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LaRouche's 'Apollo Mission' To Defeat the Global Pandemic: Build a World Health System Now!



Founder: *Lyndon H. LaRouche, Jr. (1922–2019)*
Editor-in-Chief: *Helga Zepp-LaRouche*
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e-mail: eirms@larouchepub.com
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Webmaster: *John Sigerson*
Assistant Webmaster: *George Hollis*
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(571) 293-0935

European Headquarters: E.I.R. GmbH,
Bahnstrasse 4, 65205, Wiesbaden, Germany
Tel: 49-611-73650
Homepage: <http://www.eir.de>
e-mail: info@eir.de
Director: Georg Neudecker

Montreal, Canada: 514-461-1557
eir@eircanada.ca

Denmark: EIR - Danmark, Sankt Knuds Vej 11,
basement left, DK-1903 Frederiksberg, Denmark.
Tel.: +45 35 43 60 40, Fax: +45 35 43 87 57. e-mail:
eirdk@hotmail.com.

Mexico City: EIR, Sor Juana Inés de la Cruz 242-2
Col. Agricultura C.P. 11360
Delegación M. Hidalgo, México D.F.
Tel. (5525) 5318-2301
eirmexico@gmail.com

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LaRouche's 'Apollo Mission' To Defeat the Global Pandemic: Build a World Health System Now!

EDITORIAL

Our Humanity Will Be Our Cure: The Statecraft of Durable Survival

We report here on LaRouche PAC's internet Town Hall Meeting of April 11, 2020. The meeting presented Helga Zepp-LaRouche's call—in light of the now unfolding COVID-19 pandemic—for the creation of a worldwide health system that is fully modern in terms of infrastructure and qualified staffing. Schiller Institute Chairwoman Helga Zepp-LaRouche keynoted the meeting, speaking from Germany. She was joined by Ramasimong Philip Tsokolibane, the leader of the LaRouche movement in South Africa, speaking from Evaton, near Johannesburg; LaRouche PAC leader Kesha Rogers, speaking from Houston; Professor Dr. Mario Roberto Morales, speaking from Guatemala; and Harley Schlanger, who prepares and presents LaRouche PAC's daily video [briefings](#). The meeting was moderated by Diane Sare in Manhattan. We present here only the briefest of reports; the full video of the event may be viewed [here](#).

Taking place on Holy Saturday, at a time of a grave international crisis, the April 11 international webcast began with a reading of excerpts from a 2002 [document](#) by Lyndon LaRouche, “Easter: A Time for Reflection,” an offering which today resonates in its message. LaRouche writes:

What meaning shall you then assign to the notion, that Christ came to save humanity from something awful? Consider the awful historical evidence which situates the events celebrated in the Christian's present Holy Week. To discover that meaning, you must set aside the popular misconceptions of words such as “spiritual,” and

situate the personality of Christ in a way which all of the greatest scientists have taught us to do, by their example, and as I show you, once again, now. They have taught us, as Socrates did, and as the great Moses Mendelssohn has done, that mankind's universe is essentially a spiritual world. They have taught us, that the challenge to each of us, is to see it as a real universe, an efficient reality which unmasks the illusory shadows of sense-certainty....

In the domain of physical science, the essential function of the term “spiritual,” originates in proof of a fundamental difference between man and beast. The rigorous definition of that term of science was introduced to European civilization by Plato, who demonstrated the meaning of the term through his Socratic dialogues. All success in the progress of modern physical science, was set into motion through modern Europe's rediscovery of that significance of those dialogues; dialogues which typify what are otherwise known among qualified theologians as “spiritual exercises.” ...

It is the power of discovery and communication of such principles, a power unique to the human individual, which defines the nature of mankind....

Such is the nature of man, and such must be the ordering of social relations among all persons.

We Are All ‘Brothers and Sisters’

The primary theme running throughout the webcast was “that we are all in this together,” that this is not a

time for nation to turn against nation, for culture to turn against culture, or for the toleration of an oligarchical Malthusian policy of triage and mass murder against the poorest and most defenseless nations of the world. This is a global war against the COVID-19 pandemic, and only by nations working together, helping each other and rectifying injustices of the past, will this fight be won.

Ramasimong Philip Tsokolibane, in the greater Johannesburg area, the leader of the LaRouche South Africa movement, described in horrifying detail the conditions which now exist both in his own nation and throughout the African continent. Still in the early phase of the pandemic, already 52 of the 54 African nations have reported more than 10,000 cases of COVID-19 and more than 500 deaths from the virus, according to the World Health Organization's [report](#) of April 7.

Without a massive intervention, it is likely that the spread of the virus will explode across the continent. Additionally, Tsokolibane reported on the recent resurgence of Ebola in the Democratic Republic of the Congo and the devastating locust plague now raging in East Africa. The people of Africa are extremely vulnerable in facing this crisis. Poverty, hunger and malnutrition are rampant. Seventy percent of Africans are without electricity, and Africa possesses only one doctor for every 5,000 people (compared to 20 doctors per 5,000 in Europe).

Tsokolibane pointed to the financial and economic policies of the British Empire, the World Bank and the IMF—which have crippled Africa with a debt cycle of usurious, never-ending loans that have deliberately stymied in-depth development—as the root cause for the conditions in Africa today. As a result, he stated:

We do not have hospitals, we do not have hospital equipment. This was done deliberately through the policy of depopulation. Maybe they were planning for such days—when we need that infrastructure, it won't be there; people will just die.... In South Africa, the policies that have been implemented all along killed our culture, killed our infrastructure—especially in health.... These are the policies of the IMF.

Asked by Helga Zepp-LaRouche if he had a mes-

sage for the people of Europe and the United States, Tsokolibane replied:

To think about us as brothers and sisters. They mustn't [wait to] get a call from Heaven that asks them, "Where are your brothers?" African countries are crying that we are facing all these crises. They don't have to wait for us to ask. They've got their ambassadors, high commissioners, in every country, more or less, in Africa. I think those ambassadors are in our countries specifically for such things—to know what's happening. Yes, we cry that we need help, but at times they just give promises. They come up with pledges, but those do not materialize. So, one can think that all they want is for Africa to die. But if you have bread, why don't you give your brother or sister a piece of that bread? Because we are human beings, we are not just cattle to be driven to the slaughtering house. So, please, please help us!

Ending Oligarchical Economics

Picking up on the theme introduced by Tsokolibane, Professor Mario Roberto Morales of the University of San Carlos in Guatemala presented a graphic picture of the oligarchical nature of Guatemalan society and Guatemala's economy, and how that oligarchy is maintained in power with the collusion of the World Bank and international financial institutions. He described how the people of Guatemala are only able to survive day-to-day from the money sent back into the country, by the huge number of illegal Guatemalan immigrants in the United States sending funds to their family members back home.

Guatemala currently reports 120 positive cases of the coronavirus, but as in the case of the African nations, the amount of testing done so far has been minuscule, so the true spread of the virus is unknown. Also identical to many African nations, the impoverished population has very limited access to health care, or no access at all, so there is nothing standing in the way of an explosive increase in transmission and mortality.

Professor Morales stated that what is urgently required is a more free capitalism—a capitalism of equal opportunities—a new system in which capital serves material, physical activity, and not capitalism based on

unpayable loans and domination by international corporations.

One Humankind

Pointing to the conditions described by Professor Morales and Philip Tsokolibane, Helga Zepp-LaRouche stated that the only solution to this horrific picture is to “build up a world health system, a decent health system in every single country.” She called for a world-wide standard of health care modeled on the U.S. Hill-Burton standard of 1946, with regard to the number of hospitals per geographic region, the number of hospital beds per 1,000 people, the number of doctors and trained hospital staff per 1,000 people, as well as a dramatic increase in life-saving hospital equipment, such as the ventilators so urgently required right now.

To accomplish this will require more than doubling of the current number of hospital beds world-wide, and even a far greater increase in terms of the numbers of ventilators and other necessary equipment. Mrs.

LaRouche stated that this is only possible with a centralized approach in every country, an approach focused on building up industry and agriculture. This must be done in tandem with an immediate retooling and expansion of the industries of the industrialized countries.

