

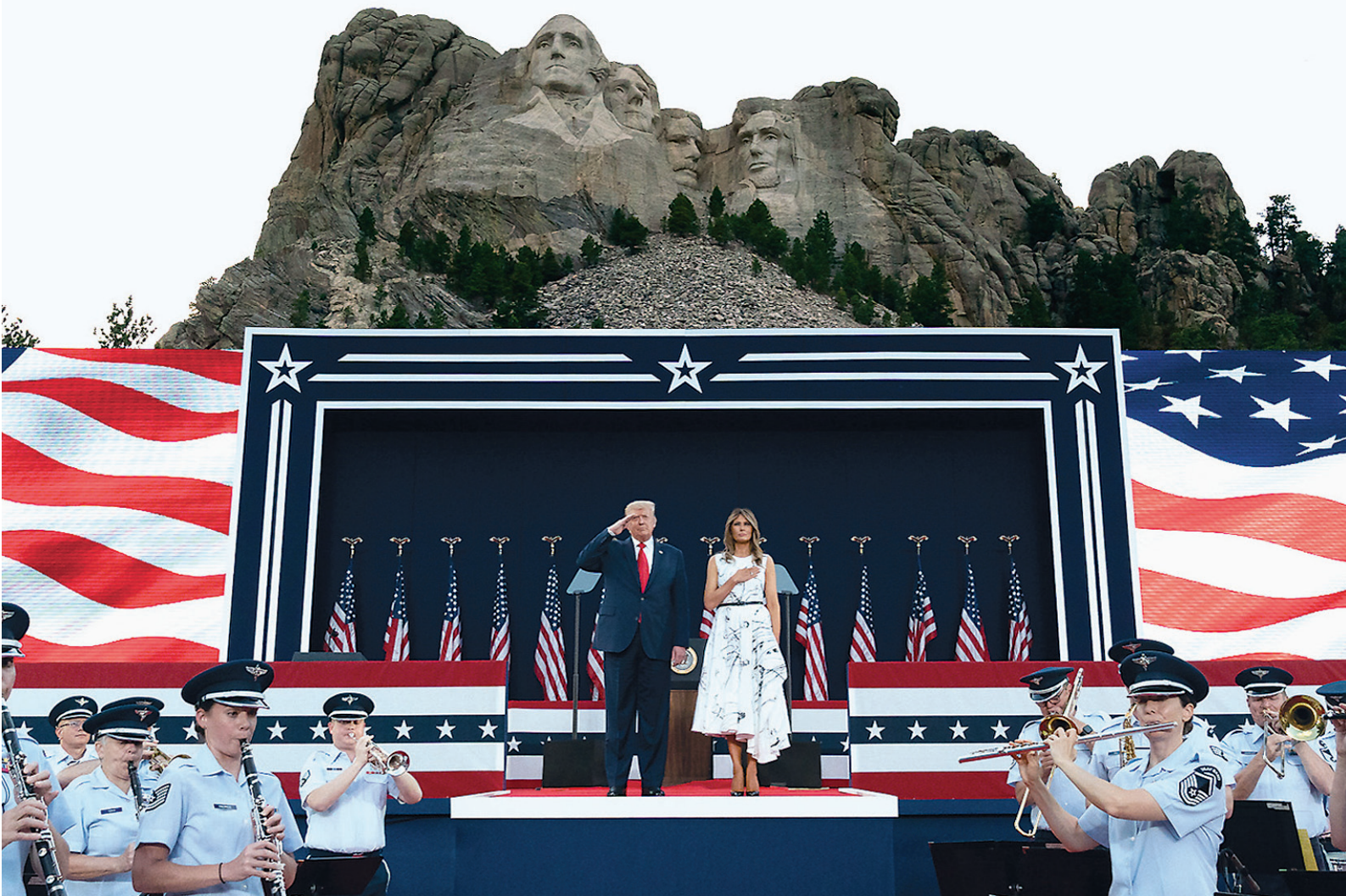
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Cover This Week

President Donald Trump and First Lady Melania Trump at a Trump campaign rally at the Mount Rushmore National Memorial, in Keystone, South Dakota, July 3, 2020.



White House/Andrea Hanks

PATRIOT AND WORLD CITIZEN

I. LaRouche Defines the Path

3 Crucial Strategic Importance of Creating the Right Cultural Paradigm Shift Now

by Lyndon H. LaRouche, Jr.
January 18, 1997

12 The Challenge of July Fourth

by Mike Steger

15 Lyndon LaRouche Must Be Exonerated Now!

by Dr. Chandra Muzaffar

II. Scientific Revolutions Will Shape the Future

16 The Deep Space Mission that Might Trigger a Multidisciplinary Scientific Revolution

by Judy Hodgkiss

23 South Africa: Nuclear Power Or Bust!

by David Cherry and Ramasimong Phillip Tsokolibane

28 You Can't Fight the Pandemic, Or Rebuild the Economy Without Power—Nuclear Power

by Paul Gallagher

III. World Economic Recovery

Schiller Institute Conference
on the Internet
June 27, 2020

Will Humanity Prosper or Perish? The Future Demands a 'Four-Power' Summit Now

PANEL 2

Why a 1.5 Billion Productive Jobs
Program Can End War, Famine,
Poverty and Disease

35 How Food Production Can Unite the World

by Jacques Cheminade

39 Prosper or Perish: An Introduction to the Geopolitics of Hunger and Poverty

by Diogène Senny

41 South America on the New Multipolar Road

by Walter Formento

42 Returning the U.S. Work Force to A Culture of Scientific Progress

by Mark Sweazy

44 The Caribbean's True Importance in the Making and Re-Making of the Modern Global Economy

by Kirk Meighoo

46 An Agro-Industrial Scientific Renaissance: The Staff of Life

by Robert Baker

47 Food Unites People Around the Planet

by Michael Callicrate

50 Let Us Return to the Best Moments of the U.S.-Mexico Relationship

by Alicia Díaz Brown

52 Discussion: Conference Panel 2

I. LaRouche Defines the Path

January 18, 1997

Crucial Strategic Importance of Creating The Right Cultural Paradigm Shift Now

by Lyndon H. LaRouche, Jr.

The following is an edited transcript of a briefing, given by Lyndon LaRouche to his Intelligence Staff on Jan. 18, 1997. It is published here for the first time.

We have to really get rid of the ideas of “business cycles,” and people who try to explain things in terms of business cycles and how they’re manipulated. It doesn’t work that way, but that’s what they teach, and we’ve got to get rid of that.

Our job is this. We must win decisive elements of the U.S. government around to our emergency policy perspective, and that, with sufficient comprehension of the policy, to implement it efficiently. Not simply to follow our prescription, but to implement it, in their own minds, in their own way, efficiently, understanding what is valid and what is not.

Either we do that, as in the case of trying to stop this holocaust in Sudan, which has been launched by the British; either we get the United States government to sabotage the British war against Sudan and against Africa in general, or Africa’s gone. Either we get the United States to change its parameters of policymaking in the way we indicated, that is, a cultural paradigm shift in policymaking, away from what the trend has been for the past thirty years, or else the entire planet, before the end of the century, will have been plunged into a global new dark age, far worse than that which seized Europe during the Fourteenth Century.

Therefore, our priorities are not what some people think they would like to cover, or what they think are issues they would like to touch. Everything has to be

coordinated, as I’ve said before, in the way that Lazare Carnot fought against Robespierre on French military policy in the relevant period. Everything must be subordinated to a highly centralized intelligence and editorial program, which is focused on the crucial issues which will shape the history of mankind in this period. And, everything else will take a back seat. *Because there are certain things which we must absolutely cover, and cover in a certain manner, from a certain standpoint.* Otherwise, we are being impotent.

Without us, without our effective intervention, and particularly on the policies of the United States government; without our effective intervention here, you can write off civilization for 50 years or more to come. You can write off, also, about 80 percent of the world’s population, and you will have a halving or greater of the life expectancy of people in most parts of this planet.

So, we have to be deadly serious, as in fighting a war for the mortal existence of humanity. Now, humanity will survive this crisis if the worst happens—at least, I believe so. We’ve seen comparable things, if not as spectacular, in former history and prehistory. Most cultures—and this is important to emphasize—most cultures of this planet collapsed into relative dark ages, unless they were simply taken over, because those cultures had become, had reached a point of *in extremis* and a quality of moral unfitness to survive.

For example, the Aztec culture. Why’d it go? Because of Cortés? No. It went, because it was no longer morally fit to exist. And, the first positive factor which

had come along as a catalyst to bring about the collapse of the Aztec Montezuma rule, and free the Indians of Mexico from this terrible oppressor, this evil oppressor, the Aztecs, the Aztec culture, was going to succeed. And, that's the situation with the various Mesopotamian empires, from the ancient Chaldean empires through Babylon on, through Rome, and so forth. All of these empires collapsed, because they had either lacked or had lost the moral fitness to survive.

And so, in the course of events, they underwent great depopulations, as happened beginning about the Fourth Century A.D. in Rome and west, and, later, of course, in the continued disintegration of the Byzantine Empire, its gradual contraction and destruction. And the people went through great suffering, in new dark ages, as they're called, like that of the Fourteenth Century in Europe.

And for humanity, unless we succeed in doing our job, in our purpose, the result will be there will be no civilization on this planet for the next 50 years. And most of you will have no descendants, or your relatives will have no descendants. Because in a collapse of the world population by about 80 percent, which is what is due if we don't succeed, over a period of two generations, through famine and disease and so forth, those who do survive, the 20 percent, will be mostly Yahoos, or worse. And, entire branches of the human family will disappear; and descendants of whole groups of people you know, will be non-existent. Your children will have no future, if they're young children. They won't exist. They'll die soon, before they reach full adulthood.

That is the issue. You've got to keep that clearly in mind. *We are the only agency on this planet which has the capability of turning it around.* That doesn't mean that we are *guaranteed* the ability to turn it around. We're the only one that has the *quality* needed to do the job, if we are permitted to be successful.

We have, in a sense, a line. Not a line like a political line in some hack organization. We have a cognitive conception of what the world is, and where it's going. And, that's our line, that's what we do. Anything else which interferes with that, or which is a lower priority, is pushed to one side.

1. The Issue of War vs. the British Empire

For example, the British Empire, otherwise known as the Commonwealth, has launched aggressive war on Sudan, as part of its general operation for destroying Africa, sub-Saharan Africa. It is the same British Empire, the same Commonwealth, which is responsible for the genocide in eastern Zaire; and so forth and so on.

Therefore, there is a river of blood, a river of war, between us and the British monarchy. That's the situation. And we have no margin for toleration of the British monarchy. It is now an enemy in war, and will be so treated. *The British monarchy is the mortal enemy of humanity, and must be stopped.*

This war, this aggression against Sudan, which the



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Lyndon LaRouche delivers the keynote, "The New Bretton Woods System," to the "Peace Through Development" conference sponsored by Sudan's Ministry of Culture, the Schiller Institute, and EIR, in Khartoum, Sudan, January 2001.

British openly brag about orchestrating, must be stopped. And, those in the United States who are sympathetic to the aggression against Sudan, will be treated by us as if they were traitors to the United States. We take off the gloves. As far as we're concerned, we go back, not to the UN statutes, but to the principles established at the Nuremberg war crimes trials. The British are guilty of crimes against humanity, aggressive war and genocide, which their agents are conducting under their direction. That's the game.

Those are the issues of war, and that's the way we're going to have to treat it.

Now, in the recent presentation which I made in Washington last Saturday, a week ago, I included, to-

gether with others, a series of maps. I presume that the priority is to preempt, except for the machine tool feature, is to preempt the next issue of *EIR*, with my full address on the Africa question; all of it. Don't leave out the hard lumps to the African-Americans, either. And, do that with the coverage about the declaration of war against Britain, which will be a priority, to feature that in this next issue.

This should be done under the heading "The Genocide Against Zaire," and so forth, these kinds of elements, and to lay out a declaration of war, in fact, against the British Empire, with some quotes from the British press, in which they brag about this, and British officials who brag about what they're up to.

We're fighting as war, and our priorities are not by an orderly process, where we say, "Oh, we're going to have to do it this way this week, because we already decided—" No. You scrap everything, and you move the troops around to hit the enemy on the flank. You don't say "Well, we're going to attack him on the front, because we already made up our mind." No; we shift when we have to. We don't do it irresponsibly, we don't do it chaotically. But, you know, war has broken out. Pearl Harbor has been bombed. And, now is the time to get up and react accordingly.

2. Why the Machine Tool Sector Is a Technology Driver

Now, on the machine tool series, there are three aspects I'll cover. First, the machine tool series as such; then, the question of how this bears on the theory of business cycles; and, thirdly, how this deals with the general approach of *analysis situs* in politics and the nature of human history.

These are things, as I say, and the machine tool concept is what has to be understood.

For example, Gail and others are working on collecting the evidence, which shows that the Southeast Asian Tigers were never Tigers. They were pussycats with delusions of grandeur, or alley cats with delusions



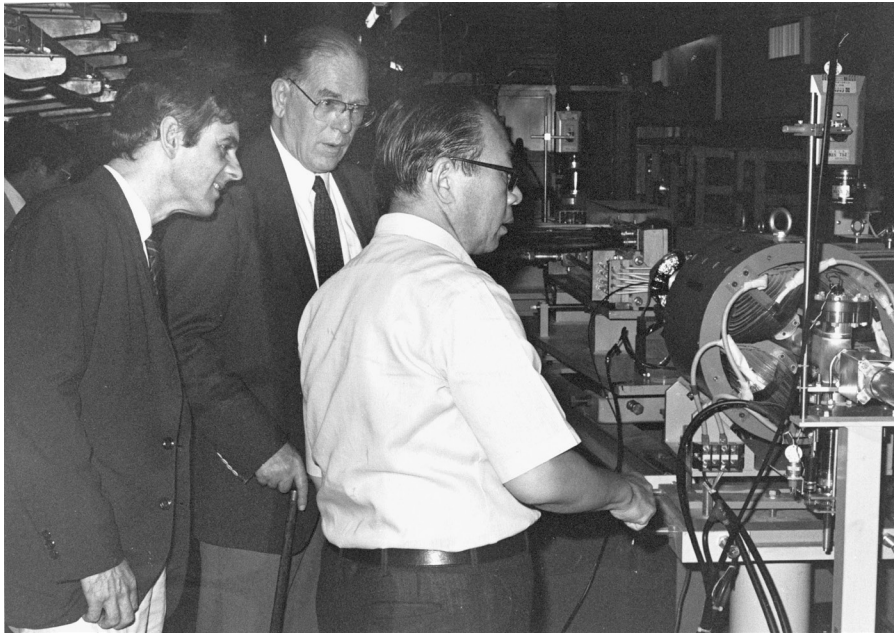
"There is a river of blood, a river of war, between us and the British monarchy," currently embodied in Queen Elizabeth II and Prince Philip.

of grandeur. There is virtually no machine tool capability in Malaysia, none in Thailand. Of course, Laos, Cambodia or Kampuchea, and Vietnam, are essentially ruined, though probably Vietnam has some elements of machine tool capability.

India is the only nation in the region which today has significant machine tool capability, that is, in South Asia and Southeast Asia. India, relative to its industrial sector, is probably more advanced in scale than China on this count. China is obviously number two after India in this respect. South Korea was significant, though it's somewhat special.

And Japan, of course, has had very significant machine tool capability, as I reported after looking at what was going on at the laser engineering laboratory in Osaka, after visiting it. I saw the performance of this stuff, the contractors who did the work for the laser engineering laboratory, which is actually based on the model we had for the cannonball target in *Fusion* magazine. They built their laboratory on that basis. The design was better than anything we could have gotten in the United States, in terms of performance time, cost estimates, quality, everything. It was tremendous.

But when you get outside of Japan—and to some degree South Korea, India, and China—there is virtually no machine tool capability in Pacific/Indian Ocean Asia. The Southeast Tigers are alley cats with pink ribbons on their throats: delusions of grandeur.



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Lyndon LaRouche (center) visiting the National Laboratory for High Energy Physics in Tsukuba City, Japan, September 12, 1984.

For example, the Philippines used to have a machine tool capability, particularly associated with the Subic Bay Naval Base. But, after the coup against Marcos, all of that capability was ripped up and destroyed. As a matter of fact, some of the heavy machinery was actually brought to the United States, and so forth; just destroyed. So, the Philippines is now dead in the water. It's a dead fish economy. It's a Bermuda Triangle economy, where these big gas deposits burping out of the ocean bed kill the fish, and sometimes even set up bubbles big enough to sink ships, or small ships at least, which is why it's got the name of the "Devil's Triangle," because of this gas bubble problem, in the Sargasso Sea area. But, it's dead.

The nearest approximation of a machine tool development, is in Indonesia. We've looked at this fairly closely. There's a fellow Habibie, who was a student, together with Erbakan, at Aachen University, over at the aeronautical engineering section. He went back to Indonesia as an engineer, and built up a special kind of aerospace industry, from the top down.

The first thing they did, is they bought an airplane, actually manufactured in Spain. And, they painted it. That was the first step in technology transfer. And, they finally worked their way up to producing some replacement parts. But, *they have no machine tool design capability of any significance, in the entire country of*

Indonesia.

So, all of Southeast Asia, the Southeast Asian Tigers, is a fraud. Of course, Singapore and Hongkong are special cases. They're not really machine tool sectors, though Hongkong has some special capabilities. It's a junk pile.

What you're looking at, to understand the so-called outsourcing industries, industrialization in Southeast Asia, as in the *maquiladoras* in northern Mexico, is you're looking at colonialism revisited.

In the old colonial period, the Dutch, and the British, and the French, and Portuguese and so forth, would develop plantation economies, and mining economies. They would find a mineral resource they wanted to loot, or they would find some crop they

wished to produce on a plantation basis, as in the rubber in Vietnam or Indochina, and so forth. And then, there'd be an urban center, such as Old Saigon, and so forth, or, as in other places, these metropolitan centers, which had a small amount of infrastructure, but largely administration. And, to the degree you had a railroad, or a road, it generally went to a plantation or a mine, and then to the coast or something. And, the country was *ruined*, actually lowered in its per capita viability, by these plantations' use of cheap labor.

Now, what's happening in the industrial age of the late Twentieth Century, is, in place of plantations, we're now outsourcing industries, from Europe and the United States. And, it's the same game played with industries, that was played with plantations in the Nineteenth Century. In the process now, you will notice that these are collapsing.

If you look at the situation, you say, "Wait a minute. In Africa, and generally today in South and Central America, which have been largely destroyed, as in South Asia, Southeast Asia, there is no machine tool capability. In China and India, there is a somewhat limited capability."

Now, you're coming back to look at the Productive Triangle proposal, by me, which Helga and others worked up into some detail. The center of the machine tool design capability of this planet, was this Productive



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Lyndon LaRouche (left) during a 1982 visit to the Escorts Tractor Plant in Faridabad, Haryana, India.

Triangle: Paris to Vienna, to Berlin, back to Paris by way of Lille. Sort of a circular triangle, a spherical triangle.

In order to get profit and growth on this planet, you must have advances in technology. There is no way in which, from an accounting standpoint, you can generate profit in an industry which is technologically stagnating, or in an economy whose industries and agriculture are of a traditional sort, or of a fixed sort, such as an industrial economy sector based on providing outsourcing on fixed technology, using cheap labor. *There is no net economic growth provided to a population, to a nation, by that method.*

The only way you get growth, is through the transmission of discoveries of physical principle, principally, by way of education of the labor force to a high standard, and by way of science through the machine tool design sector, into improving, qualitatively, products and productive processes. So it is the matching of improved product designs, based on new physical principles, and of productive processes, also reflecting new principles, with a labor force which is capable of *assimilating* those technologies, which is the only basis for growth in agriculture and industry per capita and per square kilometer. Otherwise, no growth.

If you take that into consideration, you see, first of all, throughout this planet, there is no area of potential growth of any significance, outside of Europe, North

America and Japan. None. *No area of significant contribution to global growth, except those areas.*

Why? Because these other areas lack machine tool design capability; because they lack adequate forms and quantities of education of the labor force; because they lack the conditions of life necessary to produce an educated labor force. Because they have cultural traditions which have not been reformed, which are an impediment to this kind of education, and this kind of employment, and this kind of behavior.

Therefore, in order to bring about growth in so-called developing regions of the planet, it is necessary to rebuild, very rapidly, the areas where we have a machine tool design capability, that is, to mobilize that in the same way you'd mobilize reserve forces to fight a war. Bring the reserves, the scientific reserves, the machine tool design reserves out of retirement. Gather them around what facilities we have to do this, and generate successive waves of machine tool design technology along transportation routes, like these corridors of development, into the developing areas, for the purpose of immediately stimulating growth in those areas, and, secondly, of stimulating the growth of a machine tool, *local* machine tool design capability. That's the secret of a recovery.

3. Why Business Cycles Are a Form of Mental Pathology

Now, go back, then, to the question of business cycles. All right. Now, the first modern industrialization effort, was that organized by Colbert, that is, on the basis of political economy, by Colbert in France.

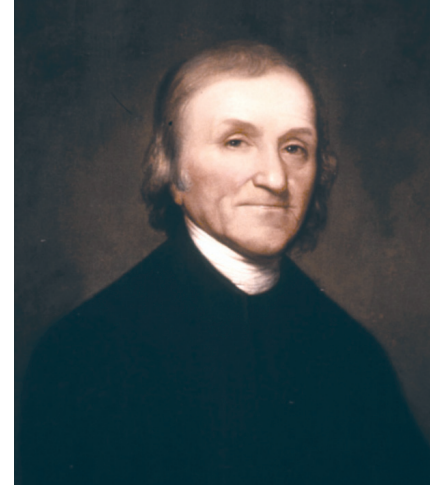
The next case of that, was in England, where it was done by Benjamin Franklin, the visiting American, who mobilized some forces to create industrial development in the Midlands of England, and, in the process, worked together with [Joseph] Priestley and with their protégé,



Painting by Philippe de Champaigne, 1655



LoC



Painting by Rembrandt Peale, c. 1800

Jean-Baptiste Colbert (left) organized the first modern industrialization effort, on the basis of political economy. Later, Benjamin Franklin (center) mobilized forces to create industrial development in the Midlands of England, working with Joseph Priestly (right).

James Watt, who they took to Paris to develop a steam engine, based on the principles of steam engine design, which had been earlier developed by Leibniz, introduced to Europe by Leibniz.

The British then pretty much shut that down, but they revived it later on. When you look at the British pattern, you find that the British *never promoted* agricultural and industrial progress in an industrial manner, except in anticipation of general wars, or major wars, we might call it, or in the conduct of those wars. At all other times, the British policy was like that of the Code of Diocletian of the Byzantine Empire: *Do not allow technological progress.*

Why? Because technological progress elevates the minds of the population; and, that's the one thing the oligarchy doesn't want. It wishes to keep people relatively stupid, as Yahoos, as Swift defines it in the visit to the Land of the Houyhnhnms, where the horse's asses do not want their servants, the Yahoos, to get too smart.

