's IDB proposal of 1975 can be taken, still today, as a powerful and detailed explanation of the importance and the operation of an international credit institution for infrastructure projects and industrial development. Do you want to know how a new monetary system could emerge from the major Eurasian nations in this crisis of economic breakdown and war, and how it could be the basis for a "Peace of Westphalia" involving the United States as well? Lyndon LaRouche's proposal of a half century ago still works.

This republication of the 1975 International Development Bank pamphlet is excerpted, leaving aside LaRouche's political situation reports of that day to present "the IDB as such." It concludes with his description of Iraq's economy as a paradigm for "Third World" development potential at that time. LaRouche's planning of the IDB had begun during his extended visit to Iraq in 1975, at the invitation of its political leadership.

The IDB As Such

No competent professional financier should find it difficult to understand the merits and workings of all the principal short-term features of the International



Development Bank. It is merely necessary that we appropriately identify those points. It is the longer-term perspectives and policies of the Bank which go beyond the financial specialist's education and experience. On that aspect, we are obliged to clarify the essential scientific points.

In the view of the U.S. Labor Party generally, our concern to inform financial specialists on these points is essentially that of competently instructing specialists who will function de facto as employees of working people. From our standpoint, financial specialists will be functioning as administrative technicians assigned to conduct the day-to-day business of our centralized instruments of credit and monetary circulation. The pro-capitalist supporters of an IDB policy may envisage the role of the financial specialist differently, of course. However, here we are presenting the situation and proposal from our standpoint. We leave it to the pro-capitalist supporters of an IDB proposal to argue the policy from their own standpoint.

From our standpoint, it is essential that these prospec-

tive employees of our banking system clearly understand the practical implications of the policies by which their performance is to be governed.

Formally, the IDB comes into existence in a manner analogous to the effective financial reorganization of any major bank being rescued from illiquidity collapse. A new bank is created to continue the essential operations of the old, while major categories of unpayable carried-forward indebtedness are placed in a moratorium “deep freeze” and negotiations for future liquidation of that debt conducted separately from day-to-day operations of the new institution.

There are two general approaches to such a financial reorganization. In one approach, which we are rejecting for the problem before us, the administrators strip the operations of the illiquid bank down to a hardcore of essentially sound categories and ranges of activities—an austerity policy of financial “debridement.” In the second approach, which we are applying to the IDB policy, the object is to vastly expand the operations of the reorganized bank beyond the scope of the bankrupt predecessor, by focusing the activities upon development policies essentially free of the policy errors which led to the collapse of the former entity. The second approach is analogous to the case of the bankrupt manufacturing firm which is successfully reorganized for expanded operations by introducing a superior set of products to its existing productive capacities.

Our core policy is this. The worldwide material preconditions from agricultural, mining and manufacturing production are essentially sound. It is only the debt-ridden financial superstructure which prevents those potentialities from being realized in the form of rapidly expanded levels of output at progressively reduced net social cost of production per unit of output. In short, we reject the “Zero Growth” and “Limits to Growth” chimeras as dangerously disorienting fantasies concocted by charlatans and widely puffed by ignorant public relations agencies.

To this end, we have already identified—in consultation with some of the world’s leading professionals and relevant governmental agencies—several major specific development projects which can readily (over a five- to ten-year period of development) yield a massive increase in the output and social-productivity of world agriculture, and thereupon premise the infrastructural basis for massive industrial development. We have similarly determined the feasibility of controlled thermonuclear reaction technology within the horizon of such development programs, such that no long-term “energy crisis”

could exist except through massive incompetence by leading agencies.

Those two primary bases for development warrant a massive increase in levels of industrial output from the presently industrialized sectors. The realization of those combined objectives demands supporting activities in the form of both capital development of productive capacities and increasing the social productivity of the general population through improvements in material consumption, leisure and educational opportunities of households.

Hence, credit issued for the realization of such programs is secure and liquid, since the margin of total production obtained through the mediation of credit will significantly exceed the margin of credit issued to effect such production.

Although the decisive interconnections determining such results are international, the present mediating form of economic cooperation to such international ends is the form of *de jure* national economy. Moreover, the national economies principally to be considered are apportioned among states with capitalist and states with socialist constitutions. Hence, although the objectives to be realized are global, the mediation of the process of reaching those objectives must be treaties of economic cooperation to such ends among participating groups of states.

To maintain a stable international trade as the means for implementing those treaties (rather than an awkward “barter agreement” system), such treaties among states and groups of states must be directly incorporated into a single international credit agency, through which world commodity prices can be rationally pegged to the exchange values of principal commodities in terms of the most stable major currencies.

The proposed International Development Bank is therefore essentially an international treaty organization of the participating national economies (states). It acts as a planning forum for the negotiating of extended treaties of economic cooperation, and functions as an international rediscount agency in connection with those letters of credit and bills of exchange in international trade authorized by treaty agreements.

Bank Operations

Each treaty negotiated within the purview of IDB operations directly subsumes corresponding “master letters of credit.” For each unit of bookings and deliveries subsumed by such master letters of credit, specific



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In the relatively primitive (labor-intensive) communal mode of village agriculture production, workers are tending crops near Dharwad, India, October 11, 2009. With proper inputs, the subcontinent could feed the entire world.

letters of credit are automatically processed through the bank as the ultimate rediscount agency of international trade. Bills of exchange against those letters of credit are similarly routinely processed.

The global effect of this operation is to issue credit to the account of the producer and purchaser national sectors. This IDB international central bank credit provides the means for issuing domestic credit to relevant specific producers and purchasers within the national economies affected.

Hence, provided the level of aggregate international trade is sufficiently high, the rates of production in all participating sectors are raised to levels above those prevailing in the high-points of the pre-depression period.

Provided credit is restricted to commodities of the classes directly relevant to development and at non-inflationary prices, the aggregate operations of the bank are in balance except for one major category of long-term credit balances held by the advanced sector against the development of the developing sectors. Provided that this long-term credit does not exceed the aggregate exportable social surplus product of the industrialized sector, the enlargement of such balances has no adverse effect on the industrialized sector. Rather, from traditional banking viewpoints, this mass of credit has the form of 10- to-15-year investments in the developing sector, under the conditions in which initial repayment is postponed to a forward date of maturity 10 or 15 years hence.

Other imbalances among industrialized nations are settled in an ordinary way, through creating gold-denominated reserve balances in the IDB itself. Imbalances

developing between various developing-sector nations would be, in part, settled in an ordinary way, or would be absorbed within the general long-term credits issued to the developing sector as a whole.

An Illustration: Japan

There are two approaches to be taken to the long-term credits issued. The case of food-short Japan provides an excellent example of one problem.

Among most industrialized nations—North America, Europe, Australia, New Zealand—the domestic potentials for food production within regions as a whole are more than sufficient to meet domestic or regional needs. In North America, we have our famous grain belt as well as other agricultural potentials elsewhere in the region. Europe and Northern Asia (the U.S.S.R.) has a magnificent grain belt, requiring only sufficient application of industrial technology to satisfy the wants of a growing population. In Japan, pending the hydroponics techniques of the age of fusion technology, this is not the case.

However, one major portion of Asia, the subcontinent, has the potential of feeding a population equal to the entirety of today's human race. Not overlooking the work to be done in the Mekong region, Indonesia, and so forth, if Japan can perform a major role in developing the potential of the Brahmaputra-Ganges region in particular, it can assist that region to generate a food surplus. With general concentration on such opportunities, significant results would appear within five to six years and be substantial in the period of 10 to 15 years. This can be restated: by aiding India, Bangladesh, Pakistan, etc., today, Japan's industry can contribute to the nourishment of Japan's next generation of children. That is a case in which the meaning of IDB long-term credit is clear and close to traditional views.

Yet, in the more general view of long-term credit, there would be no objective problem in issuing most of that credit as outright development grants. If such a grants policy were adopted, it would be no sentimental act of charity or otherwise economically unsound. If we succeed in bringing a major portion of the population of the developing sector up to a level of social productivity comparable to the advanced sector within 10 to 15 years of development (aided by fusion technology), the benefits of this result to the advanced sector are so enormous that we should then require no repayment for past aid.

The problems—the purely mental problems—which seem to arise in connection with such thoughts are

the result of attempting to interpret global economic processes in the arbitrary terms of outlived concepts of national economy.

To illustrate: Full expansion of U.S. and Canadian industrial and agricultural potential will require the importation of approximately five million Mexican workers and their families (20 to 25 million persons) into the U.S. and Canada during the next five years! To realize the benefit of this labor, we must house, educate and otherwise train it for modern forms of industrial technology. As trained labor-power, these Mexicans will contribute substantially to the total social surplus. Everyone in the U.S.—including those Mexican workers—would thus be richer as a result of the “development” effort surrounding their assimilation into industry.