More fundamental, Zepp-LaRouche stated, is the urgency of “a summit of the Presidents of the four largest powers—the United States, Russia, China, and India—and all other countries called upon to join the efforts to change the world system.” The world needs a new credit system, one based on the principles of Lyndon LaRouche’s Four Laws, a New Bretton Woods system that will replace the current speculative financial operations of the casino economy with long-term, low-interest credits for the physical-economic upgrading of the developing countries. With this approach, she stated, “we can overcome confrontation and war as a way of conflict resolution, and find a new way for all nations to work together for the one species, the one humankind.”

Cover This Week

A scientist at the Centers for Disease Control's Technology Transfer Office implementing molecular testing.



CDC/James Gathany

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PANEL 3 For a Better Understanding of How Our Universe Functions

PANEL 4 The Science of Physical Economy

More information is available [here](#).

I. Strategy to Defeat the Pandemic

DRAFT SCHILLER INSTITUTE PROPOSAL

LaRouche's 'Apollo Mission' To Defeat the Global Pandemic: Build a World Health System Now!

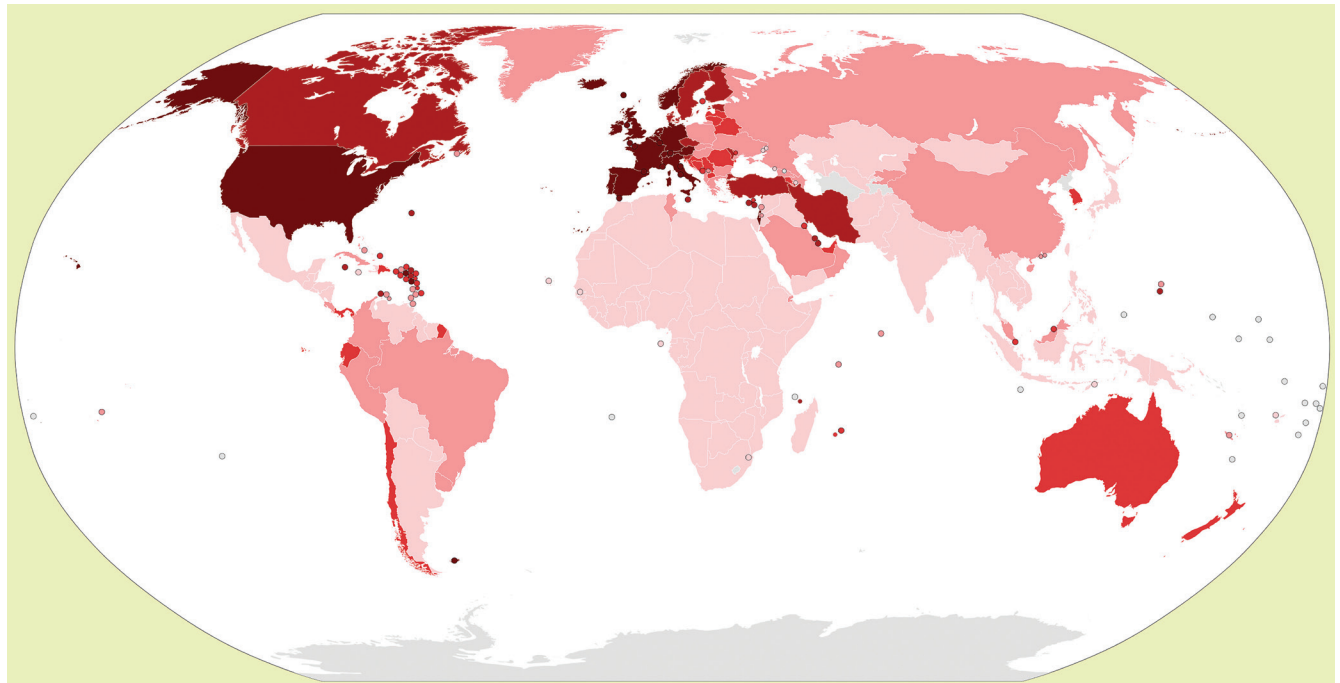
Introduction

April 10—At the time this urgent call to build a World Health System was written, the world had confirmed over 1.5 million cases of COVID-19, and the number of deaths attributed to the pandemic was over 80,000. This disease, first active in humans in December or November 2019, has spread, within a matter of months, to

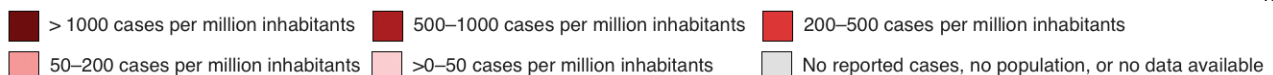
nearly all nations of the world, with a ferocious rate of growth in populations not taking strong measures to arrest its advance. The mortality rate among those infected is estimated to be an order of magnitude greater than that of the seasonal flu. At the time you are reading this call to action, the numbers will be greater, possibly much, much greater.

COVID-19 per capita

(Confirmed cases as of 13 April 2020)



WHO



Gravest of all, we could be witnessing an explosion of infections and deaths in the so-called less-developed sector or Third World, especially in Africa—whose underdevelopment is the Achilles Heel of the entire human species, which requires special attention, as we specify below.

Defeating this deadly virus will require immediate, coordinated global action: intensive public health measures, including extensive testing and isolation of those found to be infected; a huge increase in the availability of healthcare facilities and equipment; significant investment and resources devoted to finding cures and a vaccine; great strides in sanitation measures, especially in less-developed nations; and an end to the historically unnecessary lack of development—and outright looting—in the world. This global pandemic emphatically requires a global response, as reservoirs of the virus in any part of the world could cause resurgences for years.

It requires a World Health System covering every part of the planet.

Such a global response requires, most centrally, the coordination of the United States, China, Russia, and India—a Four Powers alliance open to all nations of the planet. The leaders of those four nations should hold a summit as soon as possible to work out common approaches to addressing the enormous health, material, and infrastructural needs of the world, as a first step towards creating an entirely New Paradigm to replace the bankrupt old system.

There is no other way, no lesser course that will actually defeat the pandemic.

Although COVID-19 is the disaster currently inflicting itself on humanity, it is only one of many to which the world is susceptible, due to a failure of the international order over the past fifty years, most especially the deadly looting of developing sector nations. A solar coronal mass ejection could knock out most of the world's electricity grids—why have they not been hardened against such an event, even in the so-called “developed” countries? An as-yet-undiscovered asteroid or comet could destroy an entire continent—why have we developed no defenses against this threat? There are 800 million people on this planet who lack adequate food—why has this been tolerated? A plague of locusts currently menaces the lives and livelihoods of tens of millions. Another disease could spring up any week—why do we not have better defenses against viruses?

The world community must create a resiliency for successful long-term survival, not just in the short-term

while hoping that no unusual events occur, but prepared for true safety and security. This cannot occur under the neo-liberal economic paradigm that is now failing. It cannot occur under a regime of bailout and treating financial values as sacrosanct. That system, with its \$1.8 quadrillion speculative bubble, is now thoroughly bankrupt, and must be put through a process of bankruptcy reorganization long specified by the American economist Lyndon H. LaRouche, along with the simultaneous requirement to build a new Hamiltonian credit system, nationally and internationally, to put humanity back on the track of science-driven physical-economic development. The long-term successful survival and flourishing of the human species requires a world system that recognizes the divine spark of potential genius in each individual and which seeks to foster that potential through economic, cultural, and scientific development.

Here, we take up the task of delineating the needed World Health System. This is a first approximation of the requirements, which we hope will be enriched by input from international experts and concerned people in the immediate weeks ahead.

We begin by posing, and answering, two questions:

1. What is the cause of this, possibly the worst crisis humanity has ever faced?

2. What is the full set of measures that should be taken on all fronts, both in the United States and worldwide, to defeat the pandemic?

We do not start by listing all the bottlenecks and shortages, and try to work from the bottom up. We start instead by figuring out what is required: We must use this existential crisis to finally overcome the underdevelopment of large sections of mankind, a condition that is not worthy of the human species. Then, we determine the physical economic requirements to achieve each step along the way, including the bills of materials and manpower requirements, as defined from the standpoint of industrial engineering. We then return to the bottlenecks and figure out how we are going to break through them, on schedule or earlier. We will find that, to achieve that trajectory, we will be on a forced march requiring constant technological breakthroughs; we will find that we are in the domain of the science of physical economy, where Lyndon LaRouche's work is our only guide and road map.