Swift does it very cleverly, in writing about poor Lemuel Gulliver, who's about to get castrated, because they were afraid he might breed, because he was too smart. It's pretty much like what Harvard University Black Studies recommends for African-Americans: Keep them as Yahoos, don't let them get cognitive education. Tell them it's bad for their genes, or something. And, that's what those black-faced comedians who represent the Harvard University Black Studies program, and its education department, represent, a bunch of black-skinned anti-black racists. They're not even black, but that's another matter.

So, business cycles have not really existed on this planet, in the form that all the textbooks say. There is no "pulsation of business cycles." Marx is wrong on this, as I pointed out; and remember the lecture series I gave, when I said he left out a consideration of technological progress. Because business cycles are, in general, the result of a policy, which is a policy of suppressing technological progress.

What happens, is you get a pulsation of technological progress, which is done for strategic reasons. That leads to the proliferation of certain industries, under military or related conditions. Then, peace breaks out, and, as we saw in 1945-46, and 1953-55, and then after 1964, especially after '66, we find that suddenly, the government *deliberately* in the name of free trade or economy or something, shuts down the kind of technological expansion, capital-intensive, energy-intensive development, which had been used under these critical strategic conditions.

In that case, what sets in, when you *don't* have high rates of technological progress, you have entropy. Now, the entropy means that, relative to the total flows, that you are engaged in attrition, or technological attrition, against assets and raw materials, and so forth. Therefore, you have a long wave resulting in looting of the per capita per square kilometer base of the economy. But, you are continuing to expand the economy, in terms of nominal values of assets, through lowering the rate of intensity of capital investment. This leads to a financial boom, which is then overtaken by the cumulative entropic effects of *not* maintaining capital-intensive, energy-

intensive, technology-intensive investment in agriculture, industry, and infrastructure. That's how it works.

So, business cycles are actually political-strategic cycles which are imposed upon the nation-state, wherever the nation-state, or the system of nation-states, is dominated by a financier-oligarchy of the Venetian type. *There is no other reason for business cycles but that: political.*

Thus, the point is, how do you avoid business cycles? There's only one way, and that is, as we see in the case of mobilizations for war, and the improvement in the economy, despite the massive military waste involved in war expenditures, that the military economy actually has been the greatest driver for economic growth in the past 400 years of human history, of European technology.

Thus, they used to say, you need a war—I didn't say it, but others did—you need a war, in order to get out of a depression or a recession. Military expenditure in the Twentieth-Century United States, for example, military expenditure was always the key to recovery, except in the related case of aerospace expenditure, which is half-military, half non-military.

Therefore, these kinds of projects, large infrastructure projects, large military industry projects, and related kinds of projects, such as space, have always been the method by which the U.S. economy recovered from a depression. This has been coupled with protectionist measures, also of a national economic security nature, which made this possible. It's been done by forced full-employment programs, directed by governments.

So the business cycle is actually a mental cycle, you might call it. The business cycle is actually a mental pathology, it's a cycle of psychosis, or a neurotic cycle, or a cycle of wild-eyed maniacs, eh? Not of any lawful process in the economy, nor of a purely administrative intervention by finance agencies in the economy.

That has to be understood, because we are now coming into what people call a business cycle. And, as [Robert] Rubin said, one of the problems here, is that in the present,— he calls it parsing. We don't parse the distinction between current expense and capital investment in the national budget. And that's one of the big fallacies of the present budget. We used to have, for example, in city governments, or the State of New York,



EIRNS/Andrew Spannaus

The shut-down of high rates of capital-intensive, energy-intensive investment results in looting the base of the economy. Shown, an abandoned steel plant in Bethlehem, Pennsylvania, 1999.

for example, or New York City, would have a capital budget which would be handled by the Board of Estimate. Then you'd have an operating budget.

So, in the old days in New York City, when there was still some element of administrative sanity in the place, you had the distinction between an operating budget, and a capital budget. Now, granted, they used to swindle the capital budget a bit, to cover operating budget expenses. That became worse in the late '60s and early 1970s. But, nonetheless, the distinction was there.

On the Federal level, we are way behind the thinking level of New York City earlier. We used to have the defense budget. The defense budget was the greatest cover for capital expansion of the U.S. economy, and for growth. Therefore, some people today say, "Well, let's have a war, so we can get this economy moving again." We've had some of those things recently.

4. Organizing People to Understand the Nature of the Crisis

All right. So therefore, in order to get people to understand the crisis, we have to explain this. Now, I've already addressed that repeatedly in a number of places, in indicating that to understand the postwar period— My experience: I came back from war. We'd come out of a depression, through a military mobilization. We'd built up the U.S. economy to a high level.

It wasn't just military expenditure. We had the potential to keep that going. *But*, with the death of Roosevelt, and silly Truman in there, under the thumb of Churchill, and so forth, they deliberately sank the U.S. economy; deliberately plunged it into a depression, in order to drop the level of growth.

And, the argument was made to the idiots on the Republican side, "Look, we have to cut off the tax rates. We have to distribute more of these earnings by cutting out the tax rates, or so forth. We have to distribute more income." And, the idea of distributing a greater share of the total revenue to the stockholders, or the bondholders, became the pretext to get the cheaply bought Republicans to tear down the program and to throw the United States into a deep recession, from 1946 until late in 1948.

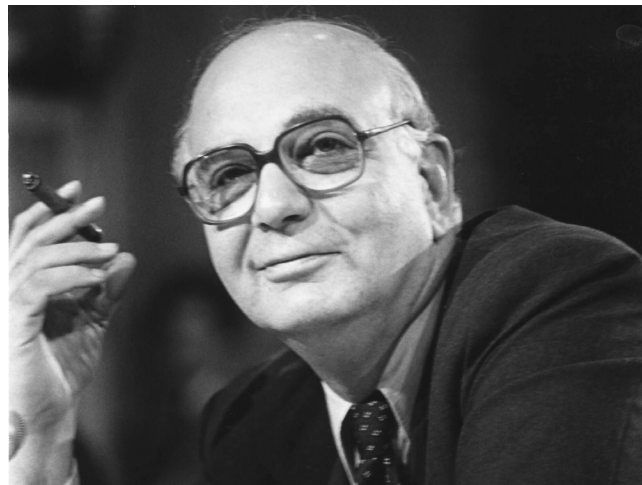
And then we had the mobilization, in late '48, 1949, for the Korean War, or that period, which was also partly stimulated by this so-called preventive nuclear war thing, which some of our Air Force and Rand Corp. freaks were heavily into at that time.

But then, 1953-54, they sank the economy again. And then Eisenhower, under Arthur Burns' influence, came in with this crazy credit policy, and, by the beginning of 1957, they sank the economy again; 1956: they shut down the space program, etc., etc. Then we continued in a deep recession, very deep, from February approximately of 1957, into 1961 under Kennedy, when Kennedy revived the economy, with the space program expansion.

Then, in the middle of the 1960s, Johnson, under pressure, particularly '66-67, effectively sank the U.S. economy again. Then, of course, again, the other operation, in 1971-72. Then, of course, the big one in 1979-80, the Volcker measures, kept sinking the economy, sinking the economy. And, the reason for doing so, was the argument that a military economy was no longer necessary, or not as necessary, and therefore we ought to go back to free trade, this and that and so forth, and that just deliberately sank the economy.

But, the issue was not the manipulation in the banking community as such. It was not financial manipulations from London. The way this was done, was by manipulating the priorities in economic policy, and the financial policy result was the result of that.

The same thing happened after World War I. We had a deep depression, 1921-22, as a result of collapsing the economy, so-called "collapsing the war industry." That was only the beginning. By 1924-25, various sectors of



EIRNS/Stuart Lewis

The high-interest-rate regime imposed by Federal Reserve Chairman Paul Volcker in 1979-80 drove the economy further down.

the economy were already collapsing, especially in agriculture; '24-25: the collapse in agriculture. By 1927, the Depression was really on, except you had a spending spree based on speculation in certain subsidized areas. So that, effectively, there was a process of disintegration from the end of World War I, through 1932-33, in which the financial crisis, the global financial crisis, was simply a reflection of the deliberate postwar collapse of the economy, and the effect of that collapse of the economy on financial and monetary relations.

So, these are the kinds of things which have to be understood today, if we're going to get our mission performed; that is, to cause government institutions and other relevant persons, leaders, to understand what the whole problem is we're dealing with today.

5. On Analysis Situs

This brings us to *analysis situs*.

As I've emphasized—and this is tough for some of you guys to accept. I mean, you hear it, you talk about it, but you don't really accept it, when push comes to shove, in terms of your personal reactions to situations around you.

This is an example of that, that especially since 1966, the United States abandoned a commitment to investment in scientific and technological progress and engaged in a cultural brainwashing of the baby boomer population as a whole (including most of you—you may be less brainwashed than most people around you,

but you were brainwashed, and you still are largely brainwashed, except when you're conscious of it, and fight it), and into shifting into a consumer-oriented society, as opposed to a production-oriented society.

Under these conditions, the efforts to induce a radical-positivist sort of pseudo-education meant that everything that had been done bad in terms of education since Paolo Sarpi, was accelerated to its limit. As a result, there is no subject taught in any university today, or, therefore, secondary school and so forth, which is not axiomatically incompetent. This includes all social studies, history, economics, of course, and, also, physical science, that physical science is under the thumb of the Euler-Lagrange tradition in mathematics, which means that physical science is intrinsically incompetent.

The worst examples of this, of course, are the really crude virtual reality models, mathematical models, which come out of places like the [F. Sherwood] Roland business, the ozone hole, or global warming, or things like that. What is presented in the name of statistics or mathematics as science, is largely hokum today. Because virtually every science education program, in every university today, or physical science, mathematical-related, is essentially hokum. Therefore, if you have a mathematical education and you believe you've been well educated, and have degrees in this and that, and so forth, that means your mind has been largely destroyed.

If you mastered social studies, yes; if you specialized in English prose style or modern languages, your brain was fried, or large parts of it.

So, the problem we have today, is that because of the influence of Sarpi, and Sarpi's notion of the individual human nature and of the individual human nature's relationship to the universe around us, which is sort of an Ockhamite version of Aristotle, that *every educational institution, leading educational institution in the world today, teaches incompetence in every professional field.*

This incompetence in these fields, reflects a deep incompetence permeating the thinking of the population as a whole. Therefore, unless you take into account the fact that the population, including yourselves, maybe less so, but *the population as a whole is clinically insane by this standard*, and has to be approached by the same way you try to bring sanity to a madman in an institution, you're not going to succeed.

And therefore, we have to understand exactly what it is, what this kind of education leaves out, which is why I'm so hard on you sometimes. *Because you must*

give up these crazy habits, which you believe are your professional competencies. And because somebody else shares your insanity, you think it's not insanity.

You know, it's like gossip. You share a mythology, and therefore, since you all agree on it, you think it's truth. But it's actually some idiocy you made up, like these guys who are talking on the phones and saying "Look, this present program in sales is not going to work, it just won't work." And, that became a self-proving hypothesis. And, when some people realized that the alternative didn't work, then they came to their senses. But, it was a stubborn determination to insist that this program couldn't work—which was done, largely, not through open discussion, but through the gossip networks. And, we'd say, "Why don't you give up your delusions, and then maybe we'll all be better off."

So, in any case, it's very important that we recognize that problem, and recognize it in ourselves, because, by recognizing it in ourselves, we can then begin to have some apprehension of what we have to deal with, in dealing with others.

You'll find that what Bruce has undertaken, and others will be undertaking in the same way, in terms of classes, will be extremely beneficial in this respect. Because the first thing you have to do, before trying to use your mind, is to get it started up. Before you want the vehicle to move, turn the engine on, you know? And, some of our people have been trying to navigate without turning their engines on; and, they don't get very far, as a result. For mysterious reasons, of course.

So therefore, the important thing we have to do, is get our members themselves stimulated, so they're more accustomed to using their rusty, and ungreased, and often neglected, cognitive powers which they have. And, if they keep those things moving, turning over every day, then the engine won't rust, and they'll be able to use it when they have to.

So therefore, we have to appreciate that clinically. So, in addition to responding to the crises which break out, which reflect, in a sense, the end of this civilization, in its present form in any case, we have to address those matters which are of most crucial importance, not only to the decision-making by people in governmental and related positions, but, also, in educating a minority, a leadership minority in the population, to take leadership over the population as a whole, from within the pores of the population itself, which is what we're doing with our reactivation, publications, and so forth program.

Okay, that's what I have to say today.

The Challenge of July Fourth

by Mike Steger

These are the edited remarks delivered by Mr. Steger to the LaRouche PAC Fireside Chat discussion of Thursday, July 2, 2020. Subheads and embedded links have been added.

Lyndon LaRouche wrote in 1973:

To move people, it is necessary to destroy their faith in the permanence of the old order, by demonstrating that we represent a force in motion which is overthrowing at least some of the old “laws of the universe” and impose “new laws” upon social relations and nature.—

The old order is now clearly dying. You can watch daily as general hysterics are presented by various self-appointed leaders, as they cling to some nostalgic sense of “the way things were.” The putrid smell of such nostalgia reeks from every corner, as an increasing majority of people in every nation face the very real repercussions of the current, failed system of human and economic culture. As Lyn [LaRouche] would often say, the time has come to change the diapers.

This presents us with two challenges: to identify the root of the current dying system, so we can effectively eradicate it—rather than proffer the perverse adaptations of one hell over another, as would a dealer to its “constituency” of addicts; and to provide an efficient means, with an emphasis on the method itself, of replacing the dying system with a viable system for the human race.

It is this challenge which has been the specific challenge of the Republic of the United States of America since even before its actual founding. This is for two reasons:

The very antagonist of our Revolution has effectively remained the global antagonist against the principles of that Revolution and its Republic to the current day, albeit with various incarnations. This British Empire is no longer simply a territorial system of control; much more so, it is a cultural and mental system of control, “a battle for the mind,” and for that reason, it has been able to prevent its own rejection and eradication. If it were not for Lyndon LaRouche and this movement, the ability today to eradicate this scourge would not be possible.

One might say the British Empire is the insidious intelligence operation against President Trump, the ongoing coup. We could point to the mainstream media’s propaganda machine, the constant din of inevitable dystopia. The perpetual war machine and military complex. The two-headed Hydra of so-called political parties. The Wall Street-London global financial racket. The corporate cartels in food, energy, education, medicine, and construction. The drug and terrorist trade. Child trafficking. The green genocide movement. All of this and more, and it’s all accurate. But would one recognize the British control in the second law of thermodynamics? Or in the loss of artistic principles in scientific discourse?

The Power of the American Presidency

Yet, perhaps even more obvious and thus more devious, is the destruction of the powers of the American Presidency. “But,” says the young anti-war activist or disillusioned baby-boomer, “the Presidency is the basis of dictatorship! Look at Bush and Obama, the Congress must be stronger to restrict their power and end their crimes!”

Lost upon the great majority of the American people, is that the American Presidency was a strategic and scientific breakthrough resulting from the most advanced period of cultural and scientific development in western civilization. Rather than being an institution rife with corruption, instead, it captures the very essence, in principle, of what LaRouche defined as the highest science of physical economy, that is, it is endowed with both the power to act upon the scientific principle of infinite potential for human growth, whether on this planet or beyond and in utter contrast with the failed second law of entropy, but also, the Presidency has been provided the artistic power through the broad consent of the American people as a whole, to create and build the future, much as Beethoven composed the future of our passions and discoveries.

It has been the British Empire’s intention to destroy the American Presidency since Washington first held the office. Were it not for the work of Hamilton, Jay, Morris, among others, such an institution would never have been created. Washington himself was personally assailed, as was Hamilton, as a tyrant by the then Jacobin mobs of Jefferson’s Democratic Party.

However, great sacrifices for such an institution



EIRNS

Michael Steger

were made going back 170 years prior to Washington's Presidency, first with the Pilgrims in 1620, and then with John Winthrop's independent Massachusetts Bay Colony in 1630. One could even say such an institution was the dying wish of Italian Renaissance leader Nicholas of Cusa in 1464.

On this Fourth of July weekend, and in honor of Cusa and all those who came before us, we should mark the 400th anniversary of the continuous development of a new kind of society. It has been a long-fought war for the right to develop, grow, prosper, and create, and to defend and empower such an institution.

After Washington, it was Lincoln who again recaptured the powers of the Presidency. At that time the British-sponsored traitors preferred public and outright dissolution of the nation, but only after their assassination plot failed prior to inauguration. Let us not forget, so did the so-called liberals in the North, like Abolitionists allied with William Lloyd Garrison, who would rather accept a slave South, as long as they could have their vacuous public moral virtues, than fight for true freedom.

Yet, beloved Lincoln brought to bear the highest artistic powers of the Presidency, and for this, he never can—nor will—be forgotten. Consider that in such a short time, barely five years, never before in the history of our Solar System, let alone our nation, has such a geological force been waged upon the surface of the Earth, than with the life of Abraham Lincoln combined with the powers of the American Presidency.

This was again captured by Franklin Roosevelt, as he not only pulled the nation out of the depths of the depression, but then also fought a world war across two oceans to end the era of colonialism, and open the era of global development.

'Build, Build, Build'

It was for this reason that British Prime Minister Boris Johnson's recent statements stand out in stark contrast to the depraved political discourse of our own nation's propagandists. FDR's role in building a new nation, and rescuing the world from fascism, has been, in our nation, over the last three decades, turned into a promotion of Green genocide rhetoric at worst, and liberal welfare programs at best, and his role in World War II is perpetually overshadowed by obsequious references to the intoxicated British imperialist Winston Churchill. See Putin's latest [article](#) for more details on the true history and cause of World War II.

This past Tuesday, Conservative Prime Minister Johnson, in a [speech](#) titled "Build Build Build," had the courage and intelligence to call for an FDR New Deal approach to address the growing economic crisis wrought by both the pandemic plus years of ineptitude. It is not necessary to parse whether Johnson will fulfill such an ambition, rather it is more important that such an ambition with such historical importance has finally been invoked, and ironically from such an unlikely location.

As we face an unprecedented global economic challenge, with decades of disregard for basic investments, combined with the British-sponsored cultural insanity, and now the pandemic, it is clear today that President Trump can also regain the powerful role of the American Presidency, as FDR had done facing the unprecedented crisis of his time.

If Trump were to capture the true spirit of the American Presidency, as Washington, Lincoln and FDR had also, then our nation, and much of the world, will prevail against the British system of war, famine, plague and corruption, let alone against the bureaucracy and political class's petulant resistance, but only by appealing to the true and higher interests of the American People.

The Immortal Legacy of Lyndon LaRouche

Thus is the immortal legacy of Lyndon LaRouche. It was LaRouche who personally carried the true powers of the American Presidency, as he saw it with FDR, and kept alive this precious idea throughout the tumultuous second half of the twentieth century. His mission to revive the true Presidency was nearly threatened with success with President Reagan, but as with many other potentially great Presidents, Reagan was nearly killed just three months into his first term in office. Clinton showed promising signs, but ultimately failed, and the last 30 years have been perhaps the most psychotic in modern history, not the least of which began with La-

Rouche's unjust incarceration in 1989, under George Bush Sr. and Robert Mueller.

Since then, Bush and Obama, in the wake of the 9/11 attacks, were complicit in the near total destruction of the powers of the American Presidency, and in so doing, threatened the very extinction of mankind. In their wake, we have been left with a bloodthirsty bureaucracy, hell bent on an absolute power to kill, surveil, starve, and squander until there is nothing left, and which rejects the voices of the American people as illegitimate inconveniences.

It is for this reason that today the American people play the most decisive role in world history. The election of what some call Joe Biden would present us with the threat of the immediate near-term extermination of the human race within days of his election, let alone inauguration. We will have ultimately empowered the most evil expression of the Anglo-Dutch liberal system in its 300 years of existence, a system of bureaucracy hell-bent on a massive police and surveillance state, green genocide through a bankers' dictatorship, and a war with Russia and China if they refuse to comply, that could leave only pity for the survivors in its wake.

It is not however only an American question. The role of FDR and the American Presidency in shaping the current era, largely through the efforts of LaRouche and his wife Helga, and our movement, is today clearly manifest, as it was with Lincoln in the 19th Century upon such nations as Germany, Russia, and Japan then.

In the 1990s, the Russian Presidency was in its first incarnation, unstable, and facing its near destruction. Again, it was Lyndon LaRouche, literally only months

after being released from prison in 1994, who in [dialogue](#) with leading Russian scientists such as Pobisk Kuznetsov, participated in meetings of the "Prezident" program, initiated by his friend Kuznetsov. Is it then surprising that President Putin would, throughout his two decades of leadership, often come to celebrate the role of FDR as a true model of the Presidency, a manifestation of the higher scientific and artistic principle of physical economy and statecraft?

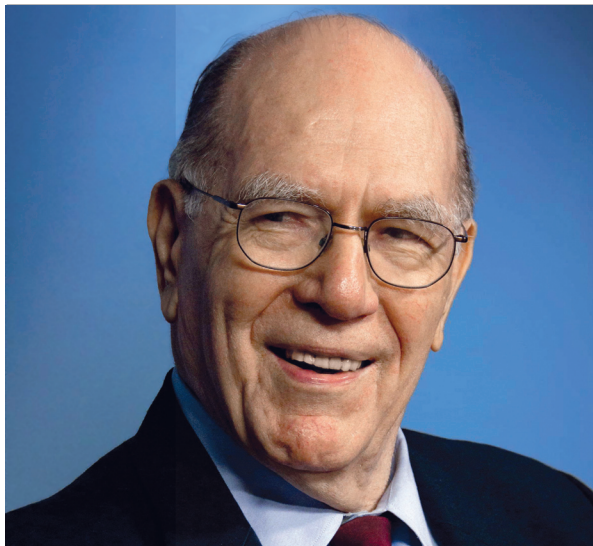
We can see similar influences upon the Presidency of China, and Xi Jinping's own unique quality of capturing the hearts and minds of the Chinese people with a mission of both national success as well as global development.

References could be made to LaRouche's work in India, Argentina, Mexico, Italy, and Malaysia, among many others.

Yet today, he would expect all of us, at this historic juncture, to find a means of uplifting our fellow Americans, and people globally, above that constant din of inevitable dystopia, and into the higher domain of scientific principle from which such evolutionary transformations of a people, empowered through the higher institution of the Presidency, are ultimately accomplished.

So, let us have some discussion and deliberations, and then let us get to work!

For the full text of President Trump's July 3 speech at Mt. Rushmore, see <https://www.whitehouse.gov/briefings-statements/remarks-president-trump-south-dakotas-2020-mount-rushmore-fireworks-celebration-keystone-south-dakota/> and for a video of that speech see <https://www.youtube.com/watch?v=mXD4zPY4Ai0>



The Jan. 27, 1989 Jailing of Lyndon LaRouche Defined an Era, Which Now Must End

[Watch](#) The LaRouche Case video

[Watch](#) the LaRouche Memorial video

[Sign](#) the **Petition** to Exonerate LaRouche at lpac.co/exonerate

Lyndon LaRouche Must Be Exonerated Now!

Dr. Chandra Muzaffar, a political scientist, Islamic scholar, and activist from Malaysia, sent this message on June 26 to the Schiller Institute. He is the President of the International Movement for a Just World (JUST).