Yet, expenditures to the same effect for Mexicans in Mexico would pose the heated issue of “How will the Mexicans repay us?” Obviously, the problem is purely a mental one—the same thing done within national borders is seen differently than if it were done to the same essential resulting benefit to us outside those borders.

It is our view that most of the development credit never need be repaid. However, for those who wish to be sticky about the point, we assure them that the developing sector would have little problem “repaying” after 10 to 15 years of serious development.

The issue is not a small one. By 1979, the U.S. sector alone could readily—and should—export the equivalent (in 1973 dollars) of approximately \$200 billion annually in long-term development projects. The rest of the industrialized sector should add about \$100 billion to that total. To get some comparison figure, consider the total military budgets of NATO and Warsaw Pact countries during the past decade. Considering the feasibility of eliminating the military budgets under IDB détente arrangements, the amount proposed is obviously not “horrendously large.” Yet, otherwise it is a whopping sum. Against this, we have the immediate prospect of approximately doubling total U.S.-sector productive output within a very short period.

Taking such levels of aid over a 10-year period, we are considering long-term development in the order of several trillions of 1973 dollars. Serious people should find the size of that investment ironically reassuring. Obviously, development on that scale should produce major results in the developing sector. The fact that we are approaching the problem in those terms also assures people generally that we are proposing serious development, not some harebrained “shoe-string” gimmick. In fact, that is approximately the magnitude of the effort

needed to produce urgent results at the pace circumstances require.

Theory Behind the Bank

The kernel of the International Development Bank (IDB) will probably be a three-way basic treaty initially negotiated among a group headed (probably) by Algerian Prime Minister Boumédiène, a Comecon plenipotentiary body, and a delegation representing various European and North American countries and Japan.

The suggestion of Prime Minister Boumédiène, is not idle or speculative. Boumédiène, is currently the foremost delegated spokesman of Arab (and some other) OPEC countries in attempting to induce Western Europe and North America to accept a three-point agenda covering energy, other raw materials, and food. He is also a leading spokesman of the so-called non-aligned nations group. Because of the key position of the Arabs in the strategic features of current energy negotiations, and therefore as leading spokesmen for the cause of the Third World generally, the first thought of any intelligent representatives of the industrialized sector would be to propose to seriously reopen the agenda discussion with Mr. Boumédiène, et al. as the path of least resistance for getting the maximum number of the right Third World forces’ representatives around the negotiations table.

The inclusion of the demands of such countries as Sudan, India, Pakistan, Bangladesh in the discussions would require the addition of a fourth point to the previously proposed three-point agenda. The fourth point would be “development.”



FOCR

Algeria's Houari Boumédiène, a leading spokesman of the association of Non-Aligned Nations.

It is our estimation—after consultations with representatives of various “Third World” governments and political forces—that the only important technical problem they would confront in attempting to negotiate the issue of “development” would be a controllable conception of what represents measurable performance for purposes of treaty negotiation. Some weeks past, we committed ourselves to detailing our solution to that problem, which promise we keep in this present setting.

Figure 1 is supplied to illustrate the following discussion of the theory of development. We introduce the hard kernel of the theory of long-term bank operations by prefatory qualifying remarks concerning, first, the relevant analysis of population characteristics and second, the connection of those characteristics to the economic process as such.

Population Characteristics

The history and pre-history of the human species is properly summed up as follows: In the Pleistocene period, the period during which our human genetic stock emerged, our ancestors had an ecological population potential in approximately the same order—millions—of magnitude as a gifted species of baboon or ape. Since then, the human population has risen at an overall accelerating rate of growth to three and three-quarters billion persons, with a population potential—on the basis of presently existing or emerging technology—of two or more tens of billions of persons.

During that ascent, our species was repeatedly confronted by absolute “limits to growth” of the population. If one applied the method of argument used by the proteges of John D. Rockefeller III to any period of human history or pre-history, it could be “proven” that the Earth has always been overpopulated with people! However, as history itself shows, Zero Population Growth conceptions have always been products of charlatantry.

The real problem of “over-population” threats has always been this. Any existing mode of technology always defines certain aspects of nature as “resources.” These so-defined resources are always relatively finite in availability. Beyond a certain point of cumulative consumption, still remaining such “resources” are of a relatively marginal quality in quality or accessibility. However, this problem has been solved repeatedly, by

the advancement of new technologies, with a resulting radical redefinition of resources. The discovery of animal herding and agriculture are as exemplary of a revolution in the definition of “resources” as the breakthroughs into the bronze, iron, or fusion-technology ages.

The overall effects of every general advance in technology and culture include a significant increase in the population potential and a tendency for acceleration in the amount of energy per capita consumed both in production and in households. These advances are also inseparably associated with qualitative shifts in what we term “population characteristics.”

Let us leap ahead in our account to consider a special problem of today, the so-called overpopulation of India. In the relatively primitive (i.e., labor-intensive) communal mode of village agricultural production, there is an emphasis on child labor coinciding with high mortality rates. The result is that in households with the largest number of children, the per-capita income (and survival expectancy) is relatively higher! In this circumstance, without altering the culture of the rural agrarian population, displace a considerable portion of it into urban slums.

However, in industrial families, the survival of the individual depends upon a higher development of culture, a prohibition of child labor, and a longer period of maturation of the individual to economic maturity. The child costs more in both money and in cultural effort per capita by the adult population. In this instance, a lower household fertility yields a higher level of income and survival per family member, provided sanitation,



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General advances in technology and culture foster an increase in population potential and acceleration in per-capita energy consumed in production and in households. Here, Lyndon LaRouche and Helga Zepp-LaRouche are visiting Mandi, India, April 1982.

nutrition and so forth properly reduce the mortality rates.

As we shall indicate, India today is not overpopulated by virtue of the size of its population as such. It is apparently overpopulated because it is a looted agrarian culture with all the burdens of the industrial age but with too few of the compensating advantages. The argument that the subcontinent could not feed its growing population is a charlatan's nonsensical assertion; in fact, the subcontinent, properly developed in terms of existing technologies, could feed the present world population!

To resume our account. It is not necessary to elaborate here the whole span of development of population characteristics. It is sufficient to know that the specific points we have to make concerning post-14th-century European society are exemplary of the same principles governing all preceding human cultural development. So, as we make summary statements in the form of a broad generalization now, we refer immediately to the period of European and other capitalist development from the 14th century to the present, but also insist that the principles so illustrated for immediate applicability are exemplary of the general case.

To determine the relevant population characteristics, we first divide the entire population (of industrial society) into three principal classes: the agrarian population, the working class, and other classes (capitalists, petit-bourgeois strata combined). Historically, the modern development of agriculture is the result of the benefits of industrial development upon agricultural technology. This connection is elaborated as an increase in the social productivity of agriculture, reducing the proportion of the total population required to produce the nutritional requirement of the same total population, creating an enlarged industrial population from surplus agricultural populations while reducing the effective social cost of industrial labor by cheapening the social cost of nutrition.

For this development to proceed, the populations involved must develop the cultural capacity to assimilate more advanced productive technologies, for which literacy is an appropriate exemplary parameter. This requires a longer term and cost of maturation of the new individuals of each class. This reduction in child labor requires an increase in the longevity of the individual,



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“Worldwide, there has been no essential technological advancement in the mode of shoe-making machine process during the past 55 years.” Here, Lyndon LaRouche is visiting a shoe factory in India, April 1982.

requiring higher standards of sanitation, nutrition, and leisure. Thus, the process of development demands (1) an increase in the industrial population relative to the rural population, (2) an increase in the term of maturation, (3) an offsetting increase in longevity. All of these require a substantial increase in the per-capita cost of producing the individual from the standpoint of the “consumption market-basket” of the preceding period. This therefore demands a tendency for acceleration of the effective energy throughput per capita for both household consumption and all modes of production.

Unless such policies are pursued, a crisis of overpopulation will constantly exist for all levels of population, in fact, becoming more acute as population levels decline significantly. The reason is that the continuation of any population in any relatively fixed mode of technology means a convergence upon the relative limits of resources defined by that technology. E.g., a turn away from capital-intensive forms of industrial and agricultural employment toward more labor-intensive forms aborts development, directly increases the social cost of producing an individual, and prevents society from superseding relatively finite resource limits. The more the population declines under such labor-intensive “Zero-Growth” programs, the more acute the resource limits become.

The third population category is a mixed case from a policy standpoint. As a category, this population represents non-productive “overhead” costs to society, which ought to be minimized on that account. However, ex-

emplified by scientists, engineers, teachers, physicians, this category includes specialist activities of the form designated by Marx as universal labor, for which science is the epitome. It is the development of science which immediately determines human potential for positively shifting the apparent “resource” boundaries. As society develops, this requires an increasing ratio of scientists and engineers per capita of combined industrial and agricultural labor.

Economic Characteristics

Figure 1 depicts labor as the output (right side of the population bar) of the mature segment of each population, and thus as input to the corresponding production bar. The consumption upon which the existence of the population households depends is an input (left side of the population bars) from the output of production (right side of the production bars).