We will also find that such an approach requires full international cooperation, especially between the United States and China, to achieve these common

aims of mankind. Anyone opposing such cooperation should be scientifically classed in the same genus and species, politically, as the coronavirus itself.

That approach is how Franklin D. Roosevelt mobilized the nation to defeat fascism in World War II. That is how NASA engineers turned the looming Apollo 13 catastrophe into success. And in our current endeavor to defeat the coronavirus across the planet, here too failure is not an option.

This Is a Crisis Fifty Years in the Making

The coronavirus was not caused by a Chinese proclivity to feast on bats. Nor was it cooked up in a secret military lab in the United Kingdom or the United States (although Prince Philip's public promotion of his desire to be reincarnated as a virus to help reduce the planet's population, gives pause for thought). It was caused by an underlying physical-economic process that has been underway for at least a half century. In fact, Lyndon LaRouche forecast such a current pandemic nearly 50 years ago, first in 1971 in his public warning about the end of the Bretton Woods system; and then repeatedly beginning in 1974 testimony before the U.S. House Judiciary Committee where he warned of the danger of an impending biological holocaust, due to misguided economic policies.

In a 1985 [document](#) titled "The Role of Economic Science in Projecting Pandemics as a Feature of Advanced Stages of Economic Breakdown," LaRouche explained that the actual cause of pandemics and similar phenomena is when society's Potential Relative Population Density (PRPD)—the physical-economic power of a society to maintain a rising population at improved standards of living and longevity—drops below the level of the actual population.

Sustainable economic (and population) growth, is measured as an (ideally) constant rate of increase of the potential relative population-density of that society. This is the measure of the average potential for growth of the society as a whole, and is also the absolute measure of per-capita productivity of labor in that society.

LaRouche explained that achieving a rising PRPD requires that the economy produce "free energy" above the "energy of the system," and he specified:

In economic processes, the "energy of the

system" is represented by the interdependency among three "market-baskets" of consumption. Each of these "market-baskets," corresponds to a minimum value, required to maintain the economic process at a constant level of negentropic potential. These three are: (1) The "market-basket" of households' consumption, per-capita; (2) The "market-basket" of producers' goods; (3) The "market-basket" of basic economic infrastructure: energy production and distribution, water management, transportation, etc....

When Do Pandemics Erupt?

The "ideal" case, at which economies are to be examined for economically-determined eruption of pandemics, is the case for which the potential relative population-density falls below the level of the existing population ... [such as] the instance in which the average consumption is determined by a fall of potential relative population-density, below the level of requirements for the existing population.

But there is also the case, LaRouche emphasizes, where—

the differential rates of distribution of the households' goods "market-basket" falls below the level of "energy of the system" for a large part of the population. We are most concerned with the effects on health, as the nutritional throughput per-capita falls below some relative biological minimum, and also the effect of collapse of sanitation and other relevant aspects of basic economic infrastructure upon the conditions of an undernourished population.... [In this case], the undernourished population might become a breeding-culture for eruption of epidemic and pandemic disease....

That is precisely what has occurred during the last 50 years of deadly looting of Third World populations, especially Africa, through the policies of the City of London, Wall Street, and of course the International Monetary Fund.

The full impact of such policies, LaRouche concluded, can only be understood by locating man's development (or what Vladimir Vernadsky referred to as

the noösphere) within the total biosphere.

Society is an integral part of the biosphere, both the biosphere as a whole, and regionally.... Rather than viewing a deep fall of the potential relative population-density, as merely a fall in the relative value for the society as such; let us examine this as a fall in the relative level of the biosphere including that society.... [T]his must tend to be adjusted, by increasing the role of relatively lower forms of life ... [which] “consume” human and other higher-level forms of life as “fuel” for their own proliferation.... In that variant, human and animal pandemics, and sylvatics, must tend to resurge, and evolve, under certain kinds of “shock” to the biosphere caused by extreme concentration of fall of population-potential....

Current Global Inventory

Hospitals

The world as a whole possesses a current inventory of 18.63 million hospital beds. This constitutes a tremendous deficit, rendering country after country incapable of defeating the novel coronavirus. To consider the needed level of beds, consider the United States’ 1946 Hill-Burton Act, which set a standard of 4.5 hospital beds per 1,000 people, in order to ensure the health and well-being of the population. Current levels are 2.8 for the United States, 0.7 for South Asia, 0.7 for the Heavily Indebted Poor Countries, and 0.5 for Nigeria, which has one-fifth of the population of sub-Saharan Africa.

To meet the standard of 4.5 beds per 1,000 people, the world would have to increase its hospital bed inventory to 35 million beds, nearly double the current level. This would require the construction of 35,200 new modern hospitals, especially in Africa, Ibero-America, and Asia, where the new beds would be immediately put to necessary use.

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

Ventilators

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

nations lacking health infrastructure. The United States has a total of about 170,000 ventilators for its 330 million people, which is about 500 ventilators for every million people. Germany has about 25,000 ventilators for its 83 million people, about 300 ventilators per million—the highest per-capita level in Europe.

The picture in Africa, however, is absolutely devastating. According to an April 7 [article](#) in *Time* magazine, there are 500 ventilators for the 200 million people of Nigeria, which comes out to 2.5 ventilators for every million people—about 200 times less than the United States on a per-capita basis. In Sudan, there are 1.9 ventilators for every million people. The Central African Republic (population nearly 5 million) has a total of three ventilators, and Liberia, with a population of 4.7 million people, has none.

Estimates by the Brookings Institution and the *Financial Times* are that India has approximately 20,000 ventilators, which would be 15 ventilators for every million people.

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

Current Understanding of COVID-19

COVID-19 attacks the body in at least two ways. First, it has effects very much like the flu as it multiplies within the body. Fevers, body aches, headaches, and fatigue are common, as well as a cough, especially a dry cough. The cough is due to a specific characteristic of the virus: its targeting of lung cells and the immune system response it elicits. At the time of writing, it is believed that in many patients reaching the second stage of the disease, ARDS (acute respiratory distress syndrome), the body itself is attacking the lung cells as a “storm” of the immune system’s cytokines trigger an escalating response against the virus and cells infected with it, as well as healthy cells.

The death rate for those afflicted with the disease ranges from 0.5% to over 5%, and depends on the physiology of the individual and the capacity of the local healthcare system. The death rate is also uncertain, due to low testing rates. The percentage of infected persons requiring hospitalization ranges from 10% to 30%.

It is possible to target the following areas of disease transmission and morbidity: reducing the transmission rate through social distancing, hygiene, masks, and business closures; reducing the infection rate through vaccinations; treating the virus itself with antiviral

medications; and preventing the acute respiratory distress syndrome that the virus causes in acute cases. These methods will be discussed in greater detail below.

Africa: A Case Study

Sub-Saharan Africa is home to 1.1 billion people, 14% of the total population of the planet. Due to their co-

lonial past and present, the nations of the region suffer extreme poverty, lack of electricity, and slum conditions in its urban centers, at anywhere from 2 to 5 times the average global rate. See the table, Measures of Underdevelopment.

Sub-Saharan Africa has:

- 14% of the world's population
- 60% of the world's extreme poor
- 70% of those worldwide lacking access to electricity
- 20% of urban dwellers worldwide living in slums.

This is a part of the human race where the potential relative population-density has clearly plunged way below the actual population, courtesy of the genocidal policies of the British Empire and their Wall Street side-kicks.

Consider also the case of Haiti, by far the poorest country in Latin America and the Caribbean, with conditions similar to those of the most immiserated African nations. Haiti has a population of 11.1 million. Health experts have estimated that the COVID-19 pandemic could claim about 800,000 lives in Haiti—over 7% of the population.

Nigeria, with about a fifth of Sub-Saharan Africa's total population, has key poverty and related indicators that are typical for the whole region. The problems that Nigeria faces in combating the coronavirus are emblematic of not only Africa, but the entire Third World.