Once again I plead for the exoneration of the late Lyndon LaRouche, Jr. His incarceration was unjust. His punishment was vicious. One hopes that Donald Trump will, through a presidential order, rescind and repudiate the injustice done to an American patriot who sought to restore some of the founding ideals of the United States of America, so that it would contribute substantially to the greater well-being of the entire human family.

As we seek Lyndon LaRouche's exoneration, we should reiterate the relevance and the significance of some of his creative, dynamic ideas. At a time when millions of Americans and people all over the world are without jobs, we must remember that he was a passionate advocate of creating millions of productive jobs in the food sector, in health care, infrastructure development and capital goods. He was a principled critic of the monetarist, speculative, anti-human capitalistic economy that had taken over the U.S. and the world. Imperialistic British elites, Lyn argued constantly, were behind this parasitic system.

His advocacy of global infrastructure development



Schiller Institute

Dr. Chandra Muzaffar

in the nineteen nineties—of roads and bridges and physical linkages—grew out of this commitment to productive domestic economies. In a sense, his global vision found expression in China's Belt Road Initiative (BRI). BRI, as the greatest infrastructure project to have emerged in recent decades, has not only the potential to transform the physical world, but also the ability to improve the standard of living of millions and millions of people on the planet.

For championing the well-being of the people, LaRouche should be regaled, not reviled.

II. Scientific Revolutions Will Shape the Future

The Deep Space Mission that Might Trigger a Multidisciplinary Scientific Revolution

by Judy Hodgkiss

President Trump insists he wants the U.S. to lead the world in scientific and technological development. He instinctively understands that the key to doing that is resuscitating and upgrading the U.S. space program.

As an example of the fundamentals of physical economy, Lyndon LaRouche frequently pointed out how John F. Kennedy's Apollo Project space mission had provided the impetus for explosive growth of the "Silicon Valley," the previously bucolic rural area near San Jose, California, which became America's high-tech center in the 1960s. LaRouche always insisted that space exploration must be the point-on-the-spear in terms of scientific R&D. If the nation's frontier missions in space are appropriately defined and fully-funded, they not only provide spin-off benefits in innovative technologies in obviously related fields, but, even more importantly, they are likely to open up entirely new fields of research of which no one had even dreamed.

This report will explore one of those previously undreamt-of theories that has been brought to life by current research in the space program. We will see how scientists from a wide array of disciplines can be inspired to think in a multidisciplinary way, not only looking to find solutions to certain questions already posed, but being inspired to imagine new questions that, earlier, they didn't even know to ask.

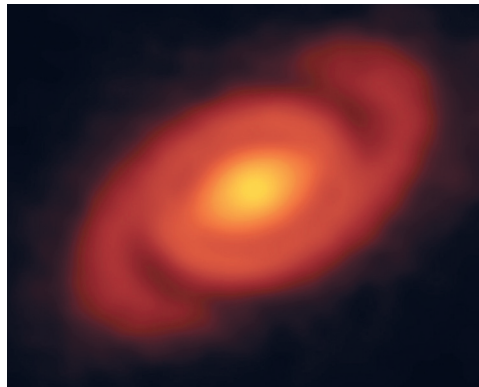
Is There a Fundamental Principle of Development in the Universe?

In 1921, Albert Einstein went beyond his relativity theory, and put forward a theory of the cosmos, what he called the concept of a "finite but unbounded" universe. In a lecture that year before the Prussian Academy of Sciences, he asked the audience to consider a new metaphor: He described the physical universe as a finite number of shadows projected from different kinds of higher-order geometries. He challenged the audience to not only imagine the unseen geometries, but to imagine novel yardsticks that could measure them. Such a universe would be bound only by the principles of development that characterized it.¹

Einstein would be delighted today to see examples of scientists in such fields as physics, chemistry, or electronics, discovering, to their amazement, that their subject matter might be best measured in a yardstick taken

from the higher order geometry of living, growing systems. We start by looking at such developments in the field of planetary science.

The science of how planets—particularly the hard, rocky planets—have coalesced from the disc of clouds of gas and dust surrounding young stars, would not



Proto-planetary disc surrounding the young stellar object, Elias 2-27, 450 light-years away.

1. See Hodgkiss, J., "The Finite but Unbounded Universe of Einstein, Planck, and LaRouche," *EIR*, February 15, 2019. https://larouchepub.com/other/2019/4607-the_finite_but_unbounded_unive.html

generally be thought of as a science known for controversies that intrigue the general public. The dry physics of gas cloud formation and dissipation, and the dynamics of solid-body particle collisions has not usually fired up the imagination of the layman

But, over the past few decades, a theory of proto-planetary formation has developed that is quite out of the ordinary; and, as we are now able to observe numerous other solar systems in the universe outside our own, theories of planetary formation are being explored with more urgency.

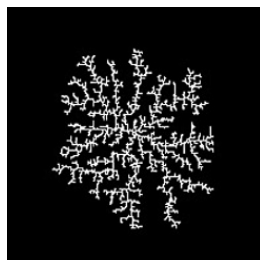
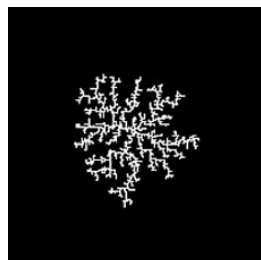
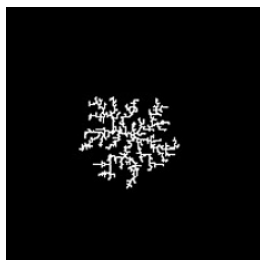
The formation of planets is not something we can directly observe. We can distinguish only the two extremes of size distribution in the materials surround-

ing other stars: We can detect young stars that have dust particles swirling within its surrounding disc-shaped gas cloud; and we can observe older stars that are surrounded by fully-formed planets. We can only hypothesize as to what occurs in the in-between stage.

One hypothesis that can be fairly assumed, is that every solid body in the gas cloud that has grown to larger than one kilometer in length or diameter (a little more than a half mile) would be subject to known gravitational effects, and the collisions between any such objects in the cloud would be governed by standard collisional dynamics, whereby larger bodies tend to absorb the smaller ones.

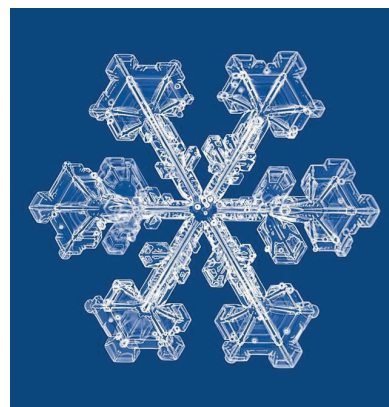
What is a Fractal?

A fractal is a rough or fragmented geometric shape that is characterized by self similarity, meaning that it can be split into parts, each of which is (at least approximately) a reduced-size copy of the whole.



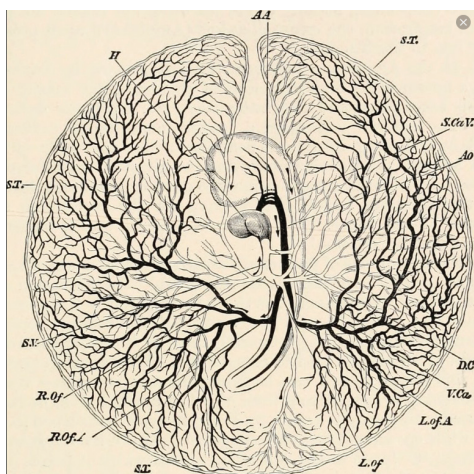
https://commons.m.wikimedia.org/wiki/File:Brownian_tree.gif#mw-jump-to-license

Three images from a simulation of a Brownian-motion fractal in three dimensions.



Kenneth G. Libbrecht

A snowflake builds in a plane.



Comparative Anatomy of Vertebrates



Pixabay/Andrew Martin

Living systems grow in three dimensions: a circulatory system branching from the heart (left), and limbs branching from a tree trunk.

But the process of aggregation of dust clusters smaller than that one kilometer has been harder to explain. The motions of such objects would be subject to what are called Brownian motion, and such random motions would be expected to produce more of a tendency for the objects to deflect or to fracture after collisions, rather than to aggregate.

The best theory to answer that question has been that of “fractal” aggregation, whereby the smaller icy dust grains would build up to the one-kilometer size by sticking to each other through a super-efficient, self-developing mechanism, similar to the manner that snowflakes build up complex icy spine structures in a plane around a small crystal core. But, in this case, the dust structure must build up in 3-D. The resulting aggregate would be a complex porous, fluffy object that expresses the maximum area-to-mass ratio.²

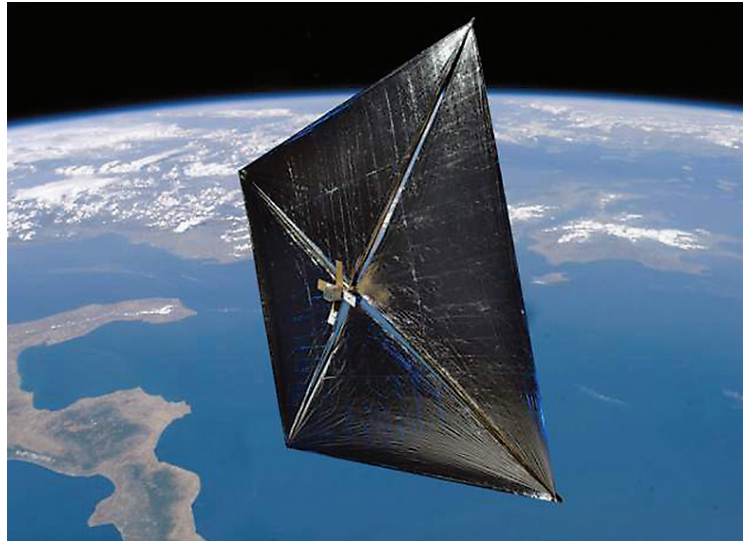
This kind of structure allows for several factors that could self-reflexively enable an extraordinary sticking capability: (1) the complex structure maximizes the options for oblique, or soft, collisions to occur; (2) the open structure provides a high collisional cross-section to maximize overall collision probabilities within the gas; and (3) the structure maximizes the “gas-grain coupling,” which allows for the separate grains in the gas to have similar velocities—again, enabling softer collisions.

But the idea that such complex, self-organizing structures might develop out of a seemingly random process of individual collisions is an unsettling thought for many physicists and mathematicians. It is a process that is much too life-like, and anti-entropic, for their notions of fixed physical phenomena.

But now, because of recent developments in the U.S. space program, this rather obscure issue of planetary formation might become a hot topic for the general public. The background is the following.

A Visitor from Another Star System

In October of 2017, the first interstellar object was observed flying through our solar system. It was named 'Oumuamua in honor of the Hawaiian observatory tracking it, and was apparently coming from the general



NASA

Artist's impression of a photon-powered sailcraft in orbit.

direction of the star, Vega.

We only got a fleeting glimpse of it as it flew by the Sun in a hyperbolic arc and shot back out towards the outer reaches of the galaxy. Recent probability calculations indicate that there are many more such objects that we should expect to find.

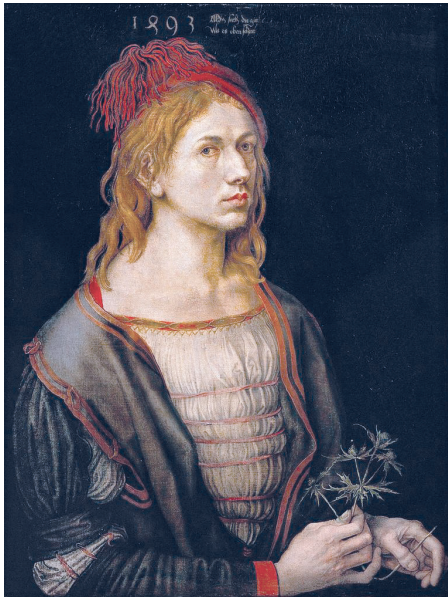
A proposal was put forward by a group of researchers at NASA, in conjunction with the Harvard Astronomy Department and several private space companies, to speed up the development of the new form of spacecraft, called “sailcraft.”³ The sailcraft is a tremendous technological innovation, which would allow for such high speeds, that, were a swarm of them positioned in orbit on alert for another interstellar interloper like 'Oumuamua to appear, these spacecraft could potentially catch up with the object and photograph, or even take a sample bite of it—presenting us with the opportunity to investigate the composition of an object from outside our solar system.

The sailcraft, itself, is propelled by an unusual power source: the radiation pressure of the Sun, i.e., by the photons from the Sun that impinge on the very thin wings attached to the tiny (loaf-of-bread size) body of the spacecraft. This radiation pressure is enough for the sailcraft, if given a gravity assist around the Sun to accelerate it further, to achieve such a high-energy trajectory that would have allowed it to catch up with 'Oumuamua with only 30-days' notice.

As the data from 'Oumuamua's visit was carefully

2. Here is an animation of a Brownian-motion fractal aggregating (baby planet being born). https://commons.m.wikimedia.org/wiki/File:Brownian_tree.gif#mw-jump-to-license

3. Turyshv, S., et al., “Exploration of the Outer Solar System with Fast and Small Sailcraft.” <https://arxiv.org/abs/2005.12336>



Albrecht Dürer

Dürer's self-portrait in 1493, about the time of his first trip to Italy. Note the resemblance to the student in the *de Barbari* painting, completed 1495.

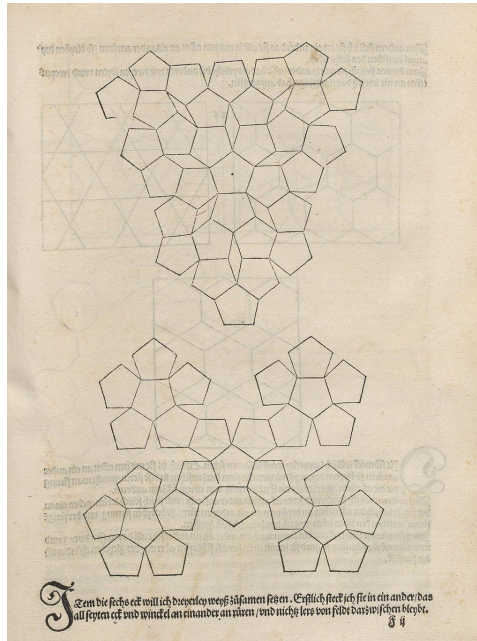
analyzed, it became clear that there was an anomaly. The object had an unexplained acceleration as it sped its way out of the solar system, an acceleration that could not be accounted for by known gravitational forces.

Avi Loeb, head of astronomy at Harvard, who had been intimately involved in the study of the photon-propelled sailcraft technology, did the calculations and, in 2018, wrote an article in which he suggested that 'Oumuamua might be a very thin artificial spacecraft, based, itself, on photon propulsion technology—and, yes, likely built by aliens!

But then, Amaya Moro-Martin, at the Space Telescope Science Institute in Baltimore, produced her study in 2019⁴ showing that it was true that all the calculations did indicate that 'Oumuamua was indeed a lightweight sailcraft, but a naturally-formed one, which had likely been expelled in our direction from some nearby young star's proto-planetary disc.



Portrait of Fra Luca Pacioli, with a young student, painted by Albrecht Dürer's friend, Jacopo de Barbari. Note the pentagon-faced dodecahedron solid sitting on the desk. The dodecahedron is one of the five Platonic Solids that Leonardo da Vinci drew for Pacioli, as illustrations for his 3-volume treatise, *The Divine Proportion*.



CC BY-SA 3.0

The Dürer pentagon fractal, from *The Painter's Manual*, 1505.

Planetesimals, Quasicrystals, and 5G Broadband

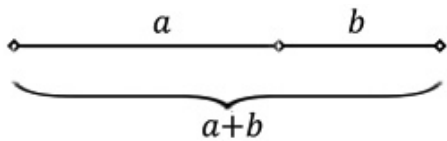
Over the past decade, there have been researchers of all kinds who have not been intimidated by the revolutionary implications of a “fractal” hypothesis.

There were some who set about to replicate the process of sticky-grain aggregation using laboratory and computer simulations, thereby testing the theory. One group, affiliated with Jawaharlal Nehru University in New Delhi, carried out an analog study in 2014, “Fractal Signatures in Analogs of Interplanetary Dust Particles.”⁵ They noted that mass spectroscopy of tiny cosmic dust aggregates in the Earth's lower

stratosphere showed them to be composed of silicates of iron, magnesium, aluminum, and calcium. The scattering of these elements indicated a tendency for them to accumulate in fluffy, loosely structured aggregations. But, it proved difficult to confirm that they were definitely fractal, though it was highly probable.

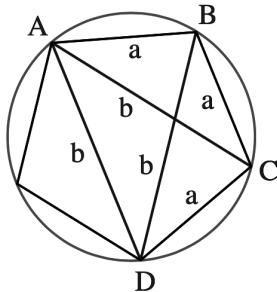
4. Moro-Martin, A., “Could 11/Oumuamua Be an Icy Fractal Aggregate?” <https://arxiv.org/abs/1902.04100>

5. Katyal, N., et al., “Fractal Signatures in Analogs of Interplanetary Dust Particles.” <https://arxiv.org/abs/1402.7132>



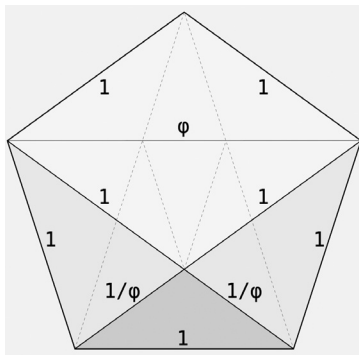
Wikimedia Commons

The golden ratio (ϕ) represented as a line divided into two segments a and b , such that the entire line is to the longer a segment as the a segment is to the shorter b segment. This line can continue to grow to infinity with those proportions, each time taking the $a+b$ as the new a .



Dicklyn

The same golden ratio is inherent in the five-fold symmetry of the pentagon (and, if the sides are doubled, the decagon). The ratio of the sides of the pentagon to its diagonals are in the golden ratio: $a+b$ is to a as a is to b .



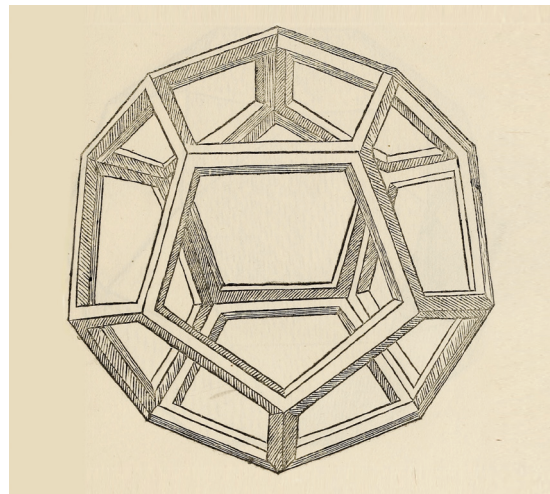
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A pentagon drawing demonstrating multiple internal golden ratio triangles that can be used individually or in combinations, to fill in gaps in growing pentagonal or decagonal tilings. Here is an animation demonstrating the principle: <https://commons.m.wikimedia.org/wiki/File:RectangleFill.gif#mw-jump-to-license>

Five-Fold Symmetry

Plane figures or solid bodies that demonstrate five-fold symmetry can be connected in a fractal combination, like the Dürer Pentagon Fractal; but they are also capable of becoming fully-packed, i.e., connecting smoothly with certain other figures/shapes in a manner where there will be no gaps or fragments in their growing structure. And these structures are distinct from the shapes of common crystal structures, even though such crystals are also fully-packed, based on their own two-fold, three-fold, four-fold, or six-fold starting unit. The common crystal will replicate its basic unit, over and over again, over a certain period. But growth involving a five-fold or 10-fold symmetry is not precisely periodic, meaning that, as these systems grow, there are always continually slight variations in the way they are connected—and that those variations, themselves, are never repeating in exactly the same way.

That is because the five-fold symmetry has an internal structure that gives rise to a ratio that is an irrational number, that is, one that cannot be expressed as the ratio of two integers, one known by the ancient Greeks as the “golden ratio,” or, during the European Renaissance, as the “divine proportion.”



CC/3.0

The 12 regular pentagonal-faced dodecahedron solid, one of the five Platonic solids, drawn by Leonard daVinci to illustrate Luca Pacioli's The Divine Proportion, 1509.

Meanwhile, in another discipline entirely, a group at Mahatma Gandhi University in Kottayam, India, in 2014 presented a paper for an IEEE (Institute of Electrical and Electronics Engineers) international conference on the application of fractal structures for building mi-

crostrip antennas for broadband connections, “Microstrip Antenna Based on Durer Pentagon Fractal Patch for Multiband Wireless Applications.”⁶ As fol-

6. Abraham, J., et al., “Microstrip Antenna Based on Durer Pentagon

low-up, this year, a group at Aditya, India's College of Engineering and Technology presented a study updating that system for 5G communications.

So, what is meant by a "Dürer Pentagon Fractal"? Although fractal antenna structures were not a new idea in 2014, the pentagon (a figure on a plane with five equal sides) structure was. And the reference to the specific pentagon fractal of the Renaissance artist Albrecht Dürer is particularly intriguing.⁷ (See box, Five-fold Symmetry.)

Perhaps these individuals in the electronics engineering field were aware of how significant the pentagonal structure was in the shake-up occurring at that time in the field of chemistry. Johns Hopkins University's Dan Shechtman had just been awarded the Nobel Prize in 2011 for his discovery of quasicrystals. The discovery had been made in 1982, but was largely ignored for decades. The quasicrystal is a type of crystal that is not supposed to exist, according to standard chemistry. Instead of having the normal crystal's fixed, repeating structure, the quasicrystal has a pentagonal/decagonal structure that allows for self-similar, but not exactly periodic replication—a growth pattern that is even closer to what occurs in a living system than our fractals.

Quasicrystals are found only in laboratory-created alloys that are produced under conditions of extreme heating, then quick cooling, and also in meteorites that have been exposed somehow to similarly extreme conditions at some point in their history.⁸

Fractal Patch for Multiband Wireless Applications." <https://ieeexplore.ieee.org/document/7033976>

7. A 1993 biography of Dürer suggests that he met with Luca Pacioli (and possibly Leonardo da Vinci) in Italy during his Italian tour of 1494, and that his Italian friend, Jacopo de Barbari, painted him as the student of Pacioli's in the famous 1495, **Portrait of Fra Luca Pacioli**. (See above.) Note in the painting, the pentagon-faced dodecahedron solid sitting on the desk. The dodecahedron is one of the five "Platonic Solids" that Leonardo da Vinci drew for Pacioli, as illustrations for his 3-volume treatise, **The Divine Proportion**.

8. Here is an interview with Dan Shechtman. <https://youtu.be/EZRTz-0MHQ4s>.



Wikimedia Commons

Medieval Islamic architectural tiling patterns. The Baghdad Caliphate of the 12th Century salvaged the Platonic writings from Greece, and later transmitted them to Europe. Here we see a detail from an interior archway in the 15th Century Ottoman Green Mosque, Bursa, Turkey, tiled with pentagons and 10-point stars.