There are two production bars depicted, industrial and agricultural. On the input side, each bar represents simply the totality of the productive labor consumed. The segments of division within each bar are determined by qualities of output of production. In the agricultural bar, V represents the portion of total agricultural output consumed by farmers and agricultural labor, C represents seed, fertilizer, farm equipment, and so forth, S

represents the social surplus of agriculture. In the industrial bar, the same general significance of the symbology applies. C is the proportion of total output consumed to maintain the equipotentiality for production of plant, equipment, machinery, materials, energy. V is the proportion of output consumed by households from which industrial labor is to be recruited. S is divided into three sub-segments: “d” is the proportion of output consumed by capitalists, petit-bourgeois, either as household consumption or as materials and equipment of their occupations (e.g., office buildings, computers, jet military aircraft, etc.). S’i is the portion of social surplus invested in expanding the production of that national sector; S’e is the portion of social surplus from that national sector exported as investment or aid.

The theoretical treatment of these categories is given in detail in *Dialectical Economics*, in which the determinate character of the relative magnitudes is demonstrated.

For description of the relationships to be considered, we derive the following expressions:

For agriculture: $S/(C+V)a$

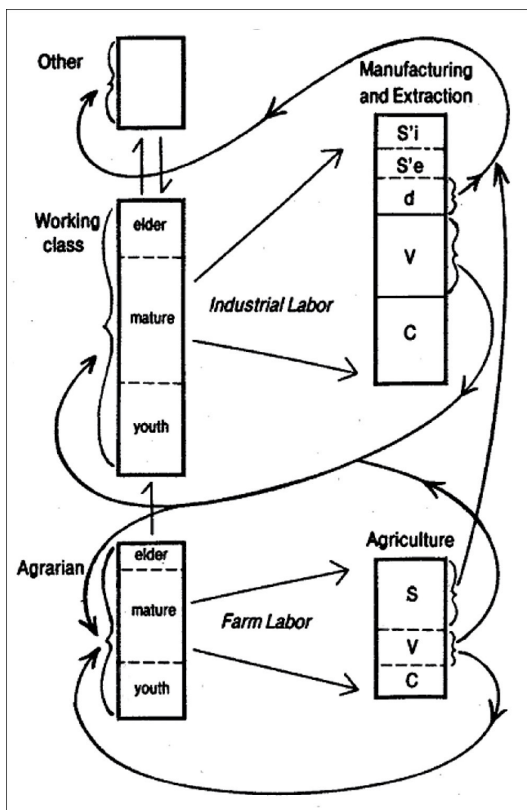
For industry: $(S'i+S'e)/(C+V)b$

Our object is to increase both ratios, while increasing the scale of the population corresponding to b at the expense of the population corresponding to a.

However, this is accomplished by increasing the per capita value of C+V for both a and b in terms of lists of consumption in the preceding period. In short, we must increase per-capita household and capital consumption while reducing the social cost of such total consumption! The means for accomplishing this result is advances in the technology of production in both agriculture and industry.

Since development must absorb the costs of relatively marginal resources, the rate of development which effects a constant rate of growth of the ratio $S'/(C+V)$ must be the result of technological innovations which have an apparent “instantaneous” tendency to accelerate the growth of the ratio $S'/(C+V)$. Hence, the central principal of development—and, hence even continued human existence—is what we term negentropy.

Where is this “factor” of negentropy located? It is located in self-development of the cognitive potentialities of the scientists, engineers, and industrial and agricultural workers. It is easily argued that the source of the negentropic advances in technology of production is the creative innovation of scientific work. It is more sophisticated but not less important or real that the possibility of the general assimilation of new scientific discoveries



for productive practice depends upon advances in the cognitive competence of engineers and workers. It is also true that scientists do not develop out of test tubes, but reflect the developing cognitive ground prevailing in the general populations from which they are recruited.

This is the meaning of the conception of labor power in Marx. The source of the negentropy upon which the capitalist system in particular depends for its past accumulation is the cognitive powers of employed labor to assimilate and effectively realize new technologies. It should be readily seen that the notion of $S'/(C+V)$ as a self-extending and self-developing magnitude is nothing but a notion of negentropy. Without new inventions and the power of labor to realize such new technologies, the rate of profits determined by the social ratio $S'/(C+V)$ must fall to zero: $0/(C+V)$ and capitalist accumulation would not have existed except as pure looting of nature and conquered populations.

Thus, in the final analysis, development means rising ratios of $S'/(C+V)$, which are the result of increases in the quality of productive technology, made possible by science and engineering and dependent in turn on the constant advancement in the cognitive powers of employed productive labor. This development in the cognitive powers of labor requires increased longevity, greater leisure, improved education, emphasizing an increase in the profundity of education, prolonged maturation of the average new productive individual, improved housing, etc.

Those general observations being true, the problem of development must be made concrete. What standards of sanitation, nutrition, and so forth are required to realize a certain quality of technology? What specific kinds of scientific and engineering accomplishments have relative priority in terms of their realizable benefits? and so forth.

The Concrete Situation

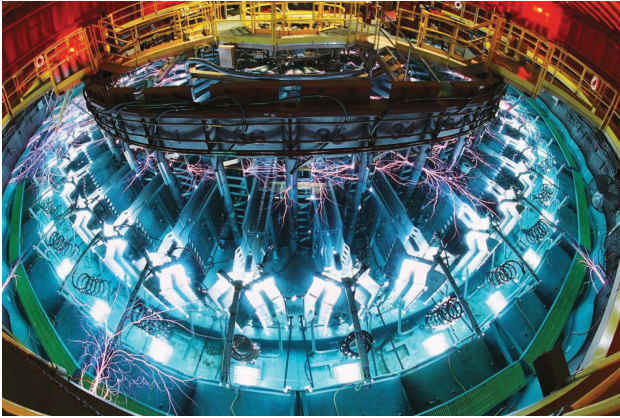
It has been established in other locations that provided we make an effective commitment to "brute force" development of CTR [controlled thermonuclear reactor] technology, the human race confronts no meaningful categorical limits to availability of either energy resources generally or any essential raw materials in particular. Setting 1985 as the readily feasible target date for operating CTR facilities, and assessing existing energy and raw materials resources, we face no qualitative problem for the expansion of our useful industrial capacities to the limit of possibilities.

That taken into account, our immediate tasks for development are so clear-cut as to be elementary. In the developing sector generally, we have three major areas for massive agricultural development in addition to a number of small-scale fruitful opportunities. At the top of the list, from the standpoint of immediately accessible substantial results, is the Rio de la Plata region of Argentina, Uruguay, Brazil in which straightforward methods (fertilizers, tractors, etc.) will quickly yield major increases in output, immediately buttressing the social infrastructure of a sector ripe for massive development of one of the world's richest agro-industrial complexes. More stubborn, but ultimately enormously fruitful as well as immediately urgent, is the riparian and adjacent regions of the Asian subcontinent. The third, the potential breadbasket of Africa, is the Sahel. Both the latter two represent massive engineering projects as well as straightforward agricultural technological development. Extending the policy tailored around these three regions to other areas appropriately, we immediately have the basis for a major program sufficient to generate a worldwide production boom over the next five to ten years!

The concrete point is that the first step to solving the problem of Third World development involves nothing sophisticated from the standpoint of the lessons of the past four hundred years of European and North American capitalist experience. An abundance of cheap, balanced nutrition is the classical means for creating the infrastructure of rapid industrial development. In the three indicated areas, and in a number of smaller special cases, we have accessible a potential for agricultural development which, in terms of existing industrialized agricultural technology, is far more spectacular in its present potential short-term results than the history of the North American grain belt.

Fertilizers, hydraulic engineering, tractors, and agricultural equipment, together with biological work on seed stocks, and so forth, can effect a significant leap upward in the per-hectare and per-capita productivity of agricultural output with a relative minimum of initial development of the cognitive levels of the agricultural population. Provided we utilize that source of major gains in total output to generate the infrastructure for industrial development, over approximately a ten-year period we can utilize that one-shot agricultural development process to leap out of the present mess of underdevelopment, meanwhile expanding the output of the industrialized sector to new levels.

The social surplus generated from agricultural devel-



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The U.S. Sandia National Laboratory's Saturn, a pulsed-power, high-frequency electromagnetic wave generator, designed to test materials at extreme temperatures and pressures—important for developing controlled thermonuclear reactors.

opment must be largely plowed into housing, sanitation, education and related contributions to the desired shifts in population characteristics, with the specific goals of raising the cognitive levels of agriculturalists and also preparing future surplus agricultural (rural) populations for qualifications as semi-skilled and skilled industrial labor.