In the developing sector in general, including countries like Nigeria, large percentages of their populations live in inhuman squalor. The majority of their workforces are in the "informal economy," surviving from day to day on street activities that range from the gray to the black economy. In many cases, up to 70-80% of

Measures of Underdevelopment

	World	China	Sub-Saharan Africa	Nigeria	Haiti
Total Population (billions, 2020)	7.8	1.4	1.1	0.2	0.011
Population in Extreme Poverty	9%	0%	41%	47%	80%
Lack Access to Electricity (%, 2017)	11%	0%	55%	46%	56%
Urban population in slums* (%, 2014)	30%	25%	55%	50%	74%

Source: World Bank

* A slum is defined by the World Bank as a housing unit lacking one or more of the following: running water, adequate sanitation, sufficient living area, durability of housing.

their workforce is part of the informal economy. "Sheltering in place" or locking down without work means literal starvation for very large numbers of people, as well as certain infection with COVID-19 in the slums where they live. Wash your hands repeatedly? This is a cruel joke to the millions and millions of Africans, Asians, Latin Americans and others who do not even have running water.

So how should the pandemic be addressed in such nations?

1. There must be a totally centralized national approach, in many countries centered on the military, which is often the only institution capable of organizing and carrying out such an approach. In many cases, for good or bad, they are also the only remaining national institution still standing, and with popular credibility.

2. The population, especially in the cities, has to be fully tested and segregated into two broad groups: Group A, who do not have COVID-19; and Group B, those who tested positive, even if they are asymptomatic. The health care and other public officials conscripted to perform the tests must be supplied with advanced testing equipment in sufficient supply, along with adequate Personal Protective Equipment (PPE) and other protection.

3. Group B must be immediately quarantined in separate housing units, whether hotels, converted office buildings, sports and convention centers, or quickly-constructed new modular housing units. Those new facilities must have work and recreational facilities *in situ*, for those well enough to use them, as well as necessary staffing of skilled personnel, including nurses

and doctors. Those health professionals will also have to be quarantined, so as to not infect their own families and friends.

4. Sick and very sick patients must be hospitalized. New hospitals have to be built with sufficient beds to handle the patient load, and be dedicated exclusively to COVID-19 cases. Adequate staffing by doctors and nurses has to be organized, including by nationally conscripting them.

5. Group A must be quickly formed into education and work brigades, both in industry and agriculture, much like FDR's Civilian Conservation Corps (CCC) project in the Great Depression in the United States. They must produce food, housing and clothing sufficient to feed themselves, as well as Group B. This will require a return to national food self-sufficiency, which

in turn will necessitate the importation of the capital inputs for modern agriculture—such as fertilizer, pesticides, tractors and irrigation equipment. The local workforce must also start building the housing, hospitals, and other required infrastructure to get the job done. This will require on-the-job training and large-scale transfer of modern technologies.

What China is already doing in Africa with the construction of new rail lines and other infrastructure is exemplary. The extension of the World Land-Bridge into Africa is essential, and will benefit enormously from in-depth cooperation between China and the United States in particular, as well as other countries.

But more must immediately be done by the world community to address the African situation, as we elaborate at the conclusion of this report.

Chapter 1

Public Health Measures

Health Care for Serious Cases

Hospitals

The Institute for Health Metrics and Evaluation (University of Washington School of Medicine) estimates, as of April 8, that a peak of approximately 100,000 hospital beds, 20,000 ICU beds, and over 16,000 ventilators will be required in the U.S., based on current rates of spread and medical care. According to a [survey](#) by the American Hospital Association in 2018, there were just shy of 800,000 staffed beds in U.S. community hospitals, and around 70,000-80,000 adult ICU beds. Since these beds are not typically empty, just waiting for patients to need them, the large number of beds does not mean that there will not be shortages, especially local shortages, as the number of hospitalized patients reaches its peak.

The current level of total hospital beds in the United States, in its broadest measure, is 2.8 per 1,000 people, barely one-third the 1970 level of 7.9 beds. On the basis of “community hospital beds,” which most of the population uses, there are only 2.4 beds per 1,000 people.

Consider the power, water, sanitation, and transportation requirements of hospitals. Using the United

States as a case study, an additional 575,000 beds would be required to bring the national average to 4.5 per 1,000 people. According to a 2007 [report](#) by the U.S. Energy Information Administration (EIA), the largest 3,040 hospitals, with approximately 915,000 beds (at the time of the study), used about 458 trillion BTUs of energy per year: 194 trillion BTUs in the form of electricity (57 billion kWh) and the remainder in the form of natural gas, district heating, and fuel oil.

Using this figure, U.S. hospitals with an additional 575,000 beds would require about 36 billion kWh of electricity per year. That translates into power plants supplying 5,000 MW at an 80% capacity factor. This would be the equivalent of five large nuclear reactors or two Grand Coulee Dams (running at average capacity). And that doesn't even take into account the natural gas requirements!

In the same report, EIA estimated that these 3,040 large hospitals used 133 billion gallons of water per year. Hospitals with an additional 575,000 beds would require an additional 84 billion gallons per year. For a sense of perspective, the world's largest proposed desalination plant, located in the Kingdom of Saudi Arabia, would provide about 100 billion gallons of de-



U.S. Bureau of Reclamation



CC BY-SA 4.0/Varistor60



CGTN

To build a world health system, we need adequate water and power resources, and a vastly expanded pool of fully-trained medical personnel. Left to right: the Hoover Dam, a high-voltage line transmission tower; a coronavirus patient being admitted to a hospital in Wuhan, China.

salinated water per year.

To bring online another 15 to 20 million hospital beds—to bring the world hospital bed count to the Hill-Burton level of 35 million hospital beds—would require about 100,000 MW of generating capacity, as could be supplied by 100 large nuclear power plants or nearly 2,000 small scale modular nuclear plants. Global water requirements for these new hospitals would require about 4 trillion gallons annually, which is about half the volume of water contained by the Three Gorges Dam.

Hospital beds aren't much good without doctors and nurses. The current crisis is seeing retired health care workers coming back to work, and there are cases of medical schools offering early graduation for students in their final year if they are willing to immediately go to work as doctors. As virus hotspots move around the world, healthcare providers able to travel should be encouraged to work in other regions and countries.

Ventilators

Using influenza pandemic scenarios considered in a 2005 planning [study](#) by the U.S. Department of Health and Human Services, there could be several million hospitalizations in the United States, with up to a million or more patients requiring ICU treatment and half a million requiring mechanical ventilators. Projecting from these figures to the present world population, 10 million people could require ventilators, with an estimated 1 million each in Africa, Latin America, and India.

Personal Protective Equipment

Personal Protective Equipment (PPE) is used at health care facilities to prevent patients from transmitting disease to health care workers or other patients. This includes gloves, respirators and masks, face visors,

goggles, gowns, hair coverings, and full-body suits. Without the high-quality filtration afforded by an N95 (or equivalent) certified mask, workers are put at serious risk of catching the disease themselves. Shortages are causing enormous price increases and tensions among nations seeking to produce or to import equipment from those nations that manufacture it.

An industrial gear-up is required to ensure that adequate supplies of PPE are available.

The physical layout of a hospital or other care facility can have an enormous impact on the quantity of PPE required. In a healthcare setting that includes only confirmed COVID-19 cases, care need not be taken to avoid transmitting the disease from one patient to another, and health care workers can wear protective equipment through an entire shift. But if nurses must attend to patients of mixed COVID-19 status, best practices mandate that they equip themselves with PPE before entering a COVID-19 patient room, and then dispose of the equipment immediately upon leaving, to avoid carrying the virus to the uninfected patients they will next be visiting. With this setup, ten sets of PPE could be consumed per day per patient room. Thus, health care facility arrangements that separate COVID from non-COVID patients can permit significant savings of PPE. Accurately separating these patients requires testing.

Respirators

A properly fitted N95 respirator protects the wearer from 95% of particles over 0.3 microns in size. While the SARS-CoV-2 coronavirus itself is smaller than this size, the virions do not float around entirely on their own and are effectively blocked by N95 respirator masks.

A 2015 [study](#) by the U.S. National Library of Medi-

cine, part of the National Institutes of Health, examining three scenarios of demand, estimated that if 20-30% of the U.S. population were to become ill, some 4 billion N95 respirator masks would be required. Extrapolating this figure to the world's population, the global requirements would be on the order of 100 billion N95 masks for the duration of the outbreak: some 15 billion in Africa, 10 billion in Latin America, and 20 billion in India.