In an hysterical reaction to Shechtman's discovery, the famous chemist, Linus Pauling, had proclaimed: "There are no quasicrystals, just quasi-scientists."

But not all scientists had rejected Shechtman's brilliant insights. Certain physicists built upon them, and carried them over into other disciplines. Physicists Peter Lu of Harvard and Paul Steinhardt of Princeton carried out an amazing study in 2007, "Decagonal and Quasicrystalline Tilings in Medieval Islamic Architecture."⁹

Although their research underplayed the importance of how the Islamic Renaissance was rooted in the ancient Greece of the Pythagoreans and Plato, the effort by these physicists to bring

Shechtman's fascinating breakthrough in crystallography over into an appreciation of a mix of art and science is admirable. It is worthwhile to spend an hour watching Peter Lu's lecture [here](#) before a Harvard audience.¹⁰

What Would a New Renaissance Look Like?

Certainly an appreciation of classical culture, as an integrated interaction of science and art, would be at the core of a new Renaissance that could pull the world out of its degenerate state.

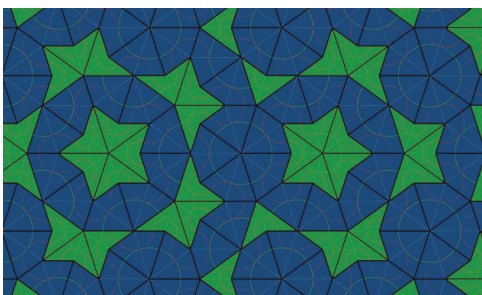
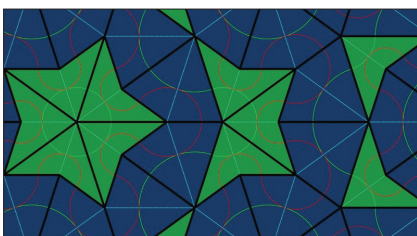
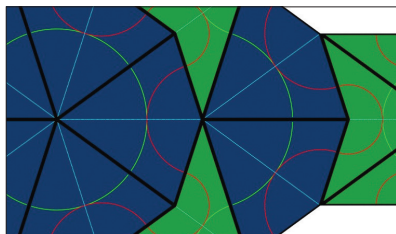
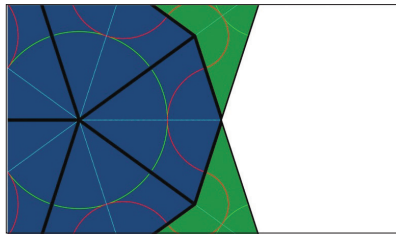
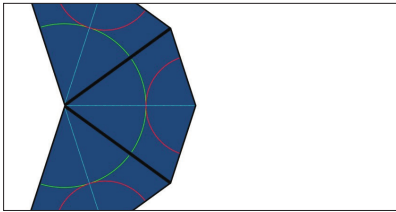
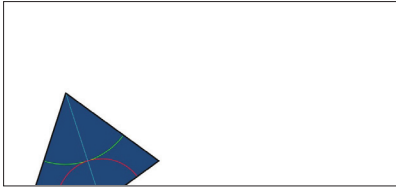
We have given a few indications here how such an appreciation can appear naturally when minds are opened up to profound ideas by investigators who dare to push the frontiers.

An upgraded and fully-funded space program is the most obvious immediate step to brute-force such developments—including especially a crash program to bring a fleet of sailcraft on line. Then we could lift the eyes of the world's young people to search the skies, looking for newly-born fluffy fractal creatures coming to visit us from far-distant places.

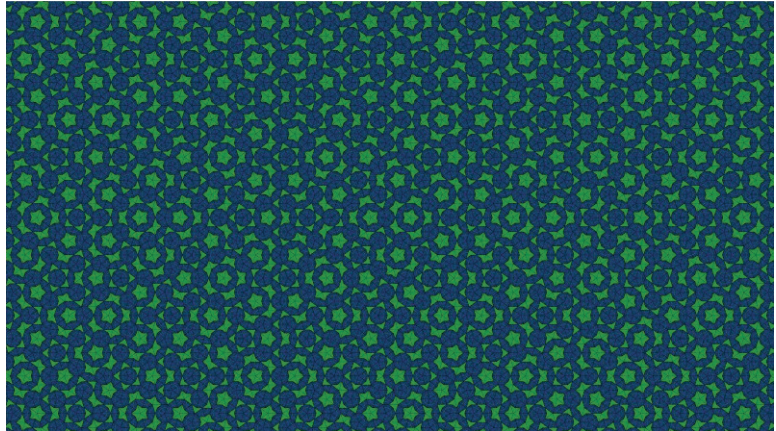
9. Lu, Peter J. and Steinhardt, Paul J., "Decagonal and Quasicrystalline Tilings in Medieval Islamic Architecture." <https://semanticscholar.org/paper/24c3a7d58dd9ca7cf14b63de313e36218329b949>

10. Peter Lu's lecture at Harvard. <https://youtu.be/rldnu9rNpH8>

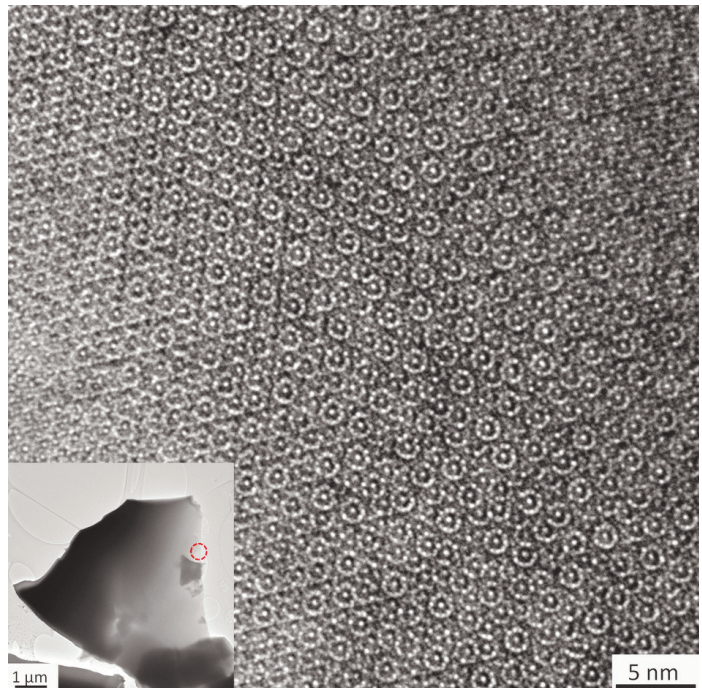
Quasicrystals



Shown here are consecutive images from an animation of decagonal tiling and an electron-microscopy image. To see the full animation, click [here](#). Note how the image directly below looks very much like the electron microscopy image for quasicrystals. The assumption is that if a higher resolution image of the Khatyrka meteorite fragment were possible, we would see something quite similar to the fully-packed, aperiodic tiling pattern in the previous images.



Wikimedia Commons/PrzemekMajewskk



Princeton/Paul Steinhardt

High-resolution electron-microscopy image showing decagonal structure in natural $Al_{71}Ni_{24}Fe_5$ quasicrystal found in a Khatyrka meteorite.

South Africa: Nuclear Power or Bust!

by David Cherry and Ramasimong Phillip Tsokolibane

July 2—A new nuclear power build is on the horizon in South Africa, the leading economy on the African continent, and the only one with an operating nuclear power plant. South Africa's Energy Minister kicked off the procurement process for an additional 2500 MW of nuclear power on June 14. It was a step of utmost importance and urgency for South Africa, and for Africa as a whole, since anti-nuclear and anti-industrial pressures from the dying British neocolonial empire are intense.

South Africa has the only industrialized, full-set economy on the African continent. More than half of all installed electrical capacity in Sub-Saharan Africa is in South Africa. And 95% of the electricity of that half is generated by the South African state monopoly, Eskom, which also sells electricity to South Africa's neighbors.

As a consequence of its industrial clout, South Africa's economic policy decisions are influential throughout the continent, and are therefore important for the entire world.

The LaRouche movement in South Africa, led by one of us, R.P. Tsokolibane, has for years waged a tireless campaign for the South African nuclear program as a key driver for the economic development, not only of South Africa, but of the African continent. The assets of the British empire who oppose it, include many in the current government who have insisted on the policies of the Green Agenda to block development and to force the genocide that accompanies a sharp reduction of energy consumption relative to population size.

The COVID-19 pandemic, which now threatens



The Energy Sector of NEHAWU (the National Education, Health and Allied Workers Union), and allied organizations, march for nuclear in Pretoria, South Africa, October 30, 2018.

mass death in South Africa, has exposed the desperate lack of energy resources needed to fight to preserve life. It may be that this, along with pressure from other African nations that are going nuclear, may have forced President Cyril Ramaphosa to yield to the pro-nuclear forces inside the ruling African National Congress (ANC), and elsewhere in South Africa, and in Africa at large.

This fight is by no means over. The British empire does not give up so easily. But an important corner has been turned toward a sane energy policy that is based on the most dense and reliable energy source.

In early May, Energy Minister Mantashe had informed Parliament that his department was working on a roadmap for this acquisition, and that the procurement process should be complete by 2024. Mantashe said all nuclear options were being explored, and that small modular reactors were definitely among the possibilities. On June 14, his department issued its request for information (RFI) to potential vendors.

Mantashe's appointment as Minister of Energy a



SA DMRE

Gwede Mantashe, South African Minister of Mineral Resources and Energy.

year earlier, in May 2019, marked a certain turn for the better in the Ramaphosa government. He replaced a minister who was interested only in windmills and solar panels, and who actively, and destructively, impeded the work of the government-owned South African Nuclear Energy Corporation.

An important precursor to Mantashe’s appointment was a *march for nuclear power* on October 30, 2018, led by the energy sector of NEHAWU, the National Education, Health and Allied Workers’ Union. The march was organized around the issue of a foundational government planning document that could lock nuclear energy out—or in. This Integrated Resource Plan (IRP) was undergoing its periodic revision under the supervision of Energy Minister Jeff “Windmill” Radebe.

When the draft IRP had been released for public comment, the unionized nuclear lab technicians, nuclear medicine production staff and others of NEHAWU had submitted their views. But in late October, with the comment period closed, they immediately organized the march across West Pretoria to the Department of Energy, where they *submitted* their demands. The march organizers also included Women in Nuclear/South Africa (WiNSA), the South African Young Nuclear Professionals Society (SAYNPS), and

the Nuclear Industry Association of South Africa (NIASA).

A WiNSA poster demanded,

No to privatization of electricity generation to foreigners! No to job losses! No to IRPs that exclude nuclear! No to killing of nuclear industry! Down with IPPs [independent power producers of mainly wind and solar]! Forward with nuclear medicine! Forward with job creation!

One of the NEHAWU posters read: “Fight Water Scarcity Problem: Include Nuclear Build!” a reference to cheap, nuclear-powered desalination of seawater.

Another: “Did You Know? The cheapest electricity is from Koeberg Nuclear Plant (R0.25/kWh)—Renewables average (R0.80/kWh).”

The event was small—about 200 demonstrators—but seminal. Other public events and television appearances by union people for nuclear have followed.

A Turn Toward Nuclear Power

Finally, six months later, in May 2019, President Ramaphosa sacked Radebe and appointed Mantashe. At that point, the Integrated Resource Plan had still not been finalized. Mantashe immediately began talking about the need for a new nuclear energy build.

Mantashe represents a tendency in the ruling ANC that does not want the state sector taken down, even while many of that tendency had accepted—or even sought—the removal of President Zuma. Mantashe represents those who see the threat to coal from the Green Agenda of the City of London and Wall Street, and wonder where South Africa’s large-volume, non-intermittent (baseload) electricity will come from, if burning coal is forbidden. They can see that only nuclear will fill the bill in South Africa, even if they do not understand the absolute necessity for nuclear in any case—with or without abundant coal.

Mantashe added to the draft IRP a requirement for nuclear with a target of 2500 MW. The document also provided for extending the life of the existing Koeberg nuclear power plant. It recognized that coal would con-

tinue to provide 59% of Eskom’s energy generation. It provided for energy generation to supply neighboring countries. The draft was approved by the Cabinet in October 2019. (See box.)

Other African nations look to South Africa for leadership and cooperation in nuclear power and nuclear medicine. They are no doubt relieved that a new nuclear build is back on the South African agenda after a hiatus of more than two years.

President Jacob Zuma had had plans for a new build of 9600 MW, but the South African establishment—oriented toward the British financial empire—became more and more hysterical over his commitment to nuclear and to the BRICS association of Brazil, Russia, India, China and South Africa. The establishment’s multiple campaigns succeeded, with international help, in demonizing Zuma, shifting significant forces within the ANC against him, and eventually forcing him from office. His nuclear plans had been the issue much more than corruption.

Yet it is not enough to build new nuclear power plants. Many who appreciate the benefits of nuclear energy do not understand *the fundamental principle that requires a nuclear-driven economy*. It is this: If energy is not generated in sufficient volume and with sufficient efficiency, society’s needs cannot be met, and the population must shrink. When that unhappy condition of “undernourishment” prevails (literally and figuratively), humankind also becomes susceptible to diseases of all kinds. The bugs take over, as now with COVID-19, the preceding epidemics, and foreseeable future epidemics and pandemics unless something is done. In technical terms, energy-flux density has fallen below the existing level of potential relative population-density.¹

1. For the decline of energy-flux density in relation to relative potential population-density, see the Schiller Institute [analysis](#) and plan, *La-Rouche’s ‘Apollo Mission’ to Defeat the Global Pandemic: Build a World Health System Now!*

Mantashe: We Must Build on Coal and Nuclear

South African Energy Minister Gwede Mantashe insists that nuclear and coal must remain as sources of the country’s energy. But that means he has to do battle with “experts” who say that coal-rich South Africa should stop using coal, and that this nuclear-power producing country should abandon nuclear, the cheapest source of electricity. The answer to all of South Africa’s energy needs, they say, lies in windmills and solar panels.

Mantashe crossed swords with these extremists in an unexpected way at the December 17 launch of the International Energy Agency’s “Coal 2019,” coal market report, in Johannesburg, by referring to an historic 19th century genocide in South Africa’s Eastern Cape. Mantashe said he was from the Eastern Cape, where—

one time they were told to kill their cattle because there is wealth coming. That new world has not arrived there, we are starving up to today. So anybody who comes to me and

says destroy what you have, because there is hope—you will battle [with me], because I am informed by this experience.

The background: In 1856, a 15-year-old girl of the Xhosa people, Nongqawuse, emerged as a prophetess and said the ancestors had told her, that if the people would kill all of their cattle and burn their crops, they, the ancestors, would help to sweep all of the white settlers into the sea. Moreover, there would be an abundance of all good things, and no one would lead a life of hardship. Those who did not believe her, were subjected to physical intimidation by the believers. More than 300,000—perhaps 400,000—head of cattle were killed, and cultivation ceased. Famine ensued.

Many survivors streamed to areas occupied by Europeans for food relief and many became wage laborers, while the British obtained control over the depopulated lands—lands they had earlier failed to take by warfare. Many of the Xhosa believe that the British Governor—Sir George Grey, who was well versed in anthropology—was behind the hoax and the genocide.

Mantashe’s message: We must build on what we know will work.

The relationship between these two terms was discovered by Lyndon LaRouche. The energy-flux density of nuclear energy is incomparably greater than that of all previous energy sources.

Among those who *do* understand this, are those oligarchs, who demand wind and solar—feeble sources of energy—and insist upon forcing the abandonment of hydrocarbons and nuclear. They are demanding the elimination of billions of people around the world, and they say so. It is the only way they can save their collapsing, neoliberal system. That is why we [wrote](#), in 2014, soon after President Zuma first announced his nuclear plans,

The British financial empire will seek all possible avenues to disrupt the implementation of South Africa’s nuclear plans and crush the assertion of sovereignty that made those plans possible.

The abundance, efficiency, and reliability of nuclear energy is a necessity for human survival, dignity and progress.²

The Primacy of Physical Economy

The step forward for nuclear, however, is taking place in the context of backward steps in South Africa’s overall energy policy. Eskom, the government electricity monopoly, is being unbundled in preparation for privatization. There must be a mobilization to stop this. Privatization of electricity means the loss of government control over energy policy, and higher electricity prices. That’s why the British imperialists’ press outlets in South Africa were screaming bloody murder when

2. The existing nuclear power plant at Koeberg in South Africa—the country’s cheapest source of energy—with its comparatively small footprint, puts out 18,800 watts per square meter, and the “Sun” never sets! After an upcoming upgrade, that figure will increase by 10 percent. Solar and wind cannot even come close to matching this energy-flux density. The average intensity of sunlight reaching Earth’s surface, *when the Sun is directly overhead*, is about 650 watts per square meter, and then it goes to zero at night—an inescapable fact of life on Earth. But this is the absolute limit of incoming solar power at Earth’s surface. No improvements in photovoltaic technology can collect what is not there. The output from a solar panel to the grid is therefore much less than 650 watts per square meter—much less than one-thirtieth of Koeberg.

Energy-flux density, in watts per square meter, is the bottom line. Nuclear has other major advantages, as discussed in an [EIR interview](#) with South African nuclear physicist Dr. Kelvin Kemm in 2018.

Eskom was created, in the 1920s.

A new ANC document—not a government document, but of the ruling party—released May 22 and titled, “[Economic Reconstruction](#),” meaning reconstruction after COVID-19, indicates that the party is moving, in parallel with the break-up of Eskom, toward a program for shutting down coal in favor of windmills, solar power, biomass, and bio-ethanol. The document, which refers to “the agreed restructuring of Eskom,” also calls for a shift in household energy use away from electricity, in favor of home cooking and heating with natural gas and liquefied petroleum gas. Nuclear is politely ignored, as if it did not exist.³

While this “Economic Reconstruction” document was issued under ANC auspices, it would be wrong to underestimate the influence of the government’s Sustainability Task Team that President Ramaphosa appointed in December 2018. Most of its members were greener than cucumbers. Prominent among them was Sir Mick Davis, the multimillionaire mining baron, who was CEO and Treasurer of Britain’s Conservative Party at the time!

What kind of “reconstruction” is this, that is neither timed to fight COVID-19, nor meets the baseload energy requirements to defend against a potential next pandemic? It won’t be done by retreating from electric power. The baseload energy needed for a national health system that is sufficient to support the dignity of every citizen, is quantified in a recent Schiller Institute study, *LaRouche’s ‘Apollo Mission’ to Defeat the Global Pandemic: Build a World Health System Now!*⁴

The entire operation is poorly concealed under the claim that there will now be a “massive infrastructure build.” ANC Treasurer-General Paul Mashatile, in comments on June 4, said the plan is to spend \$20.5 billion on projects such as rails and ports, broadband, water and sanitation, and housing; to direct the investment of South African pension funds into these proj-

3. The three power bases of any ANC government—the ANC itself, COSATU (the Congress of South African Trade Unions), and the South African Communist Party—appear to have closed ranks around this mass murder-suicide pact in an Alliance Framework Document that is apparently not public.

4. A link to this document is provided in footnote 1, above. See also the article on nuclear power by Paul Gallagher in this issue. A closely related document, focusing on rebuilding the U.S. and the world economy as a whole, is [The LaRouche Plan To Reopen the U.S. Economy: The World Needs 1.5 Billion New, Productive Jobs](#).



Members of National Education, Health and Allied Workers Union prepare for the October 30, 2018 march in Pretoria, South Africa.

ects; and to increase the powers of the Presidency to make it all possible.

Mashatile and a colleague took a few days of Home Leave this month to report on the ANC plan to their superiors at the Royal Institute of International Affairs (Chatham House), a leading, world center of Malthusianism.⁵ Chatham House is doubtless pleased to see that South Africa has largely turned away China’s offers of investment and cooperation.

President Ramaphosa held a seemingly related, first annual Sustainable Infrastructure Development Symposium of South Africa on June 23, to unveil “an infrastructure pipeline from six priority sectors.” The numbers were different, but the concept was much the same. Ramaphosa spoke of 276 projects requiring a

5. Arnold Toynbee, Director of Studies at Chatham House for decades, was not expressing a merely personal opinion when he wrote, “we may perhaps conclude that it would have been better for our descendants if metallurgy had never been invented, and if Man, after having attained the Neolithic [New Stone Age] level of technology, had not succeeded in raising himself higher in terms of technological achievement ... mankind’s numbers and material wealth would, no doubt, today be only a fraction of what they actually are.” (Toynbee, *Mankind and Mother Earth*, Oxford University Press, 1976, p. 44.)

total investment of \$130 billion. With so many projects to be funded with so little money, the question is, whether even a single one of them is national in scale. (Ramaphosa’s own off-mike comment during the symposium: “We need more money!”)

Here we are faced with contradictions. The Integrated Resource Plan, approved by the Cabinet months ago, indicates that coal will provide 59% of the energy produced by Eskom, and that there will be a new nuclear build. The ANC’s “Economic Reconstruction” document, however, while silent on privatization, asserts that Eskom is being “restructured”—the whole purpose of which is the often denied privatization. The doc-

ument implies that coal is on its way out, and it knows nothing about a new nuclear build. It expresses concern about high energy prices, but prescribes feeble and unreliable energy sources that are known to result in even higher prices. It seems to be going in the direction of a not-so-massive infrastructure build, whether referred to by Mashatile or Ramaphosa, but its energy proposals would be unable to support such a build.

The irony is that this heap of contradictions is but a mole hill. The now rapidly unfolding world economic collapse and the imminent pandemic of hunger will change everything. The impending financial [blowout](#)—of which the events of 2008 were but a rehearsal in the small—will change everything. In unpredictable ways. The catastrophe may bring governments back to *physical economy*, not money values, as the measure of economic health—if we don’t have the wisdom to spare the world much suffering, by recognizing this principle sooner.

You Can't Fight the Pandemic, Or Rebuild the Economy Without Power—Nuclear Power

by Paul Gallagher

July 2—The LaRouche Political Action Committee on May 28 issued its [report](#), *The LaRouche Plan to Reopen the Economy: The World Needs 1.5 Billion New, Productive Jobs*, which begins with the building of a new international healthcare system of modern hospitals and clinics to treat millions of COVID-19 patients. The report estimated that 50-100,000 megawatts of new electric power capacity must be built throughout the developing sector, simply to provide reliable electricity for the 30,000 new hospitals needed to reach coverage levels legislated in many advanced economies. Their required supplies of fresh water must be provided as well.

This was seen by LaRouche PAC as the pandemic-emergency front edge of “Tennessee Valley Authority”-type major development projects across South Asia, the Middle East and Africa, and South America, and new basic infrastructure platforms in the (de-)industrialized countries as well.

The partnering of these two great tasks, needing a cooperative initiative from the leaders of a number of major powers, can create 50 million new, productive jobs in the United States over a generation—starting immediately with 6-7 million in building and staffing new healthcare systems and expanding the frontiers of space exploration and science. In the world as a whole, 1.5 billion new, productive jobs can be created over a generation, replacing what is now the non-productive and bare subsistence “informal employment” of two-thirds of the world’s labor force.