This process must be accompanied by the rational development of industries in the developing sector. A selection of industrial centers must be adopted, such that these centers together with expanding “guest-labor” employment opportunities in the advanced sector become the principal places into which we assimilate urban labor during the first decade of development. The object is to avoid wasting industrial infrastructure costs and to develop industries in the dispersion and sequence of development in which they represent the optimal immediate contribution to general development and to the effective assimilation and development of industrial cadres.

For example, a meat-producing region is a hides-producing region, which suggests tanneries and footwear manufacturing, both industries well suited to assimilation of new industrial cadres. Local construction industries are obvious candidates for each region, whereas steel mills may or may not be.

Initially, traditional national development outlooks may tend to cause nations to exaggerate the number of local industries each national economy should have. Provided rational economic relations exist, it is better for a national region to have fewer good, productive industries than the highly variegated spectrum of semi-efficient industries which only suggest relative inde-

pendence of foreign imports. Under conditions to date, there are powerful reasons why developing nations have tended to emphasize relative self-sufficiency respecting manufactured needs; we must remove the “incentives” for such wasteful practices and on that basis prompt participating national sectors to redefine the problem in terms of maximum regional economic yield per unit of capital and labor employed.

As the world ought to know, we face a critical shortage of productive capital, which will not be remedied if we foster major redundancies in creating industries or industrial infrastructures. We need trillions of 1973 U.S. dollars of capital for development and we are only on the verge of mobilizing several hundreds of billions.

The work of the Labor Committees in producing papers on specific development subjects is an exemplar of the much more expanded effort required to detail the concrete programs in full. However, there already exist a number of major projects for each national sector which have unquestioned merit and priority; while we get those under way, we must quickly sort out the rest.

Measuring Development

If, as is necessary for global development, the developing nations exploit their petroleum, natural gas, coal, and mineral raw materials resources to the extent required for industrial expansion in both the industrialized and developing sectors, how shall we determine both the price of those resources and the compensation for the implied depletion of such assets?

Without a “brute force” commitment to development of CTR technology, there is no price level or forward depletion compensation which could be considered “equitable.” The general basis for treaty agreements covering prices and depletion compensation is fundamentally (1) a commitment to applicable CTR technology installations proliferating from 1985 onwards and (2) a commitment to bring those regions up to the level of employment of CTR-oriented technology by the 1985–1990 period.

It must be emphasized that unless there is an accompanying commitment by all treaty signators to “brute force” development of CTR technology, all other agreements on prices, development and so forth are ultimately unworkable and worthless. If we largely depleted existing known resources by 1990 without meanwhile developing a major new source of energy and raw materials, most development occurring during the 1975–1990 period would be transformed into unusable rusting plant and equipment. The proposals of “solar energy”

and boiling water or breeder-reactor nuclear plants as alternatives, “geothermal” development, etc., are charlatany from the standpoint of both the energy required to yield one kilowatt of output capacity and the amount of total energy which could, in fact, be provided by those means. Only CTR development can assure continued human existence beyond this century.

The U.S. Sandia National Laboratory’s Saturn, a pulsed-power, high-frequency electromagnetic wave generator, designed to test materials at extreme temperatures and pressures—important for developing controlled thermonuclear reactors.

Hence, general agreement on “brute force” CTR development for 1982–1985 target dates for initial operating facilities must be the first term included in all general treaty agreements for development.

The solution to development problems is not found by cartel agreements which set extraordinarily high prices for petroleum and other primary materials exported from the Third World.

It would be a wild fallacy of composition to argue that the October 1973 OPEC agreements caused the present depression. The depression had been developing since at least the Winter of 1967–1968, and had been accelerating toward monetary collapse since the Summer of 1971. OPEC agreements did not cause the unprecedented general illiquidity ratios which have accumulated over more than a quarter century, especially during the past decade. OPEC agreements merely accelerated a process of monetary disruption, slightly aggravating a crisis which would have quickly developed into present catastrophic proportions even had there been no quadrupling of world-market oil prices.

Nonetheless, the present OPEC prices are both unwarranted and tragically self-defeating. Similar approaches to raw materials cartels would be similarly unsound. The present world glut of petroleum, coming with massive cutbacks in well production, show a tendency for OPEC nations’ aggregate net accumulations to fall below the levels prior to October 1973. Excessive prices for energy resources and other primary materials tends to disrupt and so lower the rate of industrial development generally, a constriction inevitably affecting the Third World in general most cruelly.

This argument does not overlook the inequity of traditional raw materials prices and related income to Third World sectors. Equitable price-level formulas should be negotiated and approximately fixed by treaty. Prices should be calculated on the basis of modal levels of price of production of each such commodity for world, pro-

duction of that commodity as a whole. Furthermore, the determination of the applicable calculations of price of production for Third World primary materials must be based on advanced-sector standards of wages for labor employed in Third World production. Equity signifies that the element of cost of production allocated for labor costs in the developing sector must be based on the standard labor costs per unit of output in the advanced sector.

Against this, it might be passionately and correctly argued that Iraq, for example, uses its capital accumulation from petroleum revenues for both internal development of agriculture and industry and for comparable forms of economic development assistance to other Third World nations. A more balanced picture of OPEC practices is found by tracing flows of funds through the operations of the “Seven Sisters” and by considering cases such as Kuwait. In both latter instances, additional capital accumulations from OPEC revenues have not flowed so much into useful development, but have been foolishly invested speculatively or in otherwise merely feeding the speculation and illiquidity-cancer-ridden financial structures on the verge of depression collapse. We need agreements which have the effect of Iraq’s use of capital accumulations from petroleum, but without the countervailing irrationalities which are unfortunately the more general OPEC-“Seven Sisters” picture to date.

This does not mean that Third World countries should not exploit their national and regional control of primary resources as “bargaining chips” to force industrialized nations to the negotiating table. Unless a rational set of development agreements is reached, these nations are left with no alternative but to utilize any economic weapon available for getting some part of what they want. We insist that the only form of workable, rational agreements is treaties which set primary commodities prices according to price-of-production criteria, provided that the industrialized nations also commit themselves to corresponding development programs.

What the Third World must obtain from these development agreements is a process of shifting its overall population characteristics through the following steps.

(1) Levels of per-capita nutrition available in the order of 3,500 calories per day with appropriate levels of total and animal protein consumption included.

(2) Consequently, apart from short-term food aid from the developed sector, the initial emphasis must be on increasing the yield per hectare, increasing the number of hectares of arable land cultivated, and decreasing the

average amount of labor-time required per hectare. The means for accomplishing these results are the development of the agricultural output of the industrialized nations and the use of industrial technology—fertilizers, drainage, irrigation, desalination, tractors, etc.—to effect a transformation of developing sector agriculture.

(3) Housing, sanitation, education, leisure-rates for the entire population, increasing the longevity of the population, and increasing the period of maturation of young toward industrialized sector standards.

(4) The assimilation of households of labor available to provide industrial manpower either into employment in industrial-urban foci of the developing sector or guest-labor employment of workers of resident households in the industrialized sector.

(5) The development of centers of industrial infrastructure in selected foci of the developing sector. The near-term development of industries, especially consumer goods industries, appropriate to the circumstances and to the needs of local populations.

These general terms of development can be summed up as representing both a favorable advance in the population characteristics and a provision of the material preconditions of production to realize the increased productive potentialities of that population. What is decisive is not the absolute level of progress attained at any time, but rather the manifest rate of development of both the population and its realized productive potentialities.

This means that the construction of a large number of office buildings and infrastructure for housing office workers in itself does not represent a satisfactory development performance. Nor does the siting of a warehouse, factory, etc., to “take advantage of cheap labor” represent development. The measure of development is the general rate of improvement of the population and productive employment of the population in general.

An Example: U.S. Footwear

Among the tragic curiosities one meets around Washington, D.C. currently, there is the “footwear lobby.” This group is concerned to block imports of foreign-made shoes, on the specious premise that those imports are depriving U.S. footwear workers of employment. The truth is quite contrary to the arguments of those lobbyists, involving points directly relevant to the fallacy of “cheap labor.”

The prototype of a good wearing shoe is a man’s leather-upper Goodyear Welt. The first thing to do

analytically in this connection is to price a good-quality man’s leather-upper Goodyear Welt as a percentile of the modal weekly take-home income of a skilled or semi-skilled trade-union-waged worker. Compare the prices of comparable quality Goodyear Welts as a percentile of weekly take home income over the past three-quarters of a century.

Next compare the incomes of skilled and semi-skilled U.S. shoeworkers with mean workers’ incomes over the same three-quarters of a century, especially for such relatively skilled occupations as upper-leather cutters, and lasting and making room machine operators.

Finally, note that world-wide there has been no essential technological advancement in the mode of shoe-making machine-process technology during the past fifty-five years! This is as applicable abroad as it is in the U.S. itself.