Rapid Point-of-Care Testing

Developments in testing technology now allow for thousands of tests to be processed per day by a single piece of equipment in a dedicated laboratory (high-throughput) as well as for rapid test results at the point of care. The development by Abbott Laboratories of a portable testing unit capable of delivering a positive result in as little as 5 minutes or a negative result within a quarter-hour greatly speeds the process of processing patients presenting with possible COVID symptoms, allowing them to be sent to the appropriate COVID-only or non-COVID facility or hospital wing.

Health Care for Mild or Asymptomatic Cases

Isolation Accommodations

Everyone confirmed to have the novel coronavirus should have the opportunity to be isolated from their neighbors, roommates, and families. This means that asymptomatic or mildly symptomatic individuals must be offered free room and board accommodations in facilities designed to keep them isolated and healthy. Hotels—which have occupancy rates in the single digits—could be repurposed to this effect, with adequate PPE supplies and training



U.S. Navy/Timothy F. Sosa

ICU ward aboard the hospital ship USNS Mercy.

for a reduced hospital staff. The types of shelter arrangements provided following natural disasters would also be appropriate for these individuals.

This was the approach taken in Wuhan, in which *every* positive confirmed case was isolated under medical supervision, whether in a hospital, gymnasium, or hotel. Mild and asymptomatic cases could then socialize and engage in

group exercise classes—far better for their mental health than hiding in a room at home, fearful of infecting their loved ones! Two negative nucleic acid tests for the virus, taken 24 hours apart, were required before people could leave the isolation facilities. This form of isolation, going beyond staying (and infecting) at home, helped drive Wuhan's eventual victory over the virus.

In fact, China's achievement in Wuhan remains the most successful model to date for combating the coronavirus.

Mass Testing

Since anywhere from one-quarter to one-half of those infected with the coronavirus display extremely mild symptoms or no symptoms at all, it is impossible to rely on symptoms to locate all cases of the disease. Large-scale community testing—emphatically including those without symptoms—will make it possible to isolate cases in an effective and targeted way and make

contact-tracing more manageable. South Korea tested one in 170 people and used this knowledge to trace contacts, alert residents via text messages of nearby cases and hotspots, and reduce the spread of the disease.

The large-scale shutdowns currently used to crush the spread of the coronavirus do carry a toll, both economic and social. While these shutdowns are appropriate given a relatively low



Military.ru

Doctors don personal protective equipment in a hospital.



Commonwealth Media Services/Natalie Kolb



USAF/Mandy Foster

“Large-scale community testing—emphatically including those without symptoms—will make it possible to isolate cases in an effective and targeted way and make contact-tracing more manageable.” A Pennsylvania Department of Health Test Lab; and COVID-19 drive-through testing at Kadena Air Base, Okinawa, Japan.

level of testing, truly large-scale testing will make it possible to make intelligent decisions about lifting restrictions.

To test the world at the South Korea level of one in 170, would require 45 million tests. But many people will require more than one test: Examples include a person who has tested negative but who has had recent potential exposure, or a person in an isolation facility who is being tested to make sure that discharge is safe. To perform 60 million tests (factoring in some people being tested multiple times) at current worldwide testing rates would take the better part of a year.

The nasal swab tests most widely used at present operate by detecting components of the virus’s genome. These are referred to as PCR tests, named for the polymerase chain reaction process by which the genetic material is multiplied by 1,000,000 to 1,000,000,000 times to allow it to be detected.

Another kind of test would use blood, rather than swabs, and would detect, instead of the virus itself, antibodies produced by the body to fight the disease. These antibodies are present in people who were once infected but have since recovered. A virus test would come back negative, but an antibody test would be positive. With these tests, it will be possible to identify potential blood plasma donors (for convalescent blood serum therapy) and identify people who are no longer infected and likely to be immune. If further research reveals that the immunity enjoyed by those who have recovered is long-lasting, perhaps such people could be allowed to return to work, or be recruited to serve in the community as coordinators of meal deliveries, workers in isolation facilities for mild cases, etc.

Yet another form of testing could use samples of untreated sewage to detect the general presence and prevalence of the virus in a community.

Treatments and Vaccines

Pharmaceutical interventions can save lives and reduce disease in several ways. *Vaccines* “teach” the immune system about a pathogen, allowing it to immediately fight it when encountered in the future. *Antiviral medications* can target the virus itself, by preventing its entry into cells or its replication. *Antibodies*, derived from the blood of recovered patients or produced in a laboratory, can help the immune system fight the virus. *Combating cytokine storms* is a fourth approach, which could reduce the deadly respiratory effects of the virus, while not fighting the virus itself.

Readers eager to learn more can visit the accompanying [information page](#), “Pharmaceutical Interventions to Defeat COVID-19.”

Vaccines

Vaccines are used in advance to protect people from contracting a disease, by “priming the pump” of the immune system to get practice in defeating something that is similar to the pathogen but does not itself cause harm. People who are vaccinated against a disease are able to quickly fight it off if they come in contact with it, since their bodies are already prepared to do so.

The first phase of research is to establish the safety of the new vaccine. Researchers must make sure that the vaccine doesn’t itself cause problems. If study results are promising, the next phases of study will determine the effectiveness of the vaccine. Then manufac-

turing capabilities must be developed to produce the specific treatment. These multiple stages are the reason that a timespan of 12-18 months is given for vaccine development and production.

Antiviral Medications

Once the virus has taken hold in the body, treatments can prevent it from entering cells, prevent it from replicating, or target it for destruction by the immune system.

Several already existing medications are undergoing testing:

- *Avigan* (favilavir/favipiravir)—an anti-influenza drug developed by Fujifilm in Japan, is now included in China's treatment plan and is being studied in several countries, including the United States, China, and Japan.

- *Remdesivir*—undergoing trials in several nations, this drug was originally developed to combat Ebola by Gilead Sciences in the U.S., a company with significant experience treating other viral infections.

- *Plaquenil* (hydroxychloroquine) and *chloroquine*—originally used to treat malaria, these drugs have been used for auto-immune disorders as well. Trials are underway around the world, and many hospitals are already using hydroxychloroquine for their COVID-19 patients. Hundreds of millions of tablets are being produced even as its effectiveness is being studied.

Antibodies are structures created by the human immune system, which attach to pathogens, deactivating them, preventing their entry into cells, or marking them for destruction by the immune system. They can be created in the laboratory by using yeast, mice, or other animals as “factories.” At least a dozen groups are working on developing antibodies against the coronavirus.

Plasma of Recovered Patients

When someone recovers from the coronavirus, their blood continues to contain antibodies created by their own immune system to defeat the virus. Their donated blood can be transfused into severely ill patients to help their bodies fight the disease. U.S. hospital use of this technique began in the last weekend in March, and appeals on social media are now recruiting recovered COVID-19 survivors to donate their blood to help others.

Preventing Lung Problems

There are some drugs that do not target the virus itself, but seek to reduce the death rate and symptoms of COVID-19.

An advanced stage of the disease, in which severe

and life-threatening respiratory problems develop, is associated with an excessive response by the body's own immune system, in which the patient's body damages healthy lung cells in addition to those harboring the virus. Two antibody drugs already approved for other conditions—Kevzara (sarilumab) and Actemra (tocilizumab)—are being studied and used to reduce this excessive immune system activity. Entirely new antibodies are also being developed for this purpose.

Steroids can be used to reduce the immune auto-response, although they have the side effect of weakening the immune system. They are also becoming widely used by physicians.

Social Stability

Society must maintain stability, and people who are ill must be able to follow public health measures.

Sick Leave, Unemployment Benefits, Basic Income Stipend Payments

It is impossible to require people to remain at home if they rely on their daily work to supply their necessities of life. It is impossible to require homeless people to remain at home.

Employees must be provided with sick leave time to allow them to quarantine themselves to arrest the spread of the virus. Loans and grants must be made to businesses to allow them to continue to pay employees unable to work. Unemployment protection should be expanded to include those in nontraditional employment situations. To protect those who work informally and could not be expected to benefit from such programs, direct assistance in the form of basic income payments and the supply of necessities such as food and basic supplies is required. It is important that the isolation facilities for positive cases include people without homes, and that food and other necessities be included to allow everyone to isolate safely.