CC/Calleamanecer

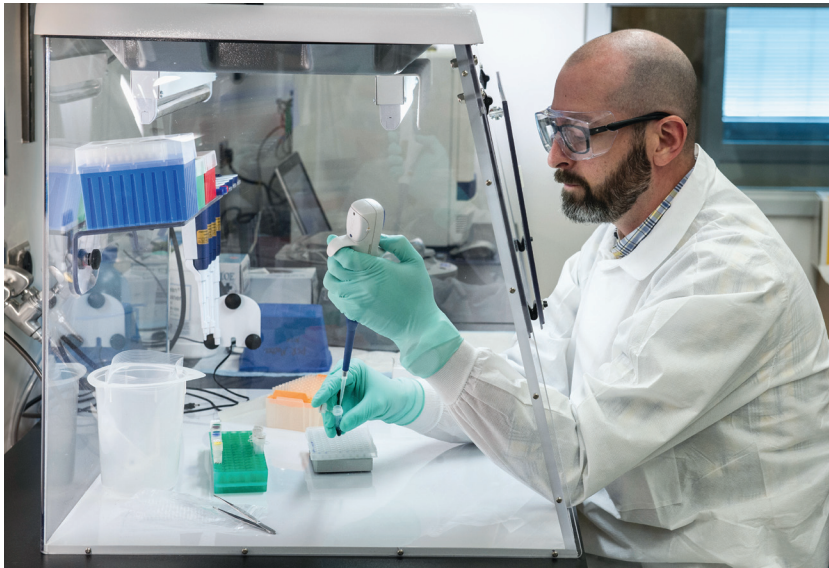
Medical personnel attending a patient in an Intensive Care Unit.



USMC/Daniel R. Betancourt, Jr.

A U.S. Navy medic checks on a COVID-19 patient receiving ventilator care at Baton Rouge General Hospital.

Creating such “TVA”-type development projects across the entire developing sector and building new, modern infrastructure platforms in the industrial economies requires much more new electrical capacity than that required for the new “world healthcare system” alone—perhaps as much as a 30% increase in just two



CDC

A scientist conducting molecular testing.

years in the world's 7 million megawatts capacity, as we will show.

Just over a week after LaRouche PAC's report was published, the World Bank and the Brookings Institution publicized a report by four Brookings researchers which confirmed our report's emphasis on the critical importance of a great increase in reliable electric power to fight the coronavirus pandemic. The [study](#), headlined "You Can't Fight Pandemics without Power—Electric Power," provides greater detail on the life-or-death role of electricity in medical care than LaRouche PAC had in making the argument that up to 100,000 megawatts of added power is essential.

The study's authors noted that the number of people worldwide with *no* access to electricity has fallen from 1.2 billion in 2010 to just about 800 million in 2018; but that if the measure is changed to the more critical one of access to *reliable electric power*, the picture is quite different. For example, just 28% of all hospitals across the developing nations have reliable electricity. Moreover, 25% percent of health clinics in six countries they surveyed—Cambodia, Myanmar, Nepal, Kenya, Ethiopia, and Niger) lack electricity completely, and this had not changed since 2010. A study of 33 hospitals in 10 countries found that unreliable power was the single most common cause of medical equipment failure.

All those developing nations, that like Ghana, and other African nations, now want to mobilize to build new district and regional hospitals and clinics to fight COVID-19, face four challenges: Building new facilities

with modern capacities; recruiting and training staff; providing large amounts of fresh water; and powering those facilities. The Brookings study makes clear the extensive need for electricity.

Virtually all current diagnostic tests for COVID-19 require electricity; communicating patients' records requires electricity. Electricity determines the effectiveness of—

the many resources that enable health systems to detect, prevent, and treat infectious diseases; clean water, decent equipment, qualified staff, and medical supplies....

Patients who need further diagnosis (e.g., pulse oximetry) or treatment with ventilators or oxygen masks have to be placed in clinics with reliable power; outages for even a few minutes can be life-threatening. Besides, electricity powers sanitization and cleaning equipment like autoclaves and air filtration and, in some places, pumped clean water. These are necessary for preventing the spread of infection among patients and medical workers.

Hospital and clinic staff, whether veteran professionals or those newly trained for newly built facilities, will want to live in homes with reliable electricity.

And looking ahead to delivery of a vaccine, once approved, and produced in billions of rounds, the Brookings study states that:

The WHO [World Health Organization] estimates that nearly 50% of freeze-dried and 25% of liquid vaccines are wasted each year, in large part due to cold chain electricity disruptions.

LaRouche PAC's report showed that worldwide, roughly 110 million productive jobs can be created in 2020-21 alone, simply by the building and powering and staffing of a new worldwide healthcare system.

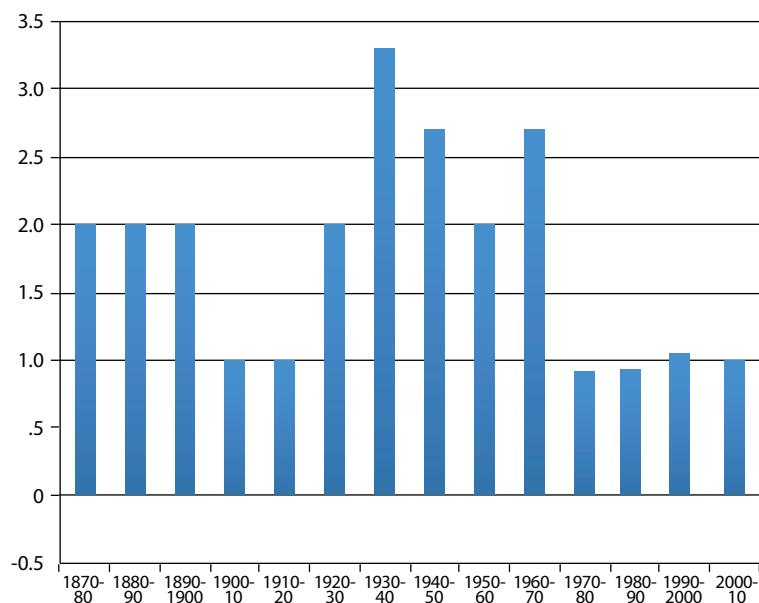
Electrical Power and Productive Workers

We are talking about creating employment on a level of productivity which is absent from the "informal" employment so characteristic of the developing nations,

FIGURE 1

Total Factor Productivity in the U.S. Economy

(Annual Growth by Decade)



Source: NBER, Congressional Research Paper “Total Factor Productivity Growth in Historical Perspective”, 2013

and since the 1970s, increasingly of burgeoning service economy jobs of the “industrial” nations as well.

To determine the amount of new electric capacity such a pandemic-fighting first surge of productive employment would require, we have to look at the period of greatest productivity growth in the American economy, roughly the 1930s to the 1970s, sometimes called the “golden age of American productivity.” (See **Figure 1.**)

During those years, America’s electric power capacity multiplied 14 times, from 36,000 MW to 505,000 MW. During the next 40 years to 2015, capacity merely doubled to 1,020,000 MW, barely keeping up with the growth of the population, because of deindustrialization.

By 1975, for every American productive worker (in manufacturing, construction, mining/forestry, utilities, transportation), or one in essential services such as medical care, the economy was producing about 20 kilowatts of installed electrical capacity. For every such productive worker, Americans were using 70 megawatt-hours a year in generated electricity at work, in households, traveling, and otherwise. For every *person*, Americans in 1975 were using less than half that; productive workers need much more electricity than those not productively employed.

So we are taking a standard of electric power associated with productive work, which was already reached in the United States 45 years ago. But the huge decline in the share of productive employment since then, from more than 30% of the total American labor force to less than 15%, and the deindustrialization of the U.S. economy, makes it pointless to take a more recent standard. If we did so, we would be talking largely about masses of electricity used to air-condition office buildings and run computing centers, not to build, launch, invent, or supply the kind of infrastructure and capital goods needed around the world now.

If we take only the 1975 U.S. standard of electric power required for productive employment and apply it to the 110 million new productive jobs, building a new “world healthcare system” would require *2 million megawatts of new power*, or about 10,000 new power plants of about 200 megawatts capacity. Each could provide reliable electric power and fresh water to a complex of two community hospitals and one larger district hospital, with a total of about 1,000 beds including isolation and ICU wards, as well as housing and transportation for medical staff.

That 2 million megawatts are an almost 30% addition—in just two years—to the 7 million megawatts of installed capacity in the world now. Thus, many of those newly productive workers will be employed building and then operating that new electric power capacity itself. The LaRouche PAC report presents all this in detail.

In the United States alone, this rapid creation of 6 million new productive jobs focused on new worldwide hospital construction and staffing, will have to include building 100,000 megawatts of new electrical capacity to be added to the 700,000 megawatts capacity installed in the United States now. This is for the requirements of operating the hospitals themselves. As the productive portion of the American labor force rises to 30 million and higher (it has sunk to 24 million out of a labor force of 170 million), the demand for new electrical capacity may go even higher in just the next two-three years.

Over a generation, to about 2045, the LaRouche PAC report describes how to create *50 million* new, pro-

ductive jobs in the U.S. economy as well as many hundreds of millions in the world. This involves much more than building a new world healthcare system. It involves building a new economy, led by the “science drivers” of fusion, plasma and laser technologies, Moon settlements and Solar System explorations; transporting people and goods along the Earth’s surface faster than by air for most distances; ending desertification by transferring and also producing fresh water for irrigation; carrying out “Tennessee Valley Authority” projects in many regions of the developing sector; see [The LaRouche Plan](#) to Reopen the Economy: *The World Needs 1.5 Billion New, Productive Jobs*.

This job creation over a generation would mean, in the United States, that the nation’s 700,000-megawatt electrical capacity will have to be doubled.

But worldwide, the increase will have to be proportionally greater than that. American electricity use for decades has averaged about 10,000 kilowatt-hours of electricity use per person per year, while in many developing countries it is less than 1,000 kWh/capita/year, and in some, 100 kWh/capita/year or less. That gap brings millions of unnecessary deaths with it—years-lower life expectancy and much higher infant and child mortality, according to a 2018 [study](#) done for *EIR* by Benjamin Deniston comparing electricity/capita in the 142 countries of more than 8,000 square miles in area.

Granted, American electricity usage is unusually high, because its population density is low—about 40% lower than the world average—and it has been established that countries with higher population density can reach the same standards of life and work with less electricity per capita. But even if we take a common European level of about 7,000 kWh/capita/year, and figure conservatively that the world population will grow to 9 billion in a generation (it is about 7.5 billion now), *the 7 million megawatts of power installed worldwide now, will have to be more than tripled to reach that standard—adding 16 million megawatts of new electric power.*

China, at about 4,000 kWh/capita/year, shows that in a country with high population density (more than three times the world average), a rapid increase in living



ORNL

Construction of the ITER facility (International Thermonuclear Experimental Reactor), a tokamak magnetic-confinement fusion device, in Cadarache, France, 2018.

standard and the elimination of extreme poverty, as well as large-scale infrastructure and industrial production, can be achieved at a lower level of electricity use per person. *But just to reach this standard worldwide will require doubling the world’s electric power capacity, adding 7-8 million megawatts.*

What Kind of Power?

The relentless pressure for “green energy” conformity by the major central banks’ Green Finance Initiative, and the City of London’s and Wall Street’s drive to create a huge new “green finance” bubble, have made it almost a requirement of public discourse to associate any economic initiative with “renewable” energy sources. The authors of the Brookings study cited above, for example, do this. These sources are arbitrarily and somewhat absurdly delimited to wind energy, solar energy, and biomass energy. The financial powers involved strongly resist even environmentalist groups’ efforts to include nuclear. They thereby make clear that their aim is not even that of carbon dioxide-global warming propaganda, but simply forcing high-density energy sources to shut down and be replaced by wind and solar projects supported by carbon taxes and other taxpayers’ funds, and backed by cheap gas turbine electric plants.

“Renewables” advocates generally agree that wind turbines are “more efficient” producers of electric power than solar farms—though just as intermittent in delivering power, just as dependent on gas turbine plants as backup power and requiring significantly more land or offshore area for a power plant.

We can start from one simple example to consider whether anything like the world healthcare system and infrastructure mobilization we are describing, could be powered by wind.

In 2017 New York's Governor Andrew Cuomo called for a "green new deal for Long Island"; the island has roughly 7.7 million people on 3,000 square miles of territory. This would require, Cuomo said, 9,000 megawatts of wind turbine electric capacity to replace all the existing electric power—but not the residential or commercial heating—now generated by coal and oil. According to very recent figures from the National Renewable Energy Laboratory, this would require covering 900 square miles—about 30% of Long Island's land area including the Boroughs of Brooklyn and Queens in New York City—with wind turbines, not to mention the gas turbines for backup at windless times and for heating.

Look back at the 100,000 megawatts of new power the United States needs for a mobilization of productive employment just to build and power new hospitals. New nuclear power plants with that capacity would take up about 100 square miles of space; wind farms, about 10,000 square miles—the total area of Maryland—or solar farms, 7,500 square miles, plus area for gas turbine backup.

But then look at the *8 million megawatts of new power* the world's nations need in the most conservative estimate of our report on how to create hundreds of millions of productive jobs over a generation. Nuclear plants to produce that power might require 10,000 square miles of land worldwide, but wind or solar farms would consume roughly a million square miles—the total land area of India. And that is the most conservative estimate of new power required for that generation-long productive jobs boom.

Moreover those wind or solar farms *must have gas turbine backup* on a large scale as well—without it, they do not generate anywhere near half the electricity per year that their power rating would claim, and this is true right up to 2019 figures. The gas turbine plants for the wind and solar farms covering India would have to go elsewhere, perhaps in Pakistan; and the new "smart grids" they need would likely cover part of Bangladesh as well. Then the Sub-Continent could power the world, provided all the Indians, Pakistanis and Bangladeshis were relocated elsewhere.

The idea of providing the electric power really needed worldwide, or even the current level of power,

with "renewables" is a completely fantastic one, and the advocates of the "green finance" bubble most certainly know this.

It is no wonder that a certain recent proposal for a new global solar project involved a wide belt of solar farms and electric grids stretching all the way from Indonesia across all of Eurasia and North Africa to Morocco, following desert regions along the way—and no doubt enlarging them by the heat radiating from billions of solar panels. Harvard's John A. Paulson School of Business, which helped circulate the proposal, estimated it would cost \$13 trillion! This is what we mean when we say Wall Street and London, led by the monster BlackRock, want a new "green finance" bubble to replace the financial bubbles now bursting.

But vast land consumption and huge cost are just the *symptoms* of electric power sources which, relative to coal and oil, not to mention fission and fusion power, would throw the world economy centuries back in terms of technology, living standard, human life-span. The real measure of these technologies is what the late economist and statesman Lyndon LaRouche called *energy-flux density*.

Power and Population

Electric power is the universal machine-tool for productive work in a modern economy. Every electric power source exhibits a basic range of efficiency in converting the input energy—whether it be sunlight, wind, burning coal, nuclear fission, or a super-high-temperature plasma—into electric power or work. This *energy conversion efficiency* can be combined with the metric of how much of that power is generated in a given time—say, a year—to give an idea of *power efficiency*. This second metric is sometimes referred to as the availability, or reliability of the electric power—how much of the time the power is available at the required voltage. This is how the comparison looks.

Hydropower: Energy efficiency (80-90%) × availability (2006-2016 average of 70%) = power efficiency of 60%.

Nuclear reactors: Energy efficiency (35%) × availability (85-90%) = power efficiency of 30%.

Coal- and oil-fired power: Energy efficiency (37%) × availability (75%) = power efficiency of 28%.

Wind turbines: Energy efficiency (up to 45%) × availability (20%) = power efficiency up to 9%.

Solar farms: Energy efficiency (2%) × availability (2006-2016 average of 20%) = power efficiency of 4-5%.

When we also take into account, as we did above, the size and associated labor costs of the infrastructure for fuel and power which must be built to generate and transmit a given amount of electricity for use in a given amount of time, nuclear fission power—with large energies emitted from extremely small amounts of fuel—surpasses not only coal and oil but also hydropower. Wind and solar become almost *de minimus* because of the large land areas required to use attenuated and intermittent fuel sources and to transmit the resulting electricity for use in population or industrial centers.

Electric power transmitted per square kilometer of the power’s infrastructure, per unit of time, roughly expresses Lyndon LaRouche’s specification of the energy-flux density of a power source. This is obviously closely related to the energy-flux density of the machines and machine-tools powered by the electricity produced—solar powered electricity infrastructure will not power the operation of high-power, high-speed or magnetic levitation railroad lines, or provide the capability to give a higher, more “electrified” standard of living to a more dense population per square kilometer. LaRouche emphasized that this quality of technology, rising energy-flux density, of investing sufficient capital or credit in it, represents an increase in the *potential relative population-density* afforded by new infrastructure, incorporating new technologies.

Again, electric power per capita—more exactly, electricity generation and use per capita—is fundamental for living standards of human beings. Again, Benjamin Deniston’s study for *EIR* showed that the 34 nations with the lowest levels of electricity per capita, taken as a group, gave their people an eight-years shorter lifespan, and had them suffer 170% more child mortality, than the middle-range group of the 142 nations. These 34 nations averaged just 900 kilowatt hours/person/year in generation and use of electric power. Over the next two generations to 2070, Deniston estimated between 130 million and 175 million excess infant deaths in those countries if they were not brought up to a modern standard of electricity per capita.

So-called “renewable sources” of electric power will not do this. As we have shown, their wide spread

will actually lower energy-flux density, human power over nature, living standards, and the number of human beings on the Earth, and will not allow any human beings to escape Earth’s gravity and explore and settle other bodies in the Solar System.

For this reason—and not because it emits no carbon dioxide—nuclear power must be used as rapidly as possible to build out a new electric power system and grids across the developing nations.

Power Plant Requirements

The real “economic reopening” described by LaRouche PAC in its “1.5 Billion New, Productive Jobs” report builds a new infrastructure and economy for the two billion non-productive or “informal” workers in



TVA

Only nuclear-generated electricity has the power efficiency and reliability to fulfill the near-term requirements of a world healthcare system. Pictured here is the Bellefonte Nuclear Power Plant, near Hollywood, Alabama.

the pre-COVID economy, hundreds of millions of whom lost the jobs they had. This will require the equivalent of 5,000 new full-sized nuclear power plants even if coal- and gas-fired plant construction continues apace; 7,000 new nuclear plants if it does not.

In 2018 there was a net addition of just 10 large nuclear power plants to the world’s electric grids. Only a few developing countries are aggressively pursuing nuclear power: China, India, Egypt, South Africa, and a few Southern Asia nations. Nuclear power plants are also being seriously pursued in some Eastern European countries. As LaRouche PAC’s report concluded, the thousands of power plants of roughly 200 megawatts capacity that must be added as hospitals and clinics and clean

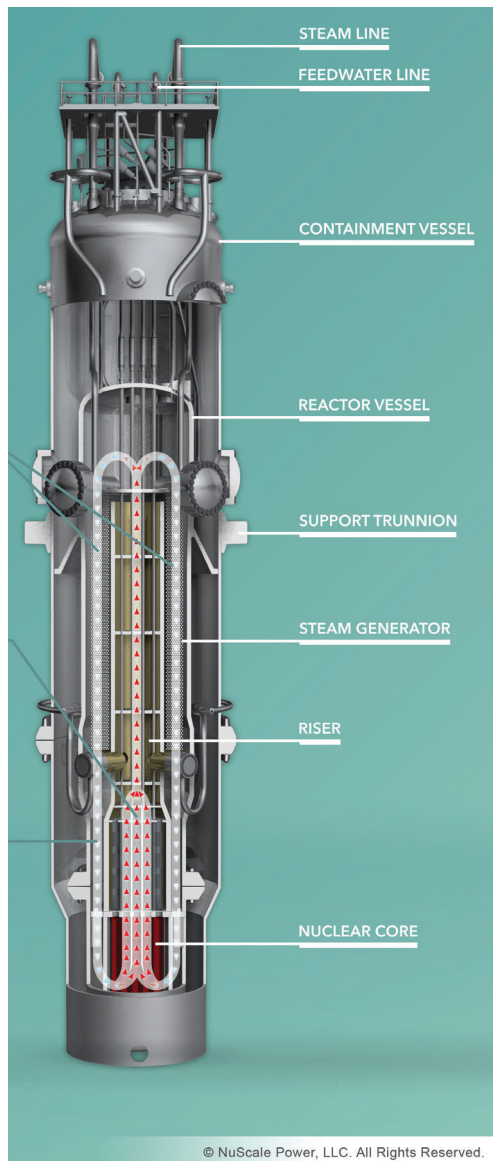
water facilities are rapidly built all over the developing sector, will at first be dominated by gas turbine and coal-fired plants.

As soon as possible—and that could and should mean the middle of this decade—nuclear power plants consisting of even smaller modules built in factories, of 50-75 megawatts per module, must proliferate. These so-called [small modular reactors](#) (SMRs), which can be factory-built and connected to even a limited grid much more rapidly than a large reactor built on its site, will be either of the light-water type or the inherently safe gas-cooled reactor design. The latter usefully operates at higher temperatures and is suited to desalinate brackish or salt water as well. Either design will use safe “pebbles” of fuel made of ceramic oxides or carbides, called TRISO fuels.

Demand for these nuclear SMRs is spreading worldwide, even though right now, only one American company, NuScale Power, is near the regulatory approval to build them, and only Rosatom in Russia can build them to be towed on barges to where they will be plugged into a grid. The British Ministry of Energy announced on June 26 that it had a plan for “40 SMRs by 2050” in the UK. Weeks earlier the Australian government made clear it wants SMRs installed in the near future. On June 14, the South African Energy Minister initiated the procurement process for 2,500 megawatts of nuclear electric power after Cabinet approval last October. (See article in this issue.)

Canada and several South American countries are developing their own SMRs.

These small modular reactors are often referred to as the only commercially viable “future of the nuclear industry.” But in fact, their designs are being advanced toward commercial operation by governments, for ex-



Small modular reactors (SMRs) can be factory-built and connected to even a limited electrical power grid more rapidly than large reactors built on site. Shown here is a cutaway diagram of a NuScale power module.

ample by aggressive support of private commercial designs by the U.S. Department of Energy and its national laboratories. Moreover, the Trump Administration is right now removing the anti-nuclear regulation which currently limits the U.S. International Development Finance Corporation (DFC), so that the DFC and/or the U.S. Export-Import Bank can provide financing for the export of nuclear power plants for development projects in the developing sector.

The 60- or 75-megawatt modules can start very quickly to generate power at a site—as for example, at a site near newly-built hospitals and their staff living areas—and then increase that power as more modules are transported in, installed, and commissioned. Each module may weigh no more than 50-60 tons.

As for the construction of new electric power grids, whether the new power capacity is hydroelectric, fossil fuel or nuclear, the clear world leader in this regard is China’s [State Grid Corp.](#), which has developed technologies to install grids under the most challenging conditions and convey ultra-high-voltage electricity over long or short distances with far less transmission losses than other companies’ power line technologies. Again, the diverse capacities of the technologically

leading nations, particularly the United States, China and Russia, require those nations to *cooperate* to get a new world healthcare system built to fight the pandemic.