There is nothing arbitrary in the selection of the Goodyear Welt as the model of a wearable shoe. The Goodyear Welt is essentially the attachment of both the upper and the bottom (sole and heel) to a common connecting structure, the “rib” of an innersole. In this arrangement, the wearing characteristics of the upper portion of the shoe are less affected by distortion of wear in the sole. If the materials used are of suitable quality, the shoe retains its foot-fitting qualities for all its useful life. So far, no material developed has the healthful qualities for footwear of leather. Any other type of footwear construction presently in existence is relatively junk by all quality standards of usefulness.

People have generally worn other inferior types of shoes either for special reasons of vanity (women’s cement high heeled pumps; high-priced, comfortable, but not durable turns and kindred forms of slippers) or because they could not afford a good pair of welts. In general, the use of types of footwear other than Goodyear Welts—barring vanity and a few specialist uses of footwear—is simply for reasons of price.

What has happened is that the combined lack of significant technological development in methods of welt shoe manufacture and a real erosion of U.S. workers’ effective take-home pay has priced good shoes out of the reach of general use by members of working-class families. Since the prevailing methods of footwear manufacture are distinctively backward today, the manufacture of “popular” inferior types of footwear within the price range of most households depends upon unskilled cheap labor.

This means that there is little demand for skilled footwear labor, and, consequently, qualified shoemak-

ers are a vanishing species, limited to a tiny proportion of mostly aged and retired workers from that industry. The U.S. labor force is not reproducing skilled shoemakers! The proportion of total family income allocable to footwear purchases is too small to permit the U.S. to meet U.S. standards of skilled or semi-skilled incomes for workers in that industry. Or, in short, the U.S. is unable to produce its own shoes economically because the typical U.S. citizen can not afford to buy good shoes at today's state of technological backwardness of the world's footwear manufacturing technology.

In general, the footwear imports into the U.S.—chiefly imported by leading U.S. footwear manufacturers!—are junk, and are imported because the U.S. workers cannot maintain U.S. workers' living standards in occupations of producing junk footwear. By junk we mean typically Zories from Japan, sneakers from various origins, and those hideous, uncomfortable and actually unsafe “high platform” monstrosities assembled from some ungodly materials.

Conversely, if the U.S.'s workers generally were able to afford good footwear for their families, the ratio of foreign imports would drop automatically. Footwear workers in most foreign countries would have difficulty in producing high-quality shoes in competition with the skills potentials of U.S. workers, especially if our footwear technology were brought into conformity with current general technological potentials (eliminating the tacks, staples, and thread holdovers).

The point illustrated is this. “Cheap labor” is a vicious fallacy. The particular capitalist usually measures “economic productivity” as the ratio of value of product produced to the wages paid for that production. Hence, to the heteronomic individual capitalist, it may appear that cheap labor is relatively more productive. However, cheap labor perpetuates a low level of material culture within the population, and in the most extreme cases, depends upon a depletion of the living standards of populations contiguous to the employed industrial population.

This point is notably demonstrated in the recent history of Brazil. The once-touted “success” of the “Brazilian model” has led toward a virtual breakdown of the population as a whole. The case of epidemic-ridden Brazil today is an indisputable warning against the heteronomic yardsticks of economic development which were tolerated during, for example, the UN's first and second development decade programs. Brazil is the horrible extreme example of the point illustrated by the case of footwear consumption.

This does not mean that the world can presently afford the standards of U.S. skilled workers' incomes for unskilled labor in the developing sector. If all available capacities were oriented to producing consumer goods—an economic insanity, if it were possible—we could not provide such income levels. If such a policy were attempted, most production would occur at a massive labor-cost deficit. The cultural level of most of the world's labor is too poor to permit those persons to even approximate a U.S. standard of skilled productivity. Even if such an arrangement might be recommended on charitable grounds, it is physically impossible to implement.

However, it must be our policy to eliminate that discrepancy through development. We must pay labor in the development sector slightly more than its present productivity would warrant (in terms of combined household income and public services) in order to accelerate the development of the level of material culture, pacing that advancement against the introduction of modern industrial technology in the employment of labor generally throughout that sector. Every particular development effort in any part of the developing sector as a whole must be assessed in respect to its effect on the advancement of the material standards of living and quality of productive employment of the developing sector population as a whole, within especially that nation and region.

The emerging policies of Iraq are exemplary of the proper direction of treaty programs. The Arab sector represents approximately 120 million persons which have sufficient agreement in language that any Arab is economically assimilable into any part of the entire Arab sector. At the same time there is a disparity in the relative concentrations of income-producing primary resources (especially petroleum deposits) and of Arab populations. Hence, it is irrational to regard present national boundaries as the basis for economic development programs. Arab Unity is a matter of elementary economic rationality.

Agriculture and industries must be developed where overall circumstances recommend their placement, irrespective of the location of the primary resources whose sale provides the bulk of development capital. Such “Arab nationalism” (using the other Arab word also translated into English as “nationalism”) is imminently—properly—a kind of internationalism, implying and already leading in a preliminary way toward Arab close cooperation in the development of non-Arab Third World regions.

In sum, Third World agreements with the industrialized sector must be based on standards of continuous and accelerating rates of improvement in three interconnected parameters of development performance: shifts in population characteristics, real income per capita, output per capita measured in terms of the social ratio $S'/(C+V)$.

The target objectives of development are the following: (1) To attain the population characteristics of the industrialized sector for the developing sector, including the ratio of the agricultural population generally, the period of maturation of the young, levels of education and leisure, and effective social-reproductive ratios of the form $S'/(C+V)$ comparable to those of the present advanced sector. (2) To orient this development toward the infrastructure of CTR-oriented technology emerging during the 1985–1990 period.

The program must emphasize four general targets of immediate projects: (1) A crash development of agricultural potentials; (2) expansion of utilization of primary materials resources; (3) the development of urban centers around those consumer goods industries which are better located in that region, and which therefore afford an optimal catalyst for developing a qualified industrial working class from the ranks of unemployed urban populations and former rural residents; (4) the selection and development of major industries, including capital goods industries such as steel, in those foci of the developing sector according to rationalities of a world division of labor.

The 'Raw Materials' Fallacy

Some Arab socialists had made the important observation that while petroleum reserves are in one sense a source of immediate advantages, the associated habit of thinking in terms of a high-priced primary materials asset is also a dangerous obstacle to real development. Iraq, for example, is using its petroleum deposits, but it does not desire to remain a nation subsidized by its oil revenues. Iraq needs and desires an agricultural development which will make Mesopotamia—again, as during the reign of Caliph Harun al-Rashid—a region meeting the food requirements of 30-odd million people—instead of Iraq's present approximate 10 million. Iraq desires an industrial infrastructure based on a developed, proportionately large Arab working class. The OPEC



EIRNS/Douglas De Groot

EIR's Southwest Asia Coordinator, Hussein Askary, at the hydroelectric Merowe High Dam on the Nile River, about 350 km north of Khartoum, Sudan, April 9, 2009.

manifesto of Algeria's President Boumédiène reflects the same kind of Arab outlook.

This Iraqi outlook is not accidental. The postwar Arab socialist is predominantly a representative of a developing Arab intelligentsia. As a socialist he has a fragile social existence, because of the continued misery of the mass of poor farmers, large numbers of lumpenized Arabs, and a relatively tiny Arab working class. Politically, every Arab socialist is originally committed to the development of a strong Arab industrial working class and to the associated task of drastically raising the material conditions of life in agriculture. Petroleum—especially during the postwar period—has been the exceptional economic lever by which the Arab socialist has intended, attempted, and partially succeeded in mediating his real economic and social objectives.

In this respect, the Arab socialist is not unlike many Third World socialists. Oil has been predominantly the lever by which Arabs have been able to practically envisage accomplishments which other Third World sections have come to regard as almost hopelessly distant. This is the basis for the special strategic importance of the Arab socialist. Circumstances, a common Arab language throughout the Arab world, and petroleum have made Arab socialist internationalism and Arab development efforts a special sort of vanguard spokespersonship in behalf of the aspirations of the Third World as a whole.

The government of Mrs. [Indira] Gandhi, the government of Bangladesh, the government of Sudan, the present governments of Indochina are ultimately no less committed to the principles of agricultural and industrial development than Arab socialist forces. Yet,

to a significant degree, those other Third World forces depend upon Arab spokesmanship in the struggle for global development policies which could give actuality to their general development aspirations.

In this process, there is the constant danger to which some Arabs have referred—the danger of thinking in terms of other arrangements for high-priced primary materials as the solution to all problems. In some cases, such a danger becomes extremely serious.

There is a dangerous fallacy infecting a significant strata of Third World thinking, a fallacy encouraged by pro-Rockefeller counterinsurgency agencies and their academic allies. In brief, this fallacy represents a resurrection of the naturalist metaphysics of the 18th-century physiocrats, in which view all wealth is obtained from primary natural resources. That nonsense, visibly emphasized in certain Third World circles, is aggravated by large doses of an even more primitive absurdity, an interpretation of national and international economic relations from the standpoint of either 17th-century or downright medieval versions of old mercantilism.