Moratorium on Foreclosures, Evictions, and Utility Shutoffs

Basic income to ensure the necessities of life will not be sufficient to pay mortgages, rent, utilities and car payments. A moratorium on foreclosures, evictions and utility shutoffs (including internet and telephones) must be implemented during the time of lockdown, and payments on mortgages and personal loans should be made optional. Businesses negatively affected by these policies will be able to apply for aid.

Securing Financial System Stability

The world's financial system, particularly that in the trans-Atlantic world, includes quadrillions of dollars in financial instruments that can never be settled. There should be no general attempt to maintain the values of financial markets. The financial collapse now occurring may have been triggered by the coronavirus, but the conditions for the blow-out have been laid by decades of disastrous policies. As Lyndon LaRouche expressed concisely with his triple-curve image, the physical productivity of many so-called "western" nations (including the United States) has decreased in per capita terms over the last several decades, in a way that accelerated with the collapse of the Soviet Union, while financialization has increased at a rapid and accelerating rate.

The required summit of the leaders of the United States, Russia, China, and India must take up the need for an orderly bankruptcy-style reorganization of the financial markets, to set the stage for banking to play a useful role in financing a global economic and health gear-up.

Social Distancing/Non-Pharmaceutical Interventions

Closing of Non-Essential Businesses

People whose daily work is not truly essential for the functioning of society should stay home. Financial and logistical arrangements required to support their livelihood must be implemented.

Masks

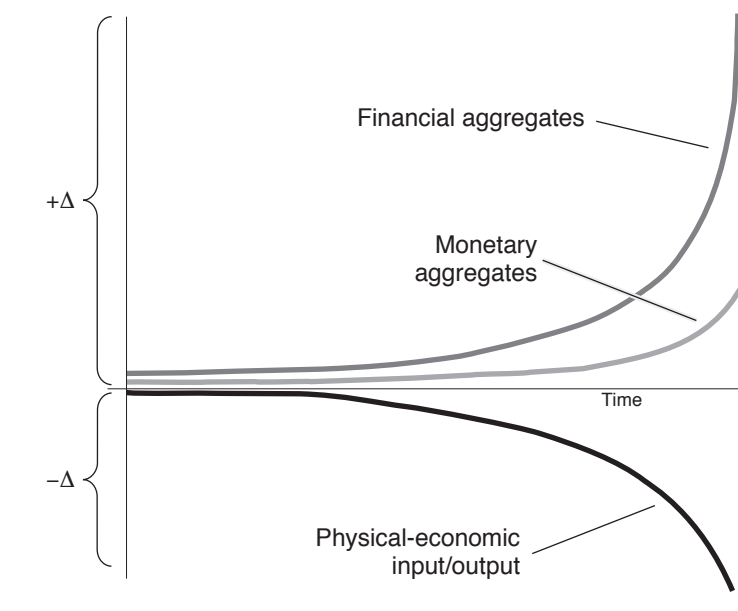
Everyone should wear a mask when among other people (which should be kept to an absolute minimum). This will provide the wearers themselves some protection against infection and reduce the potential for wearers to spread the disease. They also reduce face-touching.

Hand Washing/Sanitation

Frequent hand washing with soap can help reduce the spread of coronavirus, as does the use of alcohol-based hand sanitizers.

But there are over three-quarters of a billion people on this globe without access to improved water. Two and a half billion people lack access to improved sanitation infrastructure. The costs to health and well-being are staggering. According to a [Fact Sheet](#) issued by the

LaRouche's Typical Collapse Function



CDC, citing research published in the *Lancet*, every year 800,000 children under five years of age die from diarrheal diseases. Lack of sanitation and of water for drinking and hygiene contributes to 88% of deaths from diarrheal diseases worldwide.

Urging a community without sanitary facilities to practice frequent handwashing is both insulting and foolish. A crash program to develop sanitary facilities must be implemented, supplemented with the provision of hand sanitizer for hygiene purposes.

Contact Tracing

In the United States, the National Security Agency's intimate knowledge of the whereabouts of everyone with a cellphone can be put to good use! As one example, it could be used to provide text alerts to people who have been in the vicinity of someone who later tests positive. This approach was used in South Korea to help people get a better sense of their risk of exposure, and is part of the relative success that nation has seen in reducing the spread of coronavirus.

Travel Restrictions

When testing is performed at a high enough level to give a sense of the different incidence of the virus in different areas, travel restrictions may be sensible to prevent its spread from areas with significant community transmission. This may make more sense as the first wave of the pandemic is crushed.

Chapter 2

Industry and Infrastructure Required To Support Public Health Measures

Providing the health measures in Chapter 1 will require major investments in manufacturing and in basic economic infrastructure. The inexcusable condition of the world, in which poverty still exists in the year 2020, must be remedied. This is eminently possible, as China's experience in eliminating poverty over the past four decades has shown.

Infrastructure

The platforms of physical improvements we make to our surroundings provide the human species with a synthetic, nurturing environment far superior to the “natural” environment we share with the apes. By controlling water flows, draining swamps, irrigating fields, building canals, railroads and roadways, developing water and wastewater systems, creating electrical and communication grids, and improving the flora and fauna, the human species has a unique power to make this Earth a garden. This infrastructure includes such soft infrastructure as an educated and culturally uplifted populace. Much of the investment in eliminating poverty will be of the form of basic economic infrastructure. And the current coronavirus pandemic points to the particularly urgent need of health infrastructure. But can a hospital be built where there are no roads or electricity? What are the requirements for the provision of health services?

Production Requirements

Medical Equipment

Numerous companies have expressed interest in retooling for the production of ventilators, from automakers to aerospace companies. The list includes:

- Automakers General Motors (which will work with Ventec Life Systems to produce 10,000 units a week), Ford Motor Company (which has committed, with General Electric, to produce 50,000 by July 4), McLaren, Jaguar Land Rover, and the VW Group.
- Aerospace companies such as Brazil-based Em-



General Motors and Ventec Life Systems are partnering to produce ventilators in response to the COVID-19 pandemic.

GM

braer, Europe-based Rolls Royce and Airbus, and the American firm SpaceX.

Current producers are ramping up production:

- Philips is doubling production to 2,000 per week, and Getinge will increase production to 3,750 per week. Dräger, Vyair, and the Smiths Group are all working to produce additional ventilators for governments.

If all goes according to projection, the companies listed above would supply at least 300,000 ventilators by July. An April 9 *Politico* [article](#) reports that estimated demand solely from the United States and several Western European nations is for one million ventilators; the world's needs will be higher.

PPE

According to a news [report](#), 3M intends to double its international production to 2 billion N95 respirators over the next year, and is presently producing about 100 million respirators per month.

Honeywell Industries has upgraded a facility in Rhode Island and is revamping its aerospace facility in Phoenix, Arizona as part of its overall increase in production to 120 million per year.

Chapter 3

Required Global Policy Changes

International Collaboration

The coronavirus pandemic now afflicting the world is only one of the deadly viruses we face. The financial virus chiefly centered in the City of London and in Wall Street has proven to be no less deadly over the past decades. The cultural virus infecting the addled minds of foolish politicians still fighting the Cold War threatens to wreck the potential for precisely the kind of collaboration required to defeat the other viruses.

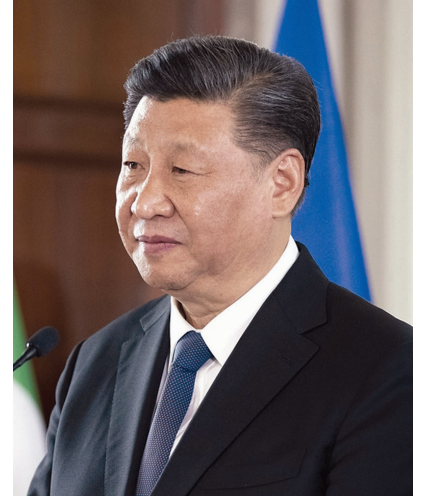
A summit discussion involving President Donald Trump, President Vladimir Putin, President Xi Jinping, and Prime Minister Narendra Modi is urgently required to achieve the cooperation needed in the short term to address the menacing health crisis. Such a summit is also the means by which, according to Lyndon LaRouche, a new and just economic system can be put into place globally.