The productive employment and new global infrastructure for survival and progress of the human species, requires that these reactors be spread fast across the world during this decade. African nations alone will have need for a thousand or more installed reactor modules, even if the first years’ “takeoff power” for new healthcare and public health facilities comes from fossil fuels.

III. World Economic Recovery

Schiller Institute International Conference

June 27, 2020

Will Humanity Prosper, or Perish? The Future Demands a 'Four-Power' Summit Now

PANEL 2

Why a 1.5 Billion Productive Jobs Program Can End War, Famine, Poverty and Disease

Jacques Cheminade

How Food Production Can Unite the World

Mr. Cheminade is the President of Solidarité et Progrès in France.

I'm very honored to be with you today, because of all you have done until now, and mainly because of what we all are going to do after this Schiller conference.

Food production unites the world: We are all conscious of the fact that the two first human rights to be upheld, are to be fed and to be kept in a good healthy condition, in order to contribute to the common good and the future of our societies.

If we look at the world as it is, we cannot but recognize that these two human rights are continuously and constantly violated and that the present policies of the main states and institutions, with a few remarkable exceptions, are leading us towards a world which is going to be much worse, if we allow it. We are set to become inhuman.



Schiller Institute

Jacques Cheminade

The question is therefore not to comment any more about what is happening or to complain, but to do something about it. That's why we are here, to mobilize the best of our cultures and our nations to generate a world where the true creative powers of humanity will prosper, against all odds. It starts by food production which unites all people beyond and above cultural and language barriers. It seems commonplace to say such things, but the fact that we are morally and economically compelled to do so is precisely

the sign of the inhuman condition in which we have been plunged, with the immediate threat that 100 million of our fellow human beings could die from hunger—300,000 a day—while the farmers are trapped in a Malthusian world where they literally can't breathe.

If we start from what humanity needs, taking into

Note: We present here the edited transcripts of the second of three panels of the one-day Schiller Institute conference. The [first panel](#) was presented in EIR Vol. 47, No. 27, July 3, 2020. A report on the third panel will be published in a future issue. The videos of the conference are available [here](#).

account the requirements for an adequate quantity and quality diet, sufficiency for everyone and the indispensable need to create food reserves, we must first double our food production. To produce 5 billion tons of grain, for example, means to more than double the present world harvest.

We hear in the United States, “We American farmers can feed the world,” and it’s true. We hear in Europe, “We European farmers can feed the world,” and it’s true. And we hear in the rest of the world, “We also can secure our food security and sovereignty,” and it’s true.

The Obstacles

So what is happening? What’s happening, which makes this potential to not be actualized?

First, the whole world is ruled by the financial dictatorship of Wall Street and the City of London, which cannot care less for people and, in fact, openly promotes world depopulation. Unable, in their own terms, to keep their power and to feed the world at the same time, they prefer to keep their power and envisage a world populated with less than two billion human beings. Their policy is to kill, either by murderous action, or by voluntary neglect. They let their ideologues openly front for it, under black or green colors.

Second, the outgrowths of this financial dictatorship, i.e., the food and farming cartels, dominate or control all the chains of transportation, distribution and sales in foodstuffs, including the property of vast domains of land.

Third, an anti-productivist ideology is promoted among the urban sectors of the service economy, dominant in numbers among Western countries, betting on both their ignorance of what a productive life is (they don’t even know what a productive life is!), and on their cultural pessimism, induced by the media and the entertainment sectors. There were no stocks of masks or tests in our Western states to deal with the coronavirus pandemic, just as there are almost no grain reserves today to deal with food shortages: The World Trade Organization and the cartels left it up to the marketplace.

As a result, China has one year of grain stocks for its needs, Russia six months, the United States much less, and the European Union at best 45 days! Under its Green Deal, the European Commission has decided to cut by 50% the use of pesticides, by 20% the use of fertilizers, and by 50% the use of anti-microbials for livestock and aquaculture. It expects to transform 25% of the land into organic bioproduction against 7.5% today.

The point here is that, under the guise of caring for us, they obey their real financial masters and cut the means of production without providing any alternative to feed us and feed the world.

Beyond Criminal Negligence and Stupidity

It’s criminal not to maintain food reserves. It is criminal to have brought farming prices below the cost of production. It is criminal to have pitted the producers of the world against each other, to lower the prices paid to them for the benefit of the worldwide cartels in grains, meat, seeds, seafood. It is criminal that in the poorest countries of the world 70% of the production is allowed to be lost because there are no cold chains and too many rodents. It is criminal to compel those countries to pay more for the debt service to financial agencies than for building and maintaining hospitals or schools. It is, as Lyndon LaRouche repeatedly said, the model of the private British East India Company spread all over the world, controlling the chains of production, transportation and trade.

So this crisis should be the opportunity to recognize the absolute right to produce food and to get rid of the cartel monopoly system. This, of course, cannot be done as a thing in itself. It demands the shutdown of their source of money supply: the Wall Street and City of London, the British Empire. The criminal policies in the area of food and health, are, in that sense, for the people of the world the visible side of the oligarchy’s iceberg and our main weapon to fight the oligarchy.

To show the peoples of the world that to fight for a new Glass-Steagall Act, a public credit policy, a National Bank, is not a technical question but a very concrete matter of life or death. The present financial system cannot be maintained through the rule of an unjust law and order, which has mutated into a system of chaos and disorder, based on an “everything bubble” which kills all the more as it inflates.

Therefore we have to come back and rethink about how we can inspire a strategy based on the Four Laws of Lyndon LaRouche, because they represent the architectural, unifying body for a change. To put it more concretely, they represent the only possible exit door from the present fire.

A European Perspective

As I am in Western Europe, I feel obliged to tell you how something which had a good start, but failed because its environment was not shaped by a coherent

principle corresponding to the Four Laws of Lyndon LaRouche: I am talking about the European Common Agricultural Policy, launched on July 30, 1962. It was based on four goals: increasing productivity; securing a fair living standard for food producers; establishing a sort of parity price including reinvestment; securing food supplies and a reasonable price for consumers. It worked for about 30 years, based on a self-sufficient single market, with a productive priority connected to industrial progress (modern tractors, fertilizers, pesticides), plus financial solidarity and a European preference.

The financial aid and support were given in the form of a minimum price guaranteed to the producer, called “indirect aid.” As a result, the Common Market members, as it was called in those days, became self-sufficient and Western Europe grew to be the second world exporter of foodstuffs. The farms grew moderately in size, and the whole agricultural sector underwent a period of relative prosperity, despite its in-depth and fast transformation.

Today, we have all the European farmers desperately protesting, hostages to the banks and living on subsidies, having become indebted, working hard and gaining very little, with their sons and daughters abandoning their farms to go to the cities. What happened?

First, under the pressure of the global financial deregulation, the Common Agricultural Policy was changed in the 1990s, the same period characterized by de-industrialization, banking rule and deregulation, mainly in France, but also in all Western Europe. The indirect aid based on price guarantees disappeared and was replaced by so-called direct aid, proportional to the acreage of the farms. This was done under the pressure of the World Trade Organization with the pretext of avoiding “price distortions.”

As a result, within a context of falling purchasing power of foodstuffs, the aid, decoupled from production, went mainly to the big landowners such as the Queen of England, the Prince of Monaco and the Duke of Kent. The small and medium-sized farmers were strangled through price decreases and the fall of aid. Their only option was either to leave or to be further strangled by the banks, including the farmers’ bank, the *Crédit Agricole*, which became a bank like all the others and even worse to its old clients! The European Union budget for agriculture was reduced in purchasing power and has decreased in percentage of the total EU budget.

Add to that the vulnerability of all producers to the

system of floating exchange rates, the middle-sized or small ones sinking and the big ones becoming more like “experts of the Chicago market” than real farmers!

Failed Small Solutions

Today, the main talk is to replace the “direct” aid based on farm acreage, by “environment and climate aid,” of which only the very big ones can benefit. This is a policy of desertification and agricultural depopulation within a context of a green world depopulation. Within this system, there are a few Scotch tape measures proposed, which are maybe relatively helpful but not of a nature to change the situation. For example, it is proposed that the distribution of aid be based not on farm acreage, but on the number of persons active on the farm. Others call for stocks of food security against the instability of the markets, fair prices and measures to fight against world hunger. Good intentions, but nothing tackling the depth of the challenge.

Our commitment is precisely to do that, to go to the roots of the problem. The Common Agricultural Policy failed because it did not deal with its global environment. Same thing for parity prices in the United States. You cannot do it within a system which creates all the conditions to go in the opposite direction. Besides, even in its best years, the Common Agricultural Policy was mainly defensive, in French terms, a kind of a Maginot Line doomed to fail under flanking attacks or attacks from above. And whereas it temporarily solved the food crisis within Western Europe, it did nothing to organize markets and food stocks at the needed level of an alliance of world nations, of world population.

Clearly, we have now with the Four Laws of Lyndon LaRouche, not as a mantra, but as a roadmap for the fight, the means to break with the existing rules of the game, which was not done under the Common Agricultural Policy. But for that we need to inspire and put pressure on the peoples of the world so that they pressure their governments, as was said in the preceding panel. That is for each of us an issue of life or death. And it can only win with a winner mind, with a tenacious commitment renewed every morning.

For that reason, let me tell you about two things, as a conclusion.

Into the Future

First, on the way by means of which we can inspire. There are LaRouche’s Four Laws as a reference to explore, facing their numerous challenges for real, in the

existing world. There is their application in our recent two programs: “Build a global health system now! LaRouche’s ‘Apollo mission’ to defeat the global pandemic crisis,” and I would add, “and beyond” the global pandemic crisis; and “LaRouche’s plan to reopen the U.S. economy: the world needs 1.5 billion new, productive jobs.”

It is only through this anti-parochial organizing, based on a dynamic development, that we can inspire people who are today so submerged by information and permanently thrown into situations leading them to emotional cop-outs, as we see on both sides of the Atlantic. It is through our personal example, based on a tenacious directionality every single day of our lives, that we can lead them to become free organizers.

Second, I would like to give you an example of that, directly linked to our subject matter: It is that of the Maisons Familiales Rurales (MFR, Rural Family Homes), a project created by Abbot Granereau, a French rural priest who introduced a new way of learning into the rural areas of France and beyond. There are now 432 of these MFR rural homes in Europe, 112 in Latin America, 118 in Africa (Mauritania, Democratic Republic of Congo, Guinea), and in the Indian Ocean and a few in Asia. In France this education is run in association with the state and the local governments, but with absolute emphasis put on the involvement of the families.

Abbot Granereau was the son of a peasant family, who at a very early age questioned both the Napoleonic, pyramidal organization of the French education system and the fact that the public education system led the best sons of the farmers to quit farming, leave the countryside and often break with their tradition-oriented families. He decided to solve the problem by launching a new system of his own that the families could afford, and he called on “Our Lady of the Social Revolution” for inspiration. His idea was to have the high-school age students reside one week of every month at an educational home for professional training, which he provided; he went around buying places to have the students spend a week, not far from their homes and run jointly with the families and later with the teachers.

Granereau’s program ran from November to April, so that the parents could have their children the rest of the time to work on the farm. The education was to be paid for by the parents and the status of the students

was one of apprenticeship. During the three other weeks of the month, the students were provided with two hours of homework every day. The key to its success was the associative responsibility of the families, family integration; and also the students educating their families. This concept of family integration would be very useful today; the respect for the individual personality of every student, not as units but as persons; and the promotion of actions of social development: visits to farms, producing modern tools, tractors or fertilizers.

Granereau started in 1935 with three farmers committed to support his project, and four apprentices. And he managed in about 30 years to change the fate of the rural world and avoid, at the time, its debasement.

Making the Impossible Possible

The secret behind his method was to be very rigorous and at the same time to make the students responsible. For every activity one of them was appointed to be responsible for all the others. His commitment was to give to all a good level of education, giving back their dignity to his brother farmers, and a knowledge of the new methods of production within an education for their souls. For him, a good farmer had to be what he called “a scientist of the land.” When enough pupils and students had come, he separated the functions of teaching, under a good and committed teacher from the Purpan high-level school of agriculture in Toulouse, from those of guidance, which was his full-time responsibility.

Granereau wanted to create “peasant leaders” to enter the coming new world with Christian principles. He invented “in his way,” an active method based on exploration, cooperation, participation and mutual trust. He himself changed throughout his life: He created a section for young women and girls, then organized a mixed-gender school, carefully promoting a mutual respect between the two sexes, and finally opened up his schools to all families, understanding that the notion of family and mutual respect was key and above religious affiliations. A lot of people were shocked, but he was delighted.

I am convinced that such an approach, based on the respect of every individual mind and the service to the other, should be thoughtfully considered as an inspiration for changing our methods of teaching today, those against which Lyndon LaRouche has so often polemicized. Not to copy it as such, of course, but to follow its

spirit of exploration and creativity. In the countries with a longstanding family farming culture, as in Africa, it would be a model to ensure the transition of agricultural labor, as it has been in France.

The case of Granereau is also a good reference for how to change things. We should ourselves think much more about what Lyndon LaRouche did at the begin-

ning: gathering a few persons in a pilot project addressing not academic questions but, from the top down, the key challenges of our times, and sending memos and launching debates all the time. Then you have the best kind of excitement of actually discussing and enriching a program, all the time, and even the higher excitement to make it exist. Let's do it.

Diogène Senny

Prosper or Perish: An Introduction to The Geopolitics of Hunger and Poverty

Diogène Senny is the founder of the Pan-African League—UMOJA and a Professor of International Intercultural Management, a specialist in economic intelligence and international economic relations. He gave this presentation to the Schiller Institute International Conference on June 27, 2020, "Will Humanity Prosper, or Perish? The Future Demands a Four-Power Summit Now," on Panel 2: "Why a 1.5 Billion Productive Jobs Program Can End War, Famine, Poverty, and Disease." This is an edited transcript of that speech.



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Diogène Senny

that at least 13 billion people, twice the world's population today, could be fed by the world's agriculture. Therefore, the destruction of tens of millions of women, men and children by hunger is unworthy of such a rich century! Can we seriously consider alternatives to hunger, poverty and ill health while maintaining a historical amnesia on matters of the economic and social rights of peoples?

The Fight Against Amnesia

Ladies and Gentlemen, Who remembers that a third of the civilian and military deaths of the Second World War were due to malnutrition, tuberculosis and anemia? Who remembers the heaps of coffins that piled up in the churches of Amsterdam, Rotterdam, The Hague, because of hunger? And especially in Poland and Norway, the fact that some families survived by eating rats and the bark of trees?

Two years after this appalling reality, in 1947—who recalls still this attack by the ambassador of Great Britain, while working with the Commission responsible for drawing up the Universal Declaration of Human Rights: "We want free men, not well-fed slaves!" Who recalls the direct response of his Ukrainian counterpart: "Even free men can starve to death." This exchange illustrates the beginning of a new geopolitical order, that is to say, the Cold War, and the defeat of the recognition of economic and social rights in the Universal Declaration of Human Rights of December 10, 1948.

Ladies and Gentlemen, far from the one-off event, the circumstances in which this conference takes place make of it an Historical Moment, because the enormous health, economic and social consequences connected to COVID-19, are like the "Challenges" and "Confrontations" launched against societies and men in the sense of the British historian, Arnold Toynbee.

For once, we are going to connect the issues of Hunger, Poverty and Health with History, not only in a memorial function, but also and above all to view history as the most powerful manifestation of social energy and the will of man to survive.

Storismo, as the Italians would say, in other words historicism, is the act by which one creates one's own action, one's own thought, one's own poetry, by moving from the present consciousness of the past. We know

However, how to believe that the civil and political rights can be effective, without the economic and social rights? It took 45 years, almost half a century, in June 1993 for the UN to adopt a new Declaration in Vienna, making all rights (civic, political, economic, social and cultural) indivisible and interdependent. Alas, what wasted time!

The Disappointments of the End of the Cold War

Ladies and Gentlemen, The hope raised by the end of the cold war in terms of economic and social rights was very quickly lost because of the fact that the planetary power of transcontinental agro-industrial companies and hedge funds, these funds that speculate on food prices, arable land, seeds, fertilizers, credits, etc., is significantly higher than that of states. Hunger is not inevitable, it comes from organized crime. Ninety percent of peasants in the south, in the 21st century, only have the following working tools: hoe, machete and scythe.

The UN Food and Agriculture Organization (FAO) reports in the 2010s indicate that 500 million farmers in the South have no access to selected seeds, mineral fertilizers, or manure, and do not own animals. The overwhelming majority of farmers in India, Peru, Burkina Faso, Niger, Ecuador, etc. have no irrigation system. How can you be surprised then that one hectare of cereals gives about 700 kilograms to Africans, against 10,000 kilograms for the same space for their colleagues from the Gironde in France. As we have already said, hunger is not inevitable. It is the result of the will of a few. And it is by the determination of men that she will be defeated.

Some examples to illustrate predation situations by multinationals of the agro-industry in Africa:

In Cameroon: In 2006, we remember the admirable struggle led by the Development Committee of the N'do region, which brought together farmers' unions and civil society in the fight against the grabbing of 11,000 hectares of arable land by SOSUCAM (Société Sucrière du Cameroun), authorized by the Cameroonian government. It should be noted that SOSUCAM is the property of Alexandre Vilgrain, a French industrialist, and that this company had already acquired 10,000 hectares in Cameroon in 1965. Here, the colonial continuum is still in full swing in the economic field.

In Senegal: Here it was the Great Senegalese Estates

(GDS), belonging to French, Spanish, Moroccan, etc. financial groups which acquired tens of thousands of hectares of arable land in Saint-Louis, depriving the peasants of necessary space for basic crops. As in Cameroon, the farmers of Walo, who were reduced to modest harvests on only one hectare of rice, organized themselves to resist with much dignity.

In Nigeria, Benin and Mali: International hedge funds also rely on local oligarchs to organize land grabs.

This is how the wealthy Nigerian merchants of Sokoto and Kano got hold of tens of thousands of hectares of food land.

In Benin, it is the political and economic barons who accumulate hectares, deliberately leaving them fallow, while waiting to resell them for a higher price, instead of investing in the region of Zou, the former breadbasket of Benin's wheat.

Finally, we note the same trading mechanism in Mali, where wealthy businessmen from Bamako are used to acquire arable land at low prices for resale at enormous profit to Saudi princes or New York hedge funds.

In Conclusion

Ladies and Gentlemen, The ruin of the economy and the disasters that are looming following the coronavirus pandemic, are part of what is known as Cyclical Hunger. Its peculiarity lies in the suddenness and unpredictability of the highly visible damage generated. Its spectacular nature should not blind us to these real causes. However, what has been described throughout this intervention is structural hunger. Structural hunger has root causes. It is permanent and unspectacular, psychologically and physically destroying millions of human beings. Structural hunger exposes millions of malnourished mothers to give birth to deficient children.

Ladies and Gentlemen, We will precede the alternative presented by this conference, "Prosper or Perish," by the word Unity. Because, for us pan-Africanists, the question of hunger is less about food security than food sovereignty. Only political unity will give us the weapons necessary to protect the immense resource of arable land all over the African continent. It is at this price that Food Sovereignty will be guaranteed to all Africans!

Umoja Ni Nguvu. Thank you.

Walter Formento

South America on the New Multipolar Road

Mr. Formento is the Director of the Center for Political and Economic Research, Argentina. He gave this presentation to the Schiller Institute International Conference on June 27, 2020, "Will Humanity Prosper, or Perish? The Future Demands a Four-Power Summit Now," on Panel 2: "Why a 1.5 Billion Productive Jobs Program Can End War, Famine, Poverty, and Disease." This is an edited transcript of that speech.



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Walter Formento

I'm a member of the Latin American Social Sciences Network, which is involved in all five continents. It means a lot to us to be part of this conference, and we hope we can contribute to the dialogue that is beginning here.

In terms of the development and contributions of the New Silk Road and the World Land-Bridge which connects us all, we believe that South America—extending from Mexico to Argentina-Brazil, going through Colombia-Venezuela, Peru-Bolivia, and Paraguay—has in its Hispano-American and South American history, a real and concrete accumulation of capabilities for building sovereignty, strategic industries, science and technology—both to contribute and to receive. This stems from each one of these nations individually and then, from an organized pluri-national South American community, based on their common Hispano-American origins, but even more specifically, in the 2001-2015 period based on UNASUR (the Union of South American Nations), and CELAC (the Community of Latin American and Caribbean States).

Looking first from Argentina: This South American nation launched the development of its strategic industries from the very moment of its battle against the British invasions of 1805-1807. At the beginning of the 20th century, the process continued with the development of its oil-related energy industries and hydroelectric projects, always interacting with the international context and receiving feedback from that framework.

From the Great Depression, which was caused by the systemic crisis of 1929-1944, Argentina, together with Chile and Brazil—the ABC Alliance—deepened the process of sovereign development, strengthening their rail, maritime and river transportation as well as automobile and aircraft industries, which then became the basis for the development of their aerospace and submarine industries. While these industries maintained international ties, they always collaborated with each other, which allowed for their

own joint scientific and technological development. This was once again a function of an international context favorable to South America, and particularly to Argentina, Brazil and Chile.

In the Argentine case, beginning in 1946, this positive process led to the creation, between 1963 and 1991, of a state-run, public-private industrial, technological and scientific matrix, in which 80% of the goods and services and parts required for national development were produced in our internal market. This also consolidated a social reality in which 90% of the labor force was formally employed, with a strong university-educated, technical-professional component, and in which the unemployed labor force was also formally recognized as well. So, from the standpoint of values, this was an integrated and committed social reality.

A Community of Nations

That is why South America (or Hispano-America), based on its own experience, recognizes the importance of developing a national strategic-industrial-technological complex, but also a South American community of nations as well.

The war and defeat which the London and New York-based Anglo-Dutch oligarchy imposed on Argentina and on South America, and did so with a vengeance—beginning with the 1976 coup d'état in Argentina, followed by the 1982-1991 Malvinas War period—put an end to this

virtuous cycle and launched a cycle of decadence enforced by global financial neoliberalism.

Thus today, when we reflect on the New Silk Road and new multipolar financial system—and in that context the World Land-Bridge and its empowering the productive abilities of humanity and nature, including the Dialogue of Civilizations—we see this as auspicious and hopeful. We are called on to commit ourselves, to contribute to and transmit those initiatives promoting aerospace, transportation and new energy technologies.

In some ways, we're already part of this. There's the [bioceanic] rail transportation corridor from Brazil, traversing Bolivia and ending in Peru. We're also involved in the modernization of a rail line, which extends from Buenos Aires (with its factories and workshops for maintenance of machinery and railroad cars), from the province of Santa Fe to Córdoba, Chaco, Salta and Jujuy in the north, then connecting to the main trunk line. In a joint effort, with Russia supplying components and new technologies together with Argentina, we are building a modern, new railroad system capable of developing this area even further. We are also developing nuclear reactors, using Chinese and Argentine

technology, as well as new hydroelectric projects in the southern Patagonia, close to Antarctica and the islands of the South Atlantic, with their natural interoceanic route that connects the three great oceans: the Indian, Pacific and Atlantic.