It is urgent that the counterinsurgency ingredient of such pathetic pseudo-economic thinking be stressed. To those who have studied the documents and practices of leading postwar Rockefeller-allied counterinsurgency agencies—such as the infamous RAND Corporation—it is well known that the essential strategic orientation of all counterinsurgency policy is the propagation and cultivation of 18th-century philosophies, in opposition to the scientific outlook which emerged during the 19th century. The resurrection of the “social contract,” the emphasis on propagating 18th-century forms of parochialist autonomy as modern “radical” demands, and the general emphasis on “pluralist diversity” are exemplary of the ideology willfully propagated by the CIA and allied political agencies. This policy has been hardened to the extent that it is frequently possible to infallibly identify a CIA (or similar) counterinsurgency “witting agent” at his work by the peculiar litany of RAND-Tavistock-resurrected 18th-century patter employed in attempting to recruit individuals to his enterprises.

“Primary materials”-oriented forms of Third World nationalism have been one expression of intensive “neo-colonialist” counterinsurgency tactics. In general, of course, the physiocratic and mercantilist outlook tend to arise within the Third World autochthonously, mediated by a stagnant agriculture and by the situation of a “Western”-cultured petit-bourgeois governing stratum immediately resting upon a relatively undeveloped political-economic basis. In the same vein, it is historical fact

that 19th-century capitalist development temporarily eradicated the metaphysical physiocratic and mercantilist views in consequence of the impact of the industrial revolution’s demonstration that technological-productive development, not primarily materials as such were the actual basis for the proliferation of wealth. The denial of genuine development to Third World regions has merely been aggravated by a large proportion of pseudo-development. By pseudo-development we mean almost exclusive emphasis on large office buildings, hotels, and ideological monument-building occurring amidst an essentially unimproved broader political-economic and social base. These conditions admittedly provide fertile ground for propagating physiocratic and mercantilist metaphysical thinking among predominantly petit-bourgeois ruling strata in the Third World. However, as the Indonesian example of the “Berkeley Mafia” attests, bankrupt physiocratic and mercantilist ideologies have been not only deliberately but intensively cultivated among educated Third World strata, substantially through the aid of the quackademic political-economic ideologues of those Anglo-American universities which function as principal centers for training future Third World governing strata.

This is a significant aspect of the general RAND-Tavistock “Zero Growth” ideological campaign to eradicate the longstanding belief in the idea of progress from the thinking of educated strata in the U.S. and Great Britain in particular, and to spread the filthy mass-genocidal ideology of Zero Growth through every UN agency which Rockefeller and his allies have been able to buy (e.g., the Economic and Social Council).

The fact of the matter is that Europe and North America were able to impose colonialism and imperialism upon the southern regions of the world precisely because primary resources in and of themselves do not represent wealth. The power of the advanced capitalist sector was essentially located in the relatively more cultured labor force and the associated industrial technology which were the means for transforming mere primary resources into wealth. More profoundly, these resources were a form of wealth only because they were wealth for an advancing industrial technology based on the advanced capitalist sector.

The principle historic issue of colonialism and imperialism is not that it extracted primary resources from the southern regions of the globe, but that in this process it failed to develop the quality of agriculture and an industrial labor force toward levels comparable to those in the advanced sector.

The unfortunately rather commonplace folly, to the effect that the Third World could redress the past by high prices for primary materials, would lead in practice to a mass-genocidal scale of deeper misery in the developing sector. The development of the productive (wealth-creating) powers of the developing sector's populations demands a massive infusion of especially capital goods from the industrial capacities of the advanced sector. At present, the rates of output in the advanced sector are insufficient to satisfy developing-sector requirements. Artificially high primary materials prices, especially under present conditions of world capitalist depression, merely aggravate the fall in rate of utilized industrial capacities. For example, pegging oil prices to a basket of industrial commodities is pure political-economic insanity, bringing inevitable economic disaster upon any oil exporting nation foolish enough to be lured into such pathetic agreements.

What the Third World requires is the ability to create wealth through massive infusions of advancing industrial technology. Unless this development reaches a level which exceeds present tendencies for collapse of Third World agricultural and industrial output rates per capita—that is, industrial development above a critical minimal value—even positive forms of industrial assistance are an inadequate, hence futile gesture in the right direction. The advanced sector is presently not geared up to meet that minimal level. Consequently, any wild-eyed mercantilist gimmicks aimed at redistributing existing world income must only worsen the situation throughout the Third World.

This means that insofar as raw materials are concerned, the prices should be set at levels which provide no margin of "cheap labor" advantage for extraction in the developing rather than developed sector. Prices should be set no higher than that, at the risk of disrupting commodity relations of world production. However, this also means that such agreements on pricing of primary resources must be inextricably tied to commitments by the advanced sector to increase its gross levels of output to the scale of exportable social surplus sufficient to meet Third World development requirements, and that the intermediate and long-term inter-sectoral imbalances generated by such export programs must be in the form of credit or outright development grants.

Without a massive expansion of advanced sector industrial output, especially for agricultural and industrial means of production, there is no hope for the development of the Third World. That expanded output and intermediate and long-term credits and grants arrange-

ments for its Third World consumption must be the kernel of all inter-sectoral treaty-agreements related to the International Development Bank operations.

The fallacy of physiocratic view, including identification of the absolute disproof of that thesis, is elaborated in *Dialectical Economics*, and therefore the development of that argument afresh here is not necessary at this time.¹

What must again be emphasized is this. There is no basis in sane reasoning for the argument that the Third World could acquire sufficient capital from sales of high-priced primary materials to accomplish effective Third World development. Without drastic increases in Third World rates of social-reproductivity, increases impossible without massive (trillions of dollars) industrial investment from the advanced sector over a 10–15-year term, the Third World population faces a mass-genocidal depletion of its population by a combination of hunger and epidemics. The case of the attempt to increase government tax-revenues in the nations of the Sahel is exemplary—it was that fiscal policy which caused the Sahel drought. If the Third World attempted to blackmail the depression-ridden advanced sector with primary materials prices sufficient to command the necessary capital, the depression would only worsen, and the Third World's situation become far worse than at lower primary materials prices!

There is only one solution—as the case of populous India exemplifies. A massive expansion of the scale of production in the industrialized sector, to provide sufficient rates of capital infusion into the developing sector to transform its populations into a modern wealth-creating social force. The parameters of treaty agreements we have identified—shifting population characteristics, rising productive output rates—are the only sane basis for Third World policies.

This approach is defined in terms of projects. The outlined development projects for the Rio de la Plata, the Sahel, the Indian subcontinent, the Fertile Crescent, and the Andes "cap" are exemplary. The progress goals of these and other projects, as translatable into shifts in population and productive output parameters, are immediately translatable into forms of the expression, $S/(C+V)$, and in those forms provide an objective basis for assessing economic performance for purposes of evaluating accumulated credit issued through the International Development Bank.

1. *Dialectical Economics: An Introduction to Marxist Political Economy*, by Lyn Marcus (Lyndon H. LaRouche, Jr.). D.C. Heath & Co., Lexington, Massachusetts, 1975.

Ten Principles of a New International Security and Development Architecture

by Helga Zepp-LaRouche

Helga Zepp-LaRouche at the Nov. 22, 2022 Schiller Institute conference, “Stop the Danger of Nuclear War Now; Third Seminar of Political and Social Leaders of the World,” offered [the following ten principles](#), upon which a new global security and development architecture could be founded. She added in her Nov. 24 webcast, “These ideas are meant to be food for thought and a dialogue among all people concerned to find a basis for a world order guaranteeing the durable existence of the human species.”

The new paradigm which will be characteristic of the new epoch, and towards which the new global security and development architecture must be directed, therefore, must eliminate the concept of oligarchism for good, and proceed to organize the political order in such a way, that the true character of humanity as the creative species can be realized. Zepp-LaRouche explained:

Therefore, I suggest that the following principles must be discussed and if agreed upon be realized. These ideas are meant to be food for thought and a dialogue among all people concerned to find a basis for a world order guaranteeing the durable existence of the human species.

First

The new International Security and Development Architecture must be a partnership of perfectly sovereign nation states, which is based on the Five Principles of Peaceful Coexistence and the UN Charter.

Second

The absolute priority must be to alleviate poverty in every nation on the planet, which is easily possible, if the existing technologies are being used for the benefit of the common good.

Third

The life expectancy of all people living must be prolonged to the fullest potential by creating modern health systems in every country on the planet. This is also the only way how the present and future potential pandemics can be overcome or be prevented.

Fourth

Since mankind is the only creative species known so far in the universe, and given the fact that human creativity is the only source of wealth through the potentially limitless discovery of new universal principles, one of the main aims of the new International Security and Development Architecture must be providing access to universal education for every child and adult person living. The true nature of man is to become a beautiful soul, as Friedrich Schiller discusses this, and the only person who can fulfill that condition is the genius.