The world must join forces as a single humanity to stop the impending mass-death in Africa, in particular, as the coronavirus spreads. Brigades of engineers, medics, and other skilled personnel from scores of nations must be mobilized, deployed and coordinated under the United Nations and African Union, and with full respect for the sovereignty of all nations. Building health and sanitation infrastructure, assisting in supplying necessary medical and protective equipment, and assisting with administration of health systems are among the urgent jobs at hand.

African nations must also be granted an immediate cancellation of their foreign debts; the world must



White House



quirinale.it



Kremlin.ru



SCO

The leaders of the world's largest economies must urgently convene a summit to coordinate international response to the coronavirus. A world health system has to be an integral part of their deliberations. Above: Presidents Donald Trump and Xi Jinping; below, President Vladimir Putin, and Prime Minister Narendra Modi.

choose life over debt.

Similarly, all sanctions, armed conflicts, border disputes and the like must stop internationally. Much better to use those resources for the common battle of mankind against the coronavirus.



en.people.cn

Expanded infrastructure is required for public health everywhere on the planet. Shown: The Ethiopia-Djibouti Railway, constructed with Chinese funding, design, and equipment.

A Paradigm Shift

Lyndon LaRouche warned nearly fifty years ago that President Nixon's August 15, 1971 takedown of the Bretton Woods system would lead to devastating economic effects that would result, in the end, in fascism. This is seen today in, among other places, the green outlook whereby people supposedly concerned about the world's future act to deny energy development to the world, condemning millions to early deaths.

Some few years later, in 1974 and 1975, LaRouche warned that worsening economic conditions would create the conditions for the rapid spread of diseases, including new diseases, threatening a biological holocaust. While it may seem that China and major developed countries are bringing the current pandemic under some form of control, what will the next months bring to the developing world if there is not a radical and sudden change?

To create an economy resilient in the face of such crises as the emergence of new diseases, requires enormous investments in basic economic infrastructure, as well as a reconceptualization of economics.

Lyndon LaRouche was adamant that economics is not about money, or about values that could be expressed in monetary terms. Rather, the secret of economic growth is the ability of the creative human mind to discover and develop new physical principles that expand the capabilities of the human species. As a rough measure of the value of a discovery, or of a cultural outlook, Lyndon

LaRouche used the metric of increase of potential relative population-density—a measure of what the population density *could* be, relative to the quality of land and improvements made to it. That is, how many people could be supported, per square kilometer, on the basis of a certain repertoire of discoveries, technologies, and culture? And what sort of culture could act to increase that value? That is the location of economic value.

In one of his last policy papers, Lyndon LaRouche demanded the immediate implementation of [four laws](#) that he said were necessary for the United States. They are needed for the world as well. First, a banking reform based on principles of the 1933 Glass-Steagall law, to deny speculative investment the protection of government while ensuring commercial banking could play its useful role. Second, national banking arrangements whereby governments can make long-term credit available for physical economic purposes, rather than for financial stability as has been the practice of the Federal Reserve and European Central Bank. Third, metrics for the application of the needed credit, based not on financial gain but on physical economic growth. Fourth, the new discoveries needed for human growth over the next fifty to a hundred years: nuclear fusion, space research, and fundamental breakthroughs in biology, to name three powerful examples.

By unlocking the true economic potential of our current repertoire of scientific discoveries and the potential to further expand it, poverty and hunger can be entirely eliminated within a generation, or even within a decade. Nuclear fusion power will change our relationship to energy, water, and resources. Fusion-powered rockets will keep us safe from any asteroids threatening to careen into our planet. Biological advancements will cure disease and allow for the rapid eradication of newly emerging threats. And, most importantly, the fear of large-scale international conflict can be overcome as we come to realize our common aims, here on Earth, and beyond!

We welcome your feedback and comments:

JasonARoss@gmail.com

DennisSmall@Larouchepub.com

Save Agricultural Capacity, Dump the Dead ‘Markets’ System

by Marcia Merry Baker and Robert Baker

April 11—President Donald Trump announced on April 9 that he had ordered Agriculture Secretary Sonny Perdue to intervene in the farm crisis, after Perdue, the day before, had met with reporters, saying that he was reviewing measures to be taken. Trump tweeted,

I have directed @SecretarySonny to expedite help to our farmers, especially to the smaller farmers who are hurting right now. I expect Secretary Purdue to use all of the funds and authorities at his disposal to make sure that our food supply is stable, strong, and safe. We will always be there for our Great Farmers, Cattlemen, Ranchers, and Producers!

What it means for government action to “be there” for farmers and ranchers right now, is: emergency action to *save agriculture capacity*, and to look to longer-term measures to establish a secure, family-farm based system. Action for farmers is equally action in the public interest, because it guarantees a reliable food supply, both at home and in collaboration with other nations for places of need around the world.

The American Farm Bureau Federation summed up the crisis in an April 7 [press release](#):

Nearby futures prices for nearly all the major crops have dropped by double-digit percentages. Pushed down by a 40% plunge in ethanol prices, corn prices have fallen 15%. Soybean prices are down 10%, while the price for cotton, which is heavily dependent on foreign manufacturing capacity, sank nearly 30%. Buoyed by demand in the U.S. and China, wheat prices have declined only 3%.

On the livestock front, since the beginning of the year, both beef and pork futures prices have

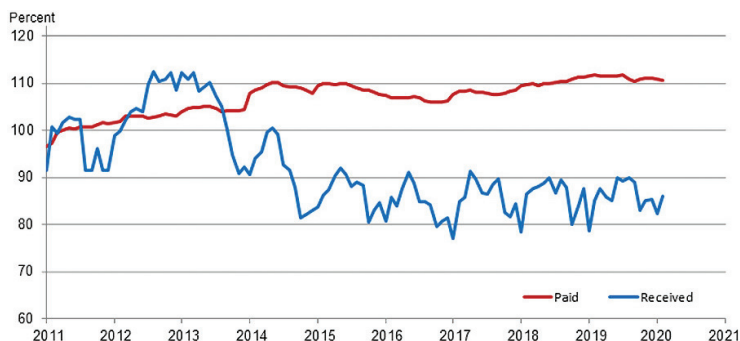
declined more than 30%. Milk futures prices have also fallen sharply, with the price for milk used to make cheese down 28% and the price for milk used to make nonfat dry milk falling by 34%.

The resilience of farmers and ranchers has been nothing short of stunning, but we must not take for granted their ability to hold on with prices spiraling, taking all hope of breaking even with them....

A letter to President Trump March 18, from Bill

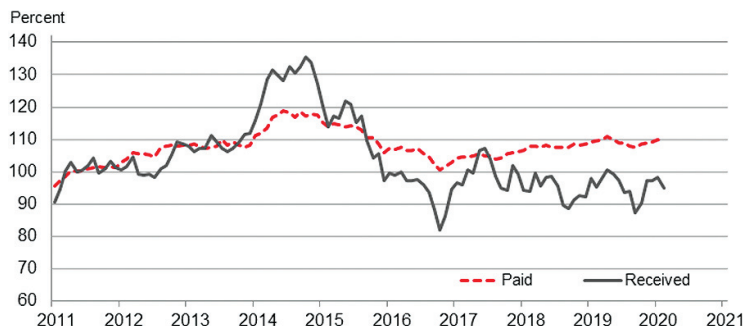
Crop Farm Received and Paid Indexes

United States: 2011=100



Livestock Farm Received and Paid Indexes

United States: 2011=100



Bullard, CEO of R-CALF, the Montana-based Ranchers-Cattlemen Action Legal Fund United Stockgrowers of America, stated, “America’s largest segment of Agriculture—the U.S. live cattle industry, is in a {catastrophic crisis already}, and has been, since 2015. We pray for your attention.”

For days, stark photos have been coming from farmers having to dump milk down the drain, from Vermont to Michigan to California. Less visible are hundreds of producers trying to deal with cattle and hogs ready for market, and nowhere for them to go. Packing houses are down; prices are crashing. The meat and dairy farm sectors—involving perishable products and live animals—are in the forefront of the crisis generally for farmers and ranchers.