After 2008-2010, into 2014, the financial crisis of 2008-2009, which revolved around speculative financial earnings, again paralyzed the world.

But today there is another world, the multipolar world seen in the World Land-Bridge, the world of the New Silk Road, committed to interacting with all continents and with all nations for a peaceful, harmonious development integrated into a new reality for all humanity—and for nature. We are a committed part of this process; we see ourselves as committed—in thought, in practice and in action—committed through our entire history.

This is our first contribution to these conferences you have been holding, and connecting us to the five continents and with the actors who are the great historical power—in this new commitment to humanity and nature in terms of social and integral inclusion.

I send you a warm *abrazo* [embrace] and hope to be able to contribute further to answer any questions you may have.

Mark Sweazy

Returning the U.S. Work Force to A Culture of Scientific Progress

Mr. Sweazy is a former UAW trade union leader. For time reasons, his prerecorded remarks could not be aired in Panel 1, "Instead of Geopolitics: The Principle of Statecraft," during the Schiller Institute International Conference on June 27, 2020, "Will Humanity Prosper, or Perish? The Future Demands a Four-Power Summit Now." We include here his complete remarks, as edited for publication.

I'm the Past President of Local 969 in Columbus, Ohio of the United Auto Workers' Union. I learned a lot about the Labor Department and how labor works in the United States. With the international union, I chaired for six years the meeting of the 21 Delphi [auto parts] plants in Detroit. When we came together, obviously we discussed our problems and the future. What

we saw was, the door was shut on our future. Seventeen of those 21 plants closed. It changed people's lives forever and ever. I also learned that our history, that you've heard some about, teaches us that the struggles and the conflicts and the wars have consequences that become a negative, and seldom produce a positive or good result. So, we faced these things over a period of time.

What we face today is the need to put people back to work, regardless of where you live or what you do. We need to get people gainfully employed in the workforce so that we can make better lives for the people themselves, better lives for their families, and better lives for the area in which they live. So, this is a worldwide situation; it's not just one locale, or one area of a country. This is worldwide. I hope you understand that

little bit of an introduction, because it's important. This affects each and every one of us. If we have pride, we want to restore,— let's say we want to restore a great workforce as infrastructure projects have produced in the past.

We're looking to put people back to work regardless of occupation. You can start one place, and transfer to another. There's nothing that says in the workforce that you have to continue to do something that you're not fond of, or you just don't like that job. You can always retrain and become trained to do another job. So, keep that in mind also.

What rewards do we expect? Our rewards in life are in direct proportion to what we contribute. So, if we contribute something to life itself, we're going to see the rewards. That's important to me, because there's nothing more rewarding than seeing a person who enjoys what they're doing, and the fact that what they're doing is productive to our culture. There's nothing worse than seeing people that don't have opportunities.

As I visited Mexico, Mexico City, Monterrey, what have you, nine cities in Mexico, I saw people who were educated, become college graduates. But the opportunity to work was not there, and it broke my heart because I'd look into the eyes of these graduating classes, and I'm saying to them, "Are you happy?" And they'd look at me, and they're questioning—why would I ask them are they happy?

Well, there's no opportunities to work in Mexico; it's a darn shame. Very few. They've got taxicab drivers that should be attorneys. You've got taxicab drivers who could have been engineers. You've got taxicab drivers that could've been doctors. I can't imagine that. In the country I come from, the United States obviously, I can't imagine somebody going to school and having that type of training, but not having the opportunity to use that training.

A Better Future for All Nations

So, this is an opportunity to get worldwide training. Not just in the labor fields, but completely through skilled trades, machine tool trades, tech center trades, the building trades—of course, that's plumbing, pipe-fitting, welding. There's no end to what this can offer. And how the unions will actually gain, and all the independents who work without unions will gain as well. But who will gain in the end? The communities and the

families. The opportunity is there; we've just got to look for it. We've got to honestly make it happen. This is not a project that's going to last one year, six months, one or two years. We're talking 10- and 20-year projects.

So, the LaRouche organization has lined up projects all over the world. And of course, now Helga's at the helm, and we have a good leader. We want to continue to carry on with that leadership and get people to work so we have viable jobs. People doing what they can for their own families, and possibly in a few years we'll see these results. And everybody will benefit. The unions will benefit, the independents will benefit, everybody will benefit on that spectrum. It's a great opportunity for those that need to be employed, and that's anybody that's graduating from a high school or tech school or what-have-you. But take it from there.

We've got people 30, 40, 50 years old looking for jobs. Everybody knows that; it's not a secret. And not only in this country. So, the benefits are greater than we'll ever imagine, and what an opportunity we've got today to do it in.

Our world deserves today, tomorrow, and in the future, an immediate effort to develop this program, or this type of program. So, the opportunity is ours; the hard work is yet to happen, but it can be done. And that's what I want everybody to understand. The work can be done. The infrastructure projects are in front of us. So, let's pick up our shovels, push out our chairs, let's get up and go back to work.

I think we'll not only enjoy a better life, but I think we'll enjoy a better future for our nations, as we work together to solve some of these worldwide problems that can be solved through cooperation. To me, I think that's the real answer that I would have, is worldwide cooperation. We need that today, more than ever. Working together, forming solidarity, and hoping that we can stay employed because of what took place. This program was the beginning. As we look back, we'll say, "Well, I was part of that in the beginning." That's to me the most rewarding aspect that we could ever say for each of our nations today.

So, with that, I'm not going to hold you to your chairs and hope that you take heed to this, but I pray you will. Because it's necessary and needed. Remember, the LaRouche organization is there for you. All you have to do is ask the question; they'll get you an answer.

Kirk Meighoo

The Caribbean's True Importance in the Making and Re-Making of the Modern Global Economy

Dr. Kirk Meighoo is a political economist, broadcaster, and former Senator in Trinidad and Tobago. He gave this presentation to the Schiller Institute International Conference on June 27, 2020, "Will Humanity Prosper, or Perish? The Future Demands a Four-Power Summit Now," on Panel 2: "Why a 1.5 billion Productive Jobs Program Can End War, Famine, Poverty, and Disease." This is an edited transcript of that speech.



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Kirk Meighoo

I've been a friend of the LaRouche movement and the Schiller Institute for a number of years now. There are so many things that we share in common, and there's a lot of projects that I want us to collaborate on, and this certainly is one them.

Now, I'm also a member of the official opposition party. We do have an election coming up this year, and we hope to take government. The platform, the manifesto of our party—and this is from before the COVID crisis—was to create 50,000 new jobs in the economy. And in our small economy, we have 1.3 million people in our island, and the labor force is about 650,000, so 50,000 was a big number. However, with the COVID-19 lockdowns and what it's done to our economies and the whole global economy, we need to increase that number at least to 150,000, and by combining it with this program from the LaRouche movement for 1.5 billion productive jobs around the world, there is an incredible synergy that we must take advantage of.

Now, one of the things that I'm always concerned about, is that we small states in the Caribbean—we are actually one of the bigger islands, with over a million population; while Jamaica has a little over 2 million, many of the other islands are much, much smaller—there's a tendency for us to be overlooked, for us to be

forgotten in such schemes, and that is part of our lack of development here. But it is not just a matter of a lack of development, it's also the type of development we've been undergoing.

I'm also part of a tradition of intellectuals here, started in the 1960s, soon after our formal independence, called the "New World Group." And it's incredible, the overlap with the LaRouche movement in terms of our analysis and our goals and our solutions. I have always found that to be an amazing thing, and it's just

another illustration on how the truth is one, and we can all arrive at the same truth from our very different points in time, space, and circumstance, and this is certainly one of those instances.

For the Caribbean, the point I'm making about the inclusion of the Caribbean in this global program that the Schiller Institute and the LaRouche movement is proposing, is not just a matter of charity. Because what the LaRouche movement is proposing is an end to the trans-Atlantic system, what might traditionally be called "imperialism," an end to the imperial system, to the post-Columbus system, if you want to put it in those terms, and that is precisely what we have been calling for, for decades ourselves.

Because, you see, the Caribbean has a special place in this 500-year modern world economic system that we need to understand, because our participation in it was central. The Caribbean was where the modern world began: It's where Columbus came in his voyage, it's where the first global production of sugar, rum, alcohol, etc.—which enriched New York, Boston, the East Coast of the United States—fed into the industrial revolution. The organizing of these huge plantations in the Caribbean was a forerunner to industrial capitalism in Europe, and our great intellectuals, such as Dr. Eric Williams, our first Prime Minister, spoke

about that in his seminal book from 1944, *Capitalism and Slavery*.

The 500 Years of Modern History

So, we've had a long experience, analyzing this, our own experiences. Because we represent the dark side of this modernity. Of course, modernity has brought a lot of good to the world. But in the Caribbean, this type of economy now has become—let's say since the 1980s and '90s—the neo-liberal system, but it really starts from the system of slavery in the Caribbean. Because, think about it: These economies were founded on slave labor, which is imported farm labor at cheap or free cost. It decimated local economies. We made nothing for ourselves here.

Everything was around sugar production, mainly. Sometimes some other people had other crops, but whatever the early English colonists had here for their own self-development—tobacco, food crops, etc., local settlements, colonies in the true sense of the word, where you're making your own settlement elsewhere—we were part of this imperial system that the Caribbean was central to. And this global sugar production, the triangular trade where we were central—this is actually what's going on in the rest of the world. Because when they established it here, they had to cut out the independent farmers; they had to buy out all the independent landowners, so that the big sugar interests could own all the land, control all the production, in a global system of raw-materials export, where the value added would be done elsewhere, and you break up the whole chain of production.

What did that mean? That meant no manufacturing here. What did that mean? That meant that we were connected to the metropole, rather than to ourselves. So, for example, it's easier for us in Trinidad to go to New York, and it's cheaper for us to fly there, than it is to fly to a neighboring island, like Curaçao, or even Antigua, or St. Kitts. Because our communications and infrastructure were always to the metropole. We did not have an internal economy with manufacturing: We did not make our own clothes, we did not make our own food, we did not make our own basic commodities and services for survival. They were all imported. We were a pure import-export economy and we remain so, whether it be in tourism or offshore

banking, or oil and gas, like we have in Trinidad and Tobago.

So we've been struggling with this issue and problem for a very long time. We have some great insight into it, which we can offer the world. And what we see is that this same process is happening around the world, to other countries. So it's as if they took this early model, pioneered in the Caribbean—which produced tremendous inequality, tremendous misery, tremendous underdevelopment—this is what the trans-Atlantic system is projecting to every country in the world.

From Ancient Athens

Now, solving the problems here will help us solve the problems for the rest of the world. This is where it started. We pose some challenges because of our size, but there are also some opportunities. Our small societies in the Caribbean are like the small city-states of ancient Greece, where Plato and Aristotle and the great philosophers flourished. It's like the Florentine city-state: These places were 40,000 people at their maximum population.

We live in human-scale societies, and these massive, mega-cities which are part of the whole trans-Atlantic system, mainly financial centers processing these huge, global, faceless corporations, those are inhuman environments. And I think it is not coincidental, that much of the violence that we're seeing in the world is happening in these big cities, where there's so much anomie, so much alienation, and a lack of humanity, a lack of the face-to-face societies that we have here in the Caribbean, that have produced such amazing creativity, such amazing thinkers, like V.S. Naipaul, like Sir Arthur Lewis, like Derek Walcott, like C.L.R. James, from such tiny, tiny, small islands.

So, this is a plea, a reminder, to think of how we can take our outlying territories, which seem like outliers of the world system, but were essential for the development of the modern world system, and I daresay, we can play an essential part in the remaking of that world system to a more humane, global system.

I want to thank you for the opportunity to make our presentation. I look forward to questions and to interacting with you and also partnering in the future.

Thanks very much.

Robert Baker

An Agro-Industrial Scientific Renaissance: The Staff of Life

This presentation was given to the Schiller Institute International Conference of June 27, 2020, “Will Humanity Prosper, or Perish? The Future Demands a Four-Power Summit Now,” on Panel 2: “Why a 1.5 billion Productive Jobs Program Can End War, Famine, Poverty, and Disease.” This is an edited transcript of that speech.

Look at the state of farming and food in the world, and you see huge disruptions. Just one little microbe—the new coronavirus, coming on top of the system already in breakdown, has led to terrible things.

There is a disaster in the meat industry. The megaglobal, cartelized packing houses from Australia to Germany to the Americas, are in a breakdown crisis, as workers are sick and living in poor conditions. Masses of meat animals are stranded. And the farmers were hit hard as they’re forced to kill their own livestock.

There is a disaster in fruits and vegetables. Thousands of workers, who travel between countries, and work in hard and poor conditions in fields and orchards, are sick, from California, to Spain and the Middle East. It’s so bad, Doctors Without Borders (Médecins Sans Frontières) went into Florida last month, to care for thousands of poor farmworkers who had nowhere to turn. In Canada, 60,000 such workers—one-half of them from Mexico—are getting hit, and with the sickness hitting so many Mexican workers in Canada, Mexico’s government suspended travel this week, until something can be worked out.

There is a disaster in the staff of life—wheat, corn, rice. It is—fortunately—*not* because of a bad crop failure somewhere, except for the locusts in Africa and South Asia, but because we are growing far too little grain. Period.

Lyndon LaRouche would say that the way to think of how much food the world needs, is to start from 24 bushels of total grains per person a year. What that



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Robert Baker

would mean is, we should be having a world harvest of 5 billion tons of all kinds of grains together. Currently, the world is growing less than 3 billion tons. And that would mean enough for direct eating as bread, noodles, tortillas—whatever you like, and milk, meat, eggs and so on. Plus, another 25% for reserves, which now, because of the World Trade Organization, does not exist.

In Biblical terms, it’s seven lean years and seven fat years. We should have strategic storage reserves, we

should have silos and warehouses all over the world, of grain, cheese, butter, sugar and other basics. Stockpiles in case of storms, epidemics, fires, locusts. We must *double* food production.

Instead, we’ve had decades of what should be called a “famine policy.” The City of London/Wall Street circles have cartelized the farm-food chain so extremely, so they can “harvest money.” Yes: *harvest money*. They decide where and how anything is produced, and who gets to eat or not. They rip off the farmers with prices below the cost of production and make record profits from the consumer by jacking up the retail price. And that is how you cause hunger for millions throughout the world.

No More Famine

No wonder we are vulnerable to locusts and diseases. The locusts in South Asia and East Africa are now heading westward. By August they may reach Mauritania on the Atlantic coast of Africa. This must be stopped. A fellow speaker today, from the Kansas-Colorado area, will be talking more about the physical conditions connected with just “harvesting money” instead of food. And we will soon hear from the Mexican grain belt.

How did we get this way? It is *not* because we had no alternatives. We are in the age of the astronaut farmer. We can produce food for all. And it wasn’t like we were all given a pill to make us dumb—except for

what comes from the entertainment and news media: communication monopolies.

We are all played off against each other, and that must stop. Farmer vs. city people. Nation vs. nation. There is all the talk about “competition” in world food trade. And about having a “level playing field.” It’s all bunk! *It’s not a game. It’s not a playing field. It’s food.* It’s the means to life! And farmers are on the streets again in Germany with tractorcades for the right to grow food!

In conclusion, I think of President Abraham Lincoln in the 1860s, when the whole United States nation was played off against itself. In fact, the British sent in forces to help bust up the new nation. Still, during the Civil War and a great depression, in only a year, Lin-

coln and others implemented measures for science and hope. They created science-based farm colleges (the Land Grant system), settled the entire Midwest with the Homestead Act, crossed the country with a new railroad and corridors of development, and issued a new form of credit called the Greenbacks.

In this same tradition, a hundred years later, with the help of the two fathers of the scientific Green Revolution, Henry Wallace and Norman Borlaug, a scientific Green Revolution spread from Mexico and the U.S. among international scientists, to make India food self-sufficient in 1974, and China self-sufficient in 1984. Let’s make the whole world self-sufficient in food! Let us begin with Africa right now on an emergency basis, and then open up the universe!

Michael Callicrate Food Unites People Around the Planet

Michael Callicrate is a rancher and a board member of the Organization for Competitive Markets. He gave this presentation to the Schiller Institute International Conference on June 27, 2020, “Will Humanity Prosper, or Perish? The Future Demands a Four-Power Summit Now,” on Panel 2: “Why a 1.5 billion Productive Jobs Program Can End War, Famine, Poverty, and Disease.” This is an edited transcript of that speech.



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Michael Callicrate

ity prosper, or perish?” from that perspective, because I think soil is critical to our survival as human beings. The impoverishment and nourishment of a civilization is directly connected with the consolidation and industrialization of the food supply. Concentration of power and wealth is the greatest threat to any free society. Rather than creating new wealth from healthy soil, the current system is mining and destroying our land for the short-term

I’m in Colorado Springs, Colorado. I have a company called Ranch Foods Direct. I also produce livestock on my operation in north-west Kansas, which I’ve done for the last 45 years. But my focus has really been to try to build an alternative food system to the industrial one that we have now.

When I’m asked the question, “Prosper or perish?” it makes me think of David Montgomery’s book *Dirt*. In his book, David Montgomery talks about the erosion of civilizations and the importance of soil. Without soil, we basically don’t have life. So, I’m going to kind of come at this question of “Will human-



Courtesy of Michel Callicrate

The dirt cloud of Dec. 24, 2013, over a mile high and 4 miles across, extended from Colorado Springs to the Kansas border.



benefit of a few global corporations.

On December 24, 2013, Christmas Eve, there was a dirt cloud that extended 200 miles from Colorado Springs to the Kansas border. It was 12,500 feet high above sea level to the top, 4 miles across, moving at 50 miles per hour. This is soil; this is the blowing away, the destruction of civilization currently. Much of eastern Colorado's topsoil is already gone. I fly back and forth between my rural community of St. Francis, Kansas and the urban center of Colorado Springs, where we market our meats that we produce. This is what you see across the eastern plains of Colorado, is the mining of these soils, the withering away of that topsoil. Previously, when it had fertility, it grew healthy plants that fed livestock, which in turn became food for human consumption.

We're mining our water resources. HBO's "Vice" did a documentary called *Meathooked and the End of Water*, that talked about the global water supply being consumed and used up. This is another indication that humanity is going to perish if we don't change our ways. We're pumping the precious fossil water from the Ogallala Aquifer, just to name one of many around the world that is being pumped dry for the benefit of industrial agriculture. Again, an example of a mining operation.

We're ravaging the environment; we're building factory farms in low-lying areas. These low-lying areas on the East Coast of North Carolina, South Carolina—places where there's a lot of rainfall. We're locating these facilities in low-lying areas because it's the cheap land. It's also the place where the cheapest workforce resides. So, this is exploitation of the envi-



ronment, of the workers.

Put an End to Looting

Think about being an animal in one of these facilities, inside one of these barns. Again, in Hurricane Florence, we flooded the factory farm facilities, and rather than let these animals out, they sort of

learned their lesson. They kept the animals in the barn, where they starved and consumed one another before they died. We've got a total disregard of animals, which is another indication of a failing system in a failing society. St. Francis of Assisi said, "If you have men who will exclude any of God's creatures from the shelter of compassion and pity, you will have men who will deal likewise with their fellow men." Which is certainly what we're seeing today.

This global cartel, controlled food system, rather than nourish the people who sustain it, consumes them. The result is a food system that concentrates money and power at the top, and poverty at the bottom, while compromising food access, quality, and safety in the process.

That's a quote from Albert Krebs, editor and publisher of *Agribusiness Examiner*.

With the help of the U.S. government, global gangsters have turned our agriculture into a massive agribusiness mining operation. Meet felons Wesley and Joesley Batista of JBS, who have been in prison, and have recently—because they're considered essential—been invited back to run the biggest meat company in the world, JBS. JBS is headquartered in Greeley, Colorado,



ing and ranching operation. One that's made sustainable because it's supported by consumers who care about the soil, who care about communities and people and the environment in general. So, I've set up what I call the Callicrate Cattle Company Regenerative Farming and Ranching concept. Basically it's a circular economy—not a linear economy that extracts. It's a circular economy that puts back into the soil, into the community, into the people. So, we start with the soil, and we return to the soil. Critical to this concept working is our ability to access a marketplace that demands what we produce.

and has been part of the four big meatpackers now under investigation for lowering prices to livestock producers at the same time they're raising prices to consumers. These men should not be involved in anything to do with a critical industry, especially food; but our government allows them to operate.

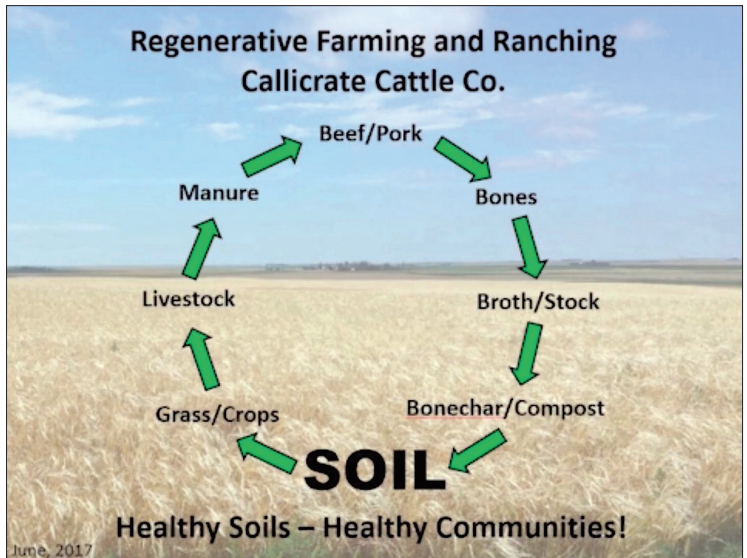
Allan Savory I thought put it well. He said, "We have more to fear from USDA than any foreign power." USDA refuses to enforce the Packers and Stockyard Act, which would have prevented the shared monopoly that the Batista brothers hold with Tyson, Cargill, and Marfrig (another Brazilian company). USDA makes life for small plants extremely difficult; making it impossible for them to operate, and giving the advantage to the biggest meat plants that have now failed us in this COVID-19 outbreak.

The industrial food system did fail the COVID-19 test. It has no resiliency. It has extracted,— it does not create and build well, it extracts well. It destroys our very mechanisms that we create wealth from, that is, the soil. In my store in Colorado Springs, on the same day— March 13, 2020—that my store was fully stocked, at the big box stores in Colorado Springs, shelves were completely empty; no meat was available. In my store, which is about a 200-mile supply chain from St. Francis, Kansas to Colorado Springs, Colorado, you see full shelves. So far, our supply chain has held up well. We don't stack employees on top of each other; we remain healthy in our operation.

Regenerative Farming and Ranching

So, let's look at what I think we ought to be doing. I think we ought to be returning to a regenerative farm-

The soil is the great connector of lives; the source and destination of all. It is the healer and restorer and resurrector by which disease passes into health, age into youth, death into life. Without



proper care for it, we can have no community, because without proper care for it, we can have no life.

—Wendell Berry, *The Unsettling of America: Culture and Agriculture*

Creating community around local food will be essential in supporting this new regenerative approach to agriculture and food systems, where family farmers, ranchers, and small businesses can prosper, and consumers can have access to safe, dependable, and healthy food.