Fifth

The international financial system must be reorganized, so that it can provide productive credits to accomplish these aims. A reference point can be the original Bretton Woods system, as Franklin D. Roosevelt intended it, but was never implemented due to his untimely death, and the Four Laws proposed by Lyndon LaRouche. The primary aim of such a new credit system must be to increase dramatically the living standard of especially the nations of the Global South and of the poor in the Global North.

Sixth

The new economic order must be focused on creating the conditions for modern industries and agriculture, starting with the infrastructural development of all continents to eventually be connected by tunnels and bridges to become a World Land-Bridge.

Seventh

The new global security architecture must eliminate the concept of geopolitics by ending the division of the world into blocs. The security concerns of every sovereign nation must be taken into account. Nuclear weapons and other weapons of mass destruction must be immediately banned. Through international cooperation, the means must be developed to make nuclear weapons technologically obsolete, as it was originally intended by the proposal which became known as the SDI, suggested

by LaRouche and made as an offer to the Soviet Union by President Reagan.

Eighth

In former times, one civilization at one corner of the world could go under, and the rest of the world would only find out years later, due to the length of distances and the time needed for travel. Now, for the first time, because of nuclear weapons, pandemics, the internet, and other global effects, mankind is sitting in one boat. Therefore, a solution to the existential threat to humanity cannot be found with the help of secondary or partial arrangements, but the solution must be found on the level of that higher One, which is more powerful than the Many. It requires the thinking on the level of *Coincidentia Oppositorum*, the Coincidence of Opposites, of Nicholas of Cusa.

Ninth

In order to overcome the conflicts arising out of quarreling opinions, which is how empires have maintained control over the underlings, the economic, social and political order has to be brought into cohesion with the lawfulness of the physical universe. In European philosophy this was discussed as the being in character with natural law, in Indian philosophy as cosmology,

and in other cultures appropriate notions can be found. Modern sciences like space science, biophysics or thermonuclear fusion science will increase the knowledge of mankind about this lawfulness continuously. A similar cohesion can be found in the great works of classical art in different cultures.

Tenth

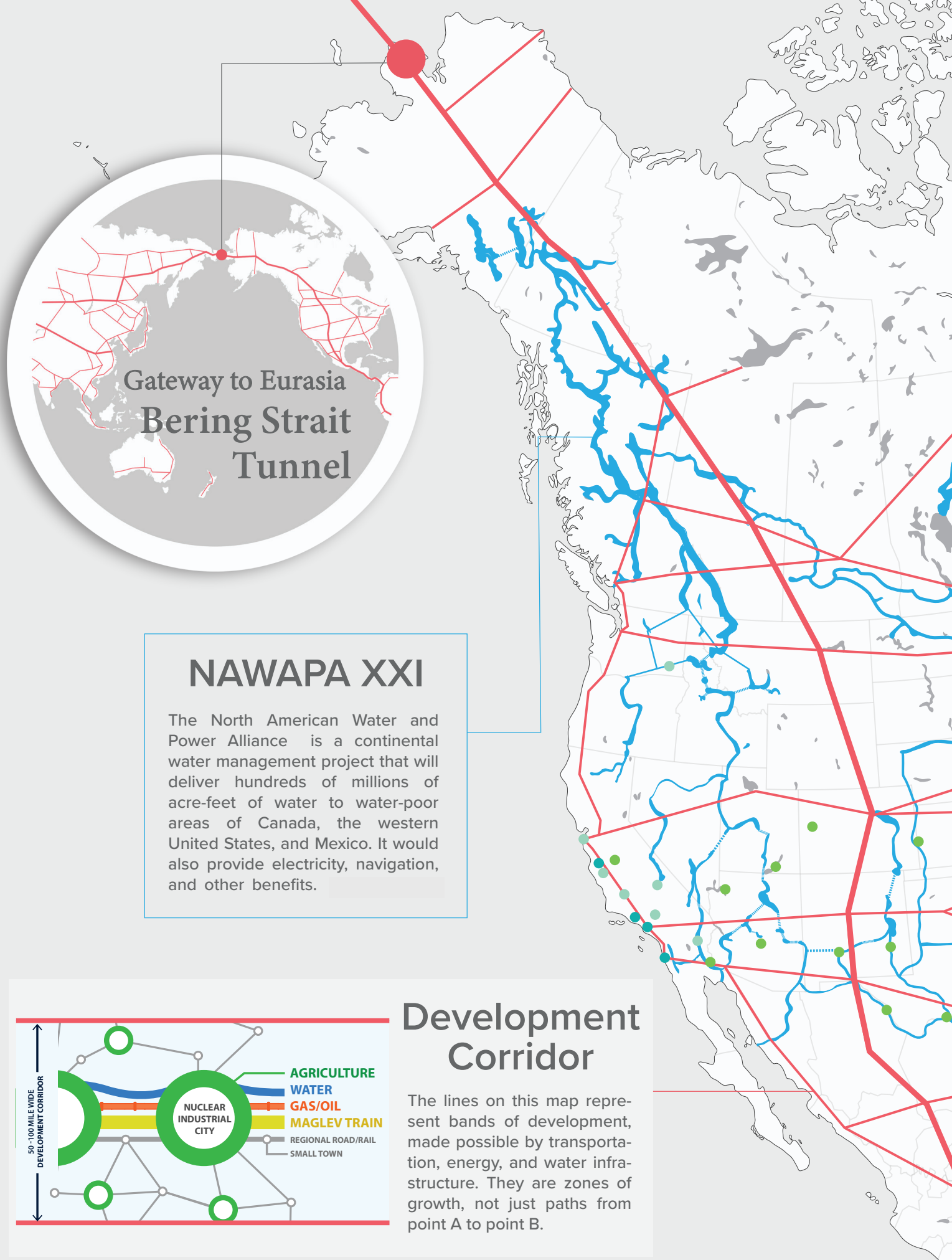
The basic assumption for the new paradigm is, that man is fundamentally good and capable to infinitely perfect the creativity of his mind and the beauty of his soul, and being the most advanced geological force in the universe, which proves that the lawfulness of the mind and that of the physical universe are in correspondence and cohesion, and that all evil is the result of a lack of development, and therefore can be overcome.

A new world economic order is emerging, involving the vast majority of the countries of the Global South. The European nations and the U.S. must not fight this effort, but by joining hands with the developing countries, cooperate to shape the next epoch of the development of the human species to become a renaissance of the highest and most noble expressions of creativity!

Let us therefore create an international movement of World Citizens, who work together to shape the next phase in the evolution of mankind, the new epoch! World Citizens of all countries, unite!



Helga Zepp-LaRouche first offered [these ten principles](#) for discussion at the November 22, 2022 Schiller Institute conference "[Stop the Danger of Nuclear War Now; Third Seminar of Political and Social Leaders of the World.](#)"



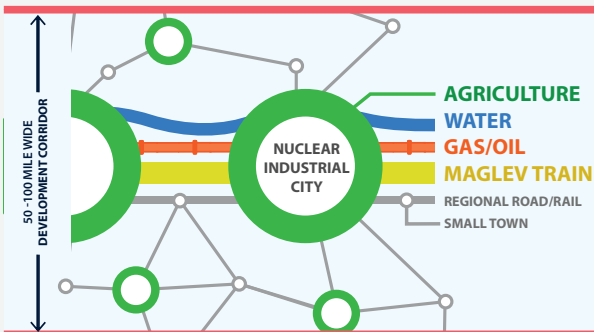
Gateway to Eurasia
Bering Strait
Tunnel

NAWAPA XXI

The North American Water and Power Alliance is a continental water management project that will deliver hundreds of millions of acre-feet of water to water-poor areas of Canada, the western United States, and Mexico. It would also provide electricity, navigation, and other benefits.

Development Corridor

The lines on this map represent bands of development, made possible by transportation, energy, and water infrastructure. They are zones of growth, not just paths from point A to point B.



Economic Miracle

on the New Silk Road




Reindustrialize!

Detroit and other formerly booming industrial centers will be put to work with retooled manufacturing facilities, producing components for high speed rail, nuclear power plants, and everything needed for the construction of new cities. Programs similar to FDR's Civilian Conservation Corps could serve as the entry-point training programs for youth, turning them into valuable members of the skilled labor force.



The Nuclear Economy

Even before the completion of a full NAWAPA XXI system, we can drastically increase the productivity of our lands and cities through the mass production of dual-purpose fission reactors which will both produce electricity and desalinate seawater, groundwater, wastewater, and rivers. The map shows proposed locations for 42 nuclear desalination plants.