Alicia Díaz Brown

Let Us Return to the Best Moments of the U.S.-Mexico Relationship

Alicia Díaz Brown is with the Citizens Movement for Water, Sonora, Mexico. A video of her speech was presented to the Schiller Institute International Conference on June 27, 2020, "Will Humanity Prosper, or Perish? The Future Demands a Four-Power Summit Now," on Panel 2: "Why a 1.5 Billion Productive Jobs Program Can End War, Famine, Poverty, and Disease." This is an edited transcript of that speech as presented.



Schiller Institute

Alicia Díaz Brown

Let's turn to the best moments in the U.S.-Mexico relationship. We thank the Schiller Institute and its President, Helga Zepp-LaRouche, for kindly giving us the opportunity to participate in this international gathering, in which special importance is given to the problem of food production. In every civilizational crisis the threat of hunger, epidemics and war appears. That is why we agree with the title which headlines this meeting: Will humanity prosper, or perish?

I live in the Yaqui Valley in the south of the state of Sonora in Mexico. I belong to a family of agricultural producers, pioneers in this valley, and I am a member of the Yaqui Agricultural Credit Union and of the Citizens' Movement for Water.

For many years, I have been involved in the discussion of problems related to the production of basic grains, but in the last decade I've been more intensely involved, because the public policies in Mexico have grown in their disregard of the countryside, to the point of proposing to take water from this region to divert it towards activities which they consider more profitable monetarily, even though that means reducing the land under cultivation, and with it the production of food. They don't care about harming a region that produces 50% of the nation's wheat, as well as a significant percentage of its corn.

I recently saw a photograph that captures a very evocative moment of historical intimacy

and common purpose that Mexico and the United States shared in the noble task of producing food to relieve hunger in the world. It's a picture that takes us back to the decade of the 1940s, showing the then Vice President of the United States, Henry Wallace, touring a wheat crop in the Texcoco region of Mexico and receiving a technical explanation from Dr. Norman Borlaug, accompanied by Mexico's Secretary of Agriculture, and ex-President Lázaro Cárdenas. The government of President Ávila

Camacho was just underway.

That was a time in which Mexico and the United States enjoyed governments with sufficient social strength to enforce the principle of the general welfare. Those efforts culminated in the Green Revolution, whose improvements in seed genetics made it possible for there to be substantial increases in yields per acre, principally of wheat and corn. The entire world benefited from this; the hunger of hundreds of millions of human beings was relieved for a time, and it turned out to be a fundamental experiment which



Courtesy of Norman Borlaug

Norman Borlaug gives his technical analysis of damage to Mexican crops, to U.S. Vice President Henry Wallace and the outgoing President of Mexico, Lázaro Cárdenas.

demolished the Malthusian and anti-population theories which accept hunger and its aftermath of death as a matter of fate.

The Yaqui Valley in Sonora and the Texcoco region in the State of Mexico were experimental centers, in which Borlaug shared with Mexican researchers and producers his own research, his discoveries, but above all his human conviction that, with the systematic use of science, you can constantly maintain growth of production and combat the blights and fungus that damage plants. They proved that hunger is not an inexorable evil, but rather the result of twisted practices in economic and marketing criteria.

We Once Knew How

So Mexico and the United States share the prize that, at one point in history, we were able to relieve hunger in the world, because this knowledge was taken to India and to the countries most affected by hunger on the African continent.

But we lost that mission, and the production of food, as with other strategic areas of our economies, was trapped by the corporatization of the economy and by monetarist criteria, in which monetary profits come first and foremost, and physical production is no longer a moral imperative, and instead becomes an optional element dominated by financial speculation. These policies took over at the beginning of the 1990s and they govern the free trade agreements among the United States, Canada and Mexico.

During the last 30 years, national grain production in Mexico has lacked a price policy that would guarantee the producer his capitalization. Parity prices were eliminated—they had been the cornerstone for the country to be able to achieve an important degree of self-sufficiency in wheat, corn, beans and rice. The state withdrew from the marketing process; the domestic market was abandoned; and national production passed into the hands of international corporations which monopolize world trade and speculate on grain prices on the Chicago Board of Trade.

The result of all this is that Mexico has become an importer of basic grains. The current government talks about food self-sufficiency, but it confuses it with self-consumption, and they disperse resources to regions of the country that only consume what they produce, but which lack the ability to produce the food that the country needs. The regions with the greatest productive capabilities in wheat and corn have been left to the mercy of the big corporations that control the international

markets, and they withdrew the compensatory support that allowed them to survive.

They try to make Mexican producers believe that these policies benefit North American producers. But at this meeting we see that authentic American producers are complaining about the same problems. If these policies are harming the producers of both countries, we should ask ourselves: Who are the big winners and predators under these rules of the game?

The big winners and predators are not engaged in producing food; they speculate with existing production. They control the prices on the Chicago Board of Trade, and they have turned the market into a dictatorial instrument. They are not interested in producing. Their preferred world is one of shortages and hunger. And what is sorrier still is that our governments have given in to those interests. In that way, the U.S. loses, Mexico loses, and the world loses.

Citizens Must Act as Citizens

When governments give in, we citizens have the moral and political duty to enforce the principle of the general welfare. At the beginning of my remarks, I referred to a photograph which bears witness to a historical moment of excellent relations between Mexico and the United States. For now, we do not have in our governments people of the moral stature and courage of those who were shown in that photograph.

For that very reason, I believe that now is the time for citizens to make their governments rise to the challenge. Let these meetings serve to begin to weave an alliance of Mexican and North American producers with the ability to exercise the required political and moral pressure on our governments, and in that way establish common goals in terms of how to increase food production; how to reestablish parity prices; how to increase yields per acre; how to build great infrastructure projects of a bi-national nature to manage increased quantities of water and power, which will allow us to significantly increase land under cultivation.

These are some of the tasks we have before us; but what is most urgent is to tell the world that we have initiated this relationship, that we are going to maintain it, and that we are going to resume the historical impetus of the best moments of the Mexico-U.S. relationship, to demand the required agreements among the world's powers that are morally obligated to lift humanity out of the uncertainty in which the shocking economic crisis has placed us, with its inherent threats of pandemics, hunger and war.

Discussion: Conference Panel 2

Three questions for the panelists followed the main presentations of Panel 2 at the Schiller Institute International Conference, on June 27, 2020, “Will Humanity Prosper, or Perish? The Future Demands a Four-Power Summit Now.”

This is an edited transcript of those questions, and answers from panelists Cheminade, Baker, Meighoo, Formento, Callicrate, and Senny; with further comment from co-moderators Dennis Speed and Diane Sare.

Panel 2 was titled, “Why a 1.5 Billion Productive Jobs Program Can End War, Famine, Poverty, and Disease.”

Ambassador Dr. A. Rohan Perera, former Permanent Representative of the Republic of Sri Lanka to the United Nations: The biggest foreign exchange earner for Sri Lanka has been the tourism sector, which had been dependent on tourist arrivals from Europe, and on the garment export sector, mainly to the U.S. market. The total estimated loss as a consequence of the coronavirus lockdown is in the region of \$10 billion. In the garment sector, recovery efforts will require liberal access to the U.S. markets.

Overall, Sri Lanka will require debt restructuring arrangements with lending agencies like the World Bank and with the developed countries who determine their policies. It may be recalled that the Non-Aligned Movement (NAM) Summit Declaration—adopted in Colombo at the Fifth Summit in 1976—cited the New International Economic Order which referred to, among other things, debt restructuring, debt moratoria, and the restructuring of multilateral financial institutions like the World Bank. The idea of BRICS—Brazil, Russia, India, China, and South Africa—is a step in that direction.

Please comment on the vital question of debt restructuring, amidst this coronavirus crisis, and new institutions that may be required. Thank you.

Jacques Cheminade: First, on this tourist issue. Very different countries, like Sri Lanka, Cuba, or France, because they were not able to develop industrially or to really have a fair development of agriculture, have to make money on tourism; on their beauti-

ful things to see in Sri Lanka, in Cuba, or in France. But this tourism was of a kind, not of an educational treatment of the culture of the country, but of a kind of servant economy transformation of the country where there was a service economy based on, let's say, arranging things for people who wanted to have fun.

This has been a complete disaster. This is because of a lack of a commitment to a physical-economic development, like Lyndon LaRouche developed during all his life, and industrial development representing part of this in-depth economic development. Therefore, what happened is that progressively, despite the benefits of tourism—I would say because of the type of economy that was created—the countries were trapped into a debt system. This affected first the countries of the Southern Hemisphere. It affected countries of Ibero-America, countries of Asia, and in particular Africa. Through a system of accumulation of interest over interest, this is what our friend Dennis Small calls the banker's economy or free market. The free market becomes sort of a flea market where they rob you; it has become that.

So, it has become debt that accumulates over debt, and you have normally, or if you follow this accumulation of debt because in an unfair economy, you have to pay two, three, four times more debt than what you got from the loans. This is what was imposed on the countries of the South. It is coming inside countries like Spain, Italy, or France at this point.

So, you have the whole world trapped into this debt system. And the whole economy now is an economy which is no more, I would say, a free market economy. It is a controlled free market economy by the laws of the British Empire imposed by central banks. So, this is only maintained through fake money. You have flows and flows of fake money dumped on the markets, which don't go to the producers, don't go even to the consumers. This fake money goes into the financial sector of the oligarchy.

So, this is what has to be forever eliminated. It's the Anglo-Dutch system of an economy which is not based on a human level and human development, but it's based on financial dictatorship. What I call now the system under which we are; a market economy without

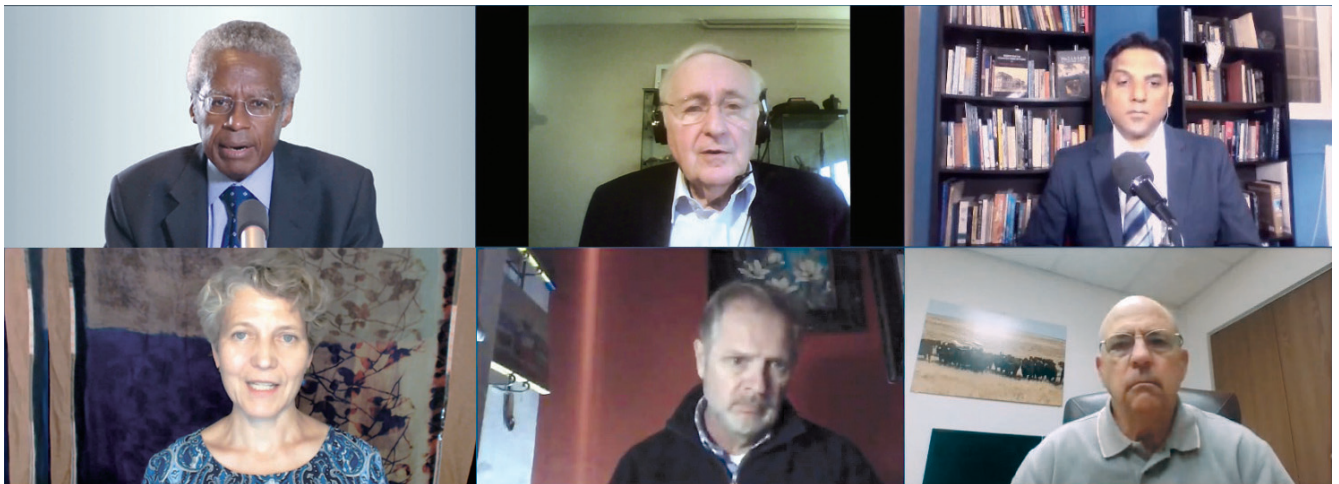
a market; a dictatorship of these financial interests in all sectors, including culture.

So, we have to free ourselves from that. All the life of Lyndon LaRouche— in particular as points of reference historically, in 1982 with López Portillo, and in 1976 with our friend Fred Wills [at the Non-Aligned Movement Summit] in Colombo, was to say we need to be freed from the debt. And we need a bank organized for the development of whole countries of the world. This is what the World Bank was intended to be after World War II. But then, as the Bretton Woods system, it was miscarried by all the Western leaders.

and all other countries that would be connected to this system.

So, it demands a mobilization of the leaders of the world, but also the populations everywhere to put pressure on the leaders of the world and the economic system. It's very interesting from that standpoint that the Yellow Vests in France are calling some of us to be experts in this debt moratorium or debt amelioration, which would get rid of this debt system and see what's fair and unfair debt.

So, the Glass-Steagall proposal is absolutely a part of that. It means that banks which are involved in giving credit or organizing deposit accounts would be sepa-



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Clockwise from upper left: Dennis Speed, Jacques Cheminade, Kirk Meighoo, Mike Callicrate, Walter Formento, Diane Sare.

What we need now, is what the Chinese with the New Silk Road are doing by let's say directing economies. It's an economy based on real physical development, and a growth based on the development of the creative potential of the human being, including in culture. There are efforts in China for Classical culture, for Classical Chinese poetry. And all of this is connected to the whole—which the West would never tell about—to the whole development of the New Silk Road concept of the Belt and Road Initiative.

So you have that as a reference. And you have the whole fight of our lives which comes into this direction. And now we have a big chance that this becomes for us a real point existing in reality and accomplished. So, we have to go much further, and we speak about the World Land-Bridge. There has to be a World Land-Bridge with the United States, China, Russia, India,

rated from banks which are involved in the markets and which are becoming elements or scions of this whole British system. So, the separation would clean the system.

We need much more, that's why we need a credit system for the future, developing this type of physical economy with increasing productivity per unit of Earth's surface per human being and per unit of matter processed. So, this is a sense of a high flux density economy; high energy-flux density should be the choice of this economy.

Among the Four Laws of Lyndon LaRouche, this is the fourth law—what you should choose once you clean the system, and once you get rid of this debt system. That's the key, because it's there that you have to invest human creativity in things that put human beings at the border of this capacity to create. And it

will connect the space programs—the astronaut, after all, has to work both with his brains and his hands; exactly like farmers have to work with their brains and their hands.

The more advanced farmers in the United States or in Europe are, in their tractors, real astronauts on Earth. I liked a lot this presentation of our American farmer, Mike Callicrate, who said that the soil itself has to be seen as a living matter. It is something that is alive, and it has to be enriched and developed. It has not to be seen as a support or something that you take advantage of; it is something that you feed into for the future. I think that this concept is what links the astronaut and the farmer and which links all of us in this society.

I raise this issue of farmers' education, because I think, what we always discussed with Lyndon LaRouche, that the type of education that is required is an education which creates or generates in human beings this constantly increasing capacity and this joy to create when you do something socially good for the others. A big issue today, as Helga said before, is public health, because it's a matter that involves the whole world. It demands world cooperation. And what I keep repeating is that instead of organizing hospitals through financial management, we should organize states as hospitals for the care and development of the people.

Two Questions for the Whole Panel

Ambassador Mauricio Ortiz, Ambassador of Costa Rica to Canada: In your proposal you mention “an emergency mission to build a fully functional health infrastructure for the world, particularly in South America, Africa, and parts of Asia.” This proposal is very much needed in those regions.

Are the international financial institutions willing to invest in that proposal, and what will be the arguments from the Schiller Institute to these institutions to make it real?

If your proposal is realized, you might note that our country, Costa Rica, has an efficient primary health system with more than 1,000 rural health posts and, along with Chile and Cuba, one of the best health programs in Latin America. This is a system that can be replicated in other countries, including developed countries.

Carolina Gutiérrez Bacci, Third Secretary, Per-

manent Mission of Colombia to the United Nations: How can Latin America play a determining role in the consolidation of this new global configuration?

Robert Baker: In terms of the health infrastructure and my particular focus on agriculture, I think it's an absolutely vital situation to develop a food system where everybody can get a proper diet of nutritional food. That is the basis on which to build the argument why every community should have access to the most advanced healthcare that science has brought us to this day. But the driver in that obstacle behind the scenes is an international financial cartel that's building world global monopolies to stop that. To the extent the nations of the world can expose that and unite the people to take a stand against it, that's going to be a very important aspect of getting a healthcare system internationally. But this is also why this type of conference we're having becomes very instrumental if not a key element of getting that done.

Kirk Meighoo: We're close neighbors of Costa Rica, and we have some links with them that we've established recently. This problem of self-sufficiency is something, especially for a small society, and all these small little islands, the question of self-sufficiency in everything is just simply not there.

So, people have even asked questions whether we deserve to be independent, or should we be permanent colonies? These are questions that stay with us, even after independence. It's something we struggle with. We do have to have a system where we do access, just as the last speaker said, the best healthcare possible for all humanity. But we cannot simply be recipients, receivers of these things; dependents, colonial dependents as we have been for 500 years. We have to have a system where we are also producers.

So, what is the system of trading [for] a local economy, of local production where we are contributing to our own development, as well as participating with others? That is the type of system that the global financial system has been against, and has never been for. It is the old imperial system, and they are just merely modern continuations of that. What we have to do, what our task is, is to create this new system. Not just money from the old system to create this, but how do we make the system where, not only do we each benefit from the best the world has to offer, but to

which we are also contributors as full human beings, as well.

Walter Formento [as translated]: All of the contributions that have been made are very significant. It's clear that for South America the call for the five nations that Putin made, which Helga also referred to, is a matter of great hope, because this would allow us to ensure that we could achieve peace. Therefore, it will be international politics that will allow us to decide things based on a dialogue of civilizations, a dialogue of peoples, of nations, what the future of mankind and nature will be. In Argentina in particular, the production of food—Argentina is a great producer of food, along with South America, along with Brazil, Paraguay, Bolivia, Uruguay as well. The great multinational conglomerates involved in the food sector have taken control as of 30 years ago in Argentina, both in terms of our ability to produce as well as to export.

Therefore, at this moment in Argentina and in South America, governments have changed, and with the backing of such an international conference that President Putin has called for, we can move forward in providing sovereign channels for both producing and exporting. The policies that can be carried out inside Argentina in the food sector have to do with allowing producers' cooperatives to be a part of the great conglomerates that engage in production. We shouldn't dissolve large-scale production and technology, but rather introduce the nations and all society through such cooperatives, so that they participate in the solution, and are part of the solution. Therefore, there is a way to democratize production.

Michael Callicrate: I was really moved by Dr. Meighoo's comments about islands and the small economies on those islands. I can really get somebody pretty seriously depressed when we talk about the state of the world. But, I can also lift them and get them more excited when I talk about the possibility of going home—going home to our communities and making them as good as we possibly can. Become wealth creators, grow things, make things, restore the primary wealth trading enterprises to societies around the world. Like with Kirk, if you can just stop the predators, the economic, financial, big food monopoly predators from extracting the wealth and leaving nothing but poverty behind, I think we can begin to repair this damage.

Because we do control, as farmers and ranchers and citizens, we do to a large extent control our ability to create the wealth. It's what happens to it after we create it. The last speaker talked about how we shouldn't dissolve the big corporations. I would argue yes, we should dissolve them. The big corporations should be broken up; not completely eliminate their facilities, but at least put them to where they have to perform in line with the public good. So, I love that analogy of those small islands of Trinidad and Tobago, and islands all across the Caribbean, and how that is very much like the islands in rural America, in rural communities around the world.

I'm saying let's go back to making things and growing things, and teach that, and kill this model of industrialization of these critical industries, like food.

Jacques Cheminade: Just one word about Cuban doctors, to speak about that island. It's proof that you can have the most advanced medicine, interferon, where French doctors have to go there to learn from them. Then you have the best doctors, because they stay and live where the patients stay and live. And third, they are involved in cooperation with other countries in the whole world. They send them, and they do a very good job. In particular, they are now in Doha, in Europe in Italy, and now in French Martinique, so the French have to recognize—and sometimes it's difficult for them—that these were the best; a team of 15 Cuban doctors in Martinique now. So that's proof that an island can do an excellent job in a very advanced field, and at the same time they are most human.

Diogène Senny [as translated]: The global question of poverty is just a part of the world situation and the African situation. We all know that when we present the situation of the continent, we are more interested in the question of the debt, money, slavery, and we forget that, for example, monoculture which has been imposed by the international cartels has destroyed agriculture with the hedge funds that I denounce, because they want to make money with our land. They buy what we have in our continent, in our countries, to generate profit for them, for a small group of people. But not allow millions of lives of people to develop their land.

That's why this question of agriculture and self-sufficiency in Africa is one of the most important problems. It's not agriculture, it's money culture; that's the

agriculture we have. If we want to have modern rice, we have to have modern developments. It's very important for us, this agricultural question. We see that it is a world problem. What was used before by the African farmers is not in their own hands, because it is in the hands of the hedge funds, the speculative hedge funds.

It is very important to understand this, and it is not very well known in the international debate now.

Diane Sare: I think we should all remember that we have been blessed to have to inhabit a beautiful, fertile planet which is very conducive to sustaining life, and in particular human life, if we are sane. But there are two trillion galaxies or more in the universe, and each of these has many other planets. So, contrary to the views of the Malthusians and the money-changers, the creativity of each and every human being on this planet is urgently needed; because there is no such thing as making too many discoveries. We have to develop the universe as a whole. Therefore, we have to grow into a new era of mankind.

Dennis Speed: We've had Europe, Africa, South

America, the Caribbean, and the United States all on this panel in the form of discussion. This is the process that must be correlative to whatever happens among heads of state. And this process which the Schiller Institute is initiating, which is also bringing up various forms of important ideas and painful truths as well, is crucial to the actual success of the global Four-Power and related summit that we've been talking about. Finally, in the era of coronavirus, this is the only means by which people will be able to prosper and not perish; in this people-to-people dialogue we've conducted here.

I want to thank all of the panelists who were with us today. I think there's a lot that can be done also in additional presentations that we may find in the future, pairing some of you together. I'd certainly like to see the Pan-African League together with Mr. Mike Callicrate. I'd like to see Kirk Meighoo involved in some discussions like that. Jacques is always welcome, and he's always teaching us things. He had something new for us today; go back and take a look at his presentation afterwards, because he has some very interesting ideas that he put forward there.

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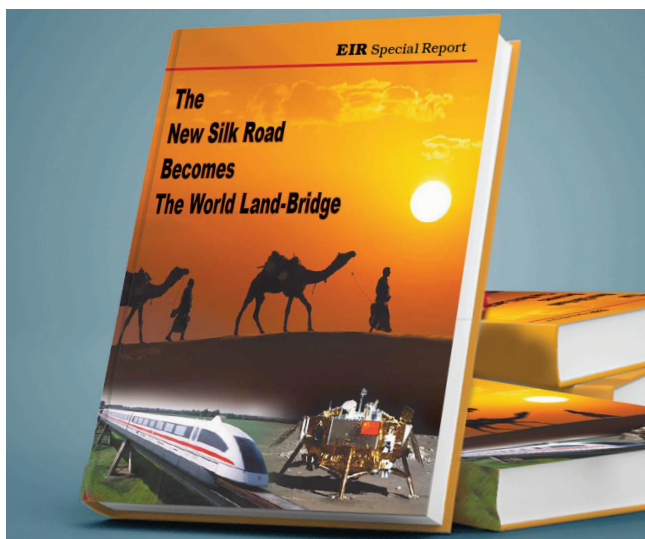
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