-  Agricultural Waste Water Recycling
-  River Salinity Removal
-  Municipal/Industrial use, and Salt Water Intrusion



Joint Space Missions— The Key to World Prosperity and World Peace

by Dennis Speed

A few hours before India became the first country in the world to successfully land a spacecraft near the southern pole of the Moon, its Prime Minister, Narendra Modi, proposed that the newly expanded BRICS group of member nations should form a joint committee on space discovery and mission coordination. “We are already working on the BRICS satellite constellation. Taking it a step further, we can consider creating a BRICS space-exploration consortium. Under this, we can work for global good in areas like space research [and] weather monitoring,” Modi said.

Moments after the successful landing of the Chandrayaan-3 lunar probe and its Pragyan rover on August 23, Modi, addressing the proud, excited staff of the Indian Space Research Organization (ISRO), said, “This success belongs to all of humanity, and it will help moon missions by other countries in the future. I’m confident that all countries of the world, including those from the Global South, are capable of capturing success. We can all aspire to the moon and beyond.”

That large step for India implies an even larger step for mankind. It points toward the final end of colonial domination of Asia, Africa, and Ibero-America by the usurious Anglo-American financial system, including the practices of the International Monetary Fund and World Bank. Nations that wield the technology production capacities required for advanced space exploration, are the only truly free nations on the planet. They have what are called “full-set” industrial capacities, including machine-tool facilities—machines that build machines—that can replicate whole new branches of manufacturing, transforming an economy at will. Space technologies stand at the forefront of creative engineering and industrial design, generating spin-off technologies at a more rapid rate than any other field.

Only the sharing of such technologies with developing nations by relatively technologically advanced nations, including “former” colonial powers, would constitute a just, equitable exchange for raw materials, precious metals, and strategic minerals extracted from those still-struggling countries today—not money. Further, today, next-generation development of full-set industry includes frontier investigations into high-energy-density

processes, such as the thermonuclear fusion technology presently underway in China. China, and all countries’ advanced space programs, look forward to the day when helium-3, a source for powering future fusion reactors, will be mined on the Moon. An immediate and intermediate rapid expansion in new-design nuclear power plant production, including small modular reactors (SMR), can position the world, truly freed from the colonialist “mind-set” and “money set,” to carry out a 15- to 20-year crash program of optimized fossil fuel use, transitioning to “controlled thermonuclear reactions” by well before the end of this century.

“If, as is necessary for global development, the developing nations exploit their petroleum, natural gas, coal, and mineral raw materials resources to the extent required for industrial expansion in both the industrialized and developing sectors, how shall we determine both the price of those resources and the compensation for the implied depletion of such assets?” asked economist and statesman Lyndon LaRouche. His answer: Without a “brute force” commitment to development of CTR [Controlled Thermonuclear Reactions] technology, there is no price level or forward depletion compensation which could be considered “equitable.” Not monetarist manipulations, or “redistribution of wealth,” but real power transfer, in the form of frontier high-energy-density technologies that allow Africa/South America/Asia to leapfrog centuries of suppression, corruption, and war.

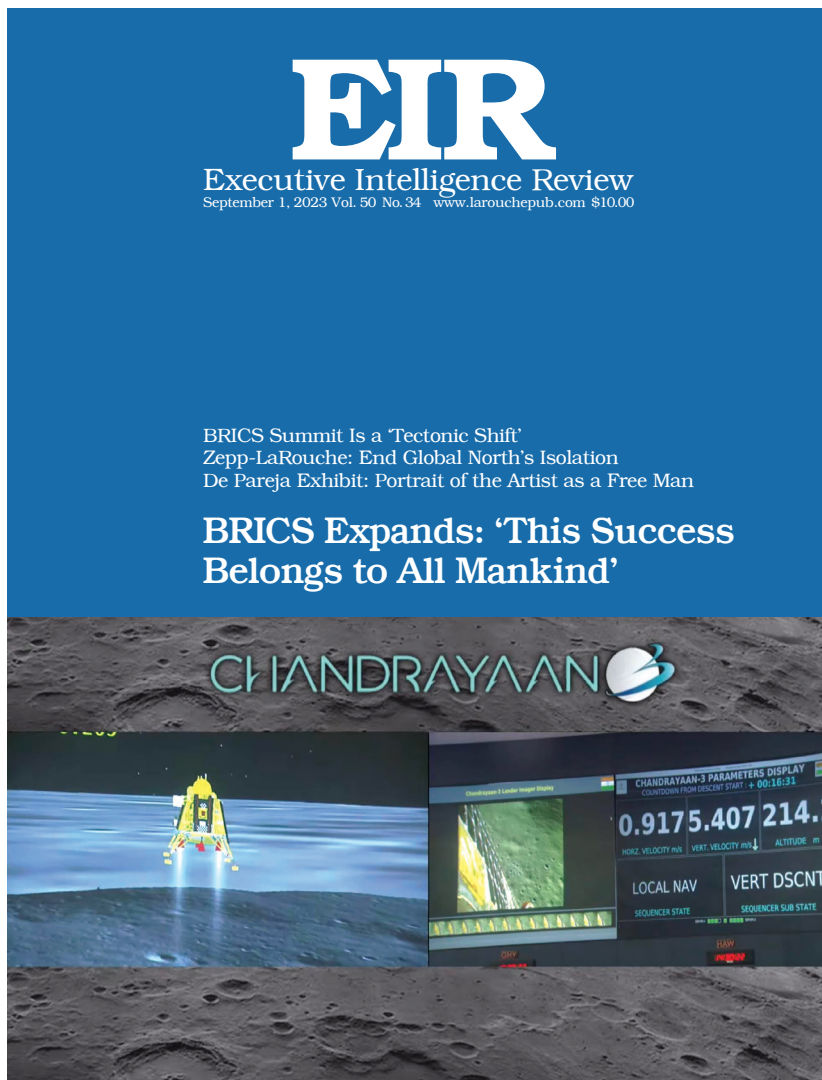
That is the “anti-colonialist” banking required for the BRICS combination, and indeed for the world, to truly leave behind the criminal practices of the hopelessly bankrupt Ponzi scheme that is the prevailing, failing money system. Not commodities for commodities, or commodities for debt payment, but commodities for technology—capital-intensive, high-energy-dense technology. As New Development Bank president and former President of Brazil Dilma Rousseff said on her arrival in Johannesburg, “We repudiate any kind of conditionality. Often a loan is given upon the condition that certain policies are carried out. We don’t do that. We respect the policies of each country.... We’ll transform ourselves into an important bank for developing coun-

tries and emerging markets. Our focus has to be that: a bank made by developing countries for themselves.”

Some neoliberal (and neoconservative) imperialists were not amused. British politician Nigel Farage was downright apoplectic about India’s space triumph. “As they spend their money on space probes, as they spend their money on the military, they spend their money on nuclear weapons, still half of the country lives below the poverty line.” Indian journalist Palki Swarna replied: “It may have slipped [Mr. Farage’s] notice that India is the world’s fifth largest economy. It is, in fact, ahead of his country, the United Kingdom. But it seems he can’t get rid of his colonial mindset. How can poor India have aspirations? How can a former colony reach the Moon before the so-called Great Britain?”

The former colonies can reach the Moon by choosing

to do so. “We choose to go to the Moon...and to do these other things, not because they are easy, but because they are hard, because that goal will serve to mobilize and measure the best of our energies and skills, because that challenge is one that we are willing to accept, one that we are unwilling to postpone, and one that we intend to win, and the others, too.” Those words of President John F. Kennedy should be repeated to his own nation, the United States, which should join the BRICS in space exploration, in the same spirit as JFK’s September 20, 1963, proposal for a joint Soviet Union/United States mission to the Moon. America carried out the first successful anti-colonial revolution in history. Now America should join the BRICS nations too, and through the joint exploration of space and the establishment of full-set economies at home, end colonialism forever



Join The Schiller Institute!

India's Chandrayaan-3 spacecraft successfully landed at the Moon's South Pole for the first time in history. Now, the BRICS-Plus nations have established joint collaboration in space discovery and coordination. The United States should take a page from President John F. Kennedy, who reversed his policy of space competition with the Soviet Union and proposed a joint Russia-U.S. trip to the Moon, September 20, 1963.

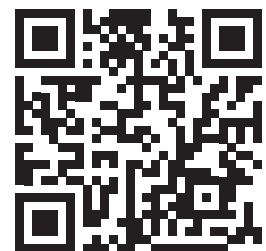
America should join the BRICS in space!



Finally, in a field where the United States and the Soviet Union have a special capacity—in the field of space—there is room for new cooperation, for further joint efforts in the regulation and exploration of space. I include among these possibilities a joint expedition to the moon. Space offers no problems of sovereignty... Why, therefore, should man's first flight to the moon be a matter of national competition? Why should the United States and the Soviet Union, in preparing for such expeditions, become involved in immense duplications of research, construction, and expenditure? Surely we should explore whether the scientists and astronauts of our two countries—indeed of all the world—cannot work together in the conquest of space, sending someday in this decade to the moon not the representatives of a single nation, but the representatives of all of our countries.

—President John F. Kennedy, *Speech to the United Nations, September 20, 1963*

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