Courtesy of a dairy farmer

As a result of the COVID-19 pandemic, dairy farmers have been turning to milk dumping as their only recourse, when there is either no place to sell their milk, or the price being offered is so low that they would lose money in delivering the product.

Department of Agriculture. But it is just a flagrant repeat of other episodes of cartel gouging in recent years.

As of early April, proposals of what national emergency measures to take for the food supply and for food producers have come out from farm groups and leaders. These measures are reported below, along with situation reports on the most urgent crisis sectors—livestock and dairy. These emergency measures can work. They address shoring up the physical economic conditions for production. The American Farm Bureau Federation, calling for action, stated in April, “Empty shelves can be frightening; but empty fields and barns would be devastating.”

Precedent for what needs to be done now, is dramatically seen in what was done during the 1930s Great Depression by

Henry Wallace—who served three terms as Secretary of Agriculture (1933-1940) in the Franklin D. Roosevelt Presidency. The principles used then involved serving the public interest with a reliable food supply, by supporting family farms with stable prices (related to a “parity” level), production management (fostering the priority crops and volume of output needed), science and technology, and infrastructure (rural electrification, water supplies, disaster defenses, transportation, public health and medical care), and general fairness.

Lyndon LaRouche reiterated these same principles in the decades of decline following the 1971 floating-currency break with the Bretton Woods system, and he singled out one special consideration: the necessity of a diversified agriculture production landscape. Public health and sanitation are best served by a spread-out pattern of farming, processing and storage of food, he said, so that the impact of any incidence of disease to animals, plant life or humans, can be relatively subject to containment, instead of an automatic catastrophe.

He pointed out the danger to public safety from all the agriculture and food supply concentration practices that the Wall Street/City of London commodities system

The Virus Hit a Broken System

In short, the so-called “markets system”—pricing and processing—have all but blown out. This emergency comes from both the impact of the coronavirus, and from the underlying features of the Wall Street/City of London monetarist system of price speculation, monopolized processing, global sourcing and all such anti-family-farm practices. For the past several years, prices to agriculture producers for their output, have been below their costs of production, or barely break-even. Livestock producers have filed lawsuits, organized twitter storms and taken other actions to demand Federal action, to no avail. In Europe last year, farmers, especially dairy producers, took to the streets with protest tractorcades.

Then as the coronavirus hit with stay-at-home orders being issued mid-March, farmers took a huge hit with schools, hotels, colleges and other institutions ceasing to buy their products. Add to this, the shut-down of several giant meat-packing plants, as COVID-19 spread through the workforce. All the while, mega-processors and speculators made a bundle. Gouging by the meat processor cartel is now under investigation by the U.S.

tends to create: monoculture (huge areas of single-crop cultivation, such as the cartel-serving soybean-growing regions), huge factory livestock operations (not family-scale “big” operations, but mega-complexes), and highly concentrated meat-packing and food processing (instead of local and regional facilities, which allow redundancy and flexibility in processing perishables). And the Wall Street/City of London axis enforces global sourcing. All these monetarist practices contribute to making any bio-security threat into an all-out disaster, as we see now with the impact of COVID-19 on the U.S. food production system.

The CARES (Coronavirus Aid, Relief, and Economic Security) [Act](#), signed March 27 by President Trump, has in it \$48 billion for the U.S. Department of Agriculture to use against the COVID-19 impact. Sub-categories of that amount are designated for specified areas of activity, such as SNAP (Supplemental Nutrition Assistance Program), formerly known as food stamps (\$15.8 billion), child nutrition (\$8.8 billion), and some others. Especially relevant for farmers and ranchers are two categories. For the CCC (Commodities Credit Corp.), established in the 1930s, there is \$14 billion. This can be used in various ways. The USDA (U.S. Department of Agriculture) can directly buy unsold products (milk, meat, cheese, produce) and dispose of them however feasible, so that the producer, and processor, get supported. Or the money can be used for direct financial aid to farmers and ranchers, feedlots and other operations.

In addition, the CARES Act designates \$9.5 billion to be used expressly for aid to producers in the “livestock, dairy and specialty crop” sectors.

The specialty crop sector includes the whole range of fruits, vegetables, tree nuts and produce that are currently being slammed by the sudden loss of sales in farmers’ markets, restaurants and institutions now closed. This sector is also being hit by the lack of labor from travel restrictions. Federal intervention is urgent. However, attention is also acutely needed for agriculture involving herds and flocks.

Defend Livestock Sector—Price and Processing

In the first ten days of April, many of the mega-slaughterhouses for beef, pork and chicken have been

shut across the country when COVID-19 showed up, and this has affected hundreds of workers. This adds up to probably over five percent of the meat supply being cut, and a complete loss of options for many farmers and ranchers to sell their animals. The reason for that, is that over the past 30 years, the number and distribution of local and regional meat lockers and packing plants shrank as big money consolidated ownership and created networks of a few gigantic facilities.

Whereas in 1970, there were some 9,600 packing houses in the U.S., today it is down to 1,100, and of those, 250 account for most of the U.S. meat processed. For example, the packing plants owned by just four firms control over 85 percent of all the beef slaugh-



In the first ten days of April, many of the mega-slaughterhouses for beef, pork and chicken were shut down across the country when COVID-19 showed up, affecting thousands of workers.

tered: Tyson Foods, Cargill, National Beef/Marfrig and JBS (the latter two headquartered in Brazil). Pork is similarly concentrated, with the biggest being Smithfield/WH Group Ltd. (headquartered in Hong Kong).

The JBS plant in Souderton, Pennsylvania, considered the largest east of the Mississippi River, is shut. A shop steward there died April 3 from COVID-19. Three other packing plants are closed in the state, including Cargill in Hazelton, which had 130 out of 900 workers test positive for COVID-19 as of April 7. The JBS plant in Greeley, Colorado is shut; this gigantic operation has 3,000 workers. The huge Smithfield pork packing plant in Sioux Falls, South Dakota is shut. A Tysons pork processing plant in Columbus Junction, Iowa is shut. A National Beef plant in Tama, Iowa is down. And so on. Thousands of packing plant workers are sick and

scared. In the best of times, their terms and conditions of work were notoriously bad. The temporary closures are announced as for days or weeks, but re-opening dates are uncertain.

What is required is Federal intervention, in the spirit of the National Defense Production Act, if not actually under the letter of the law, to see to it that the following kinds of measures are taken:

1. Maximize the packing capacity that exists. Support the labor force by recruiting more, by setting decent pay levels, providing protective equipment and work protocols—determined by the CDC/USDA/FDA, and so on.

2. Bring into operation any recently closed packing facilities to expand redundancy.

3. Implement sanitation procedures set by the CDC/USDA/FDA.

4. Take the same steps of labor protection and sanitation for the livestock haulers bringing in the animals and the truckers driving out the product to wholesalers and retailers. At the earliest time, start the process of anti-trust in meat processing.

Many specific measures were spelled out in a [letter](#) to Secretary Perdue on April 7 by Bill Bullard, CEO of R-CALF, in order to support—

cattle and sheep producers' ability to maintain both pre-existing financial obligations and their current financial needs for maintaining financially viable operations. To this end, we ask that you consider directing both government and private lenders to grant emergency extensions of loan repayment deadlines, provide essential emergency operating funds, provide no-interest or very low interest rate loans, and consider loan payment waivers and even loan forgiveness in some instances.

Save Dairy Herds, Feed People

Dairy farmers have turned to milk dumping as the only recourse, when there is either no place to sell their milk at all, or at such a low price that it costs too much to provide it. For example, reports came in, in the first week of April, of milk dumping from Augusta, Wisconsin (Brookside Dairy Coop), of 50,000 pounds, to Vermont, where 50,000 gallons was dumped, and the same at many other locations. In Wall Street "markets" terms, there is a glut. But in reality, there is a product that is

needed, and dairy herds that must be maintained.

Dairy farmers are hit all down the line for the various standard categories of where milk goes. Each category requires different processing equipment:

Class 1—Fluid milk, for which the market drastically shrank once the COVID-19 national emergency declaration was made in March, and schools, restaurants and other such users were shut down;

Class 2—Soft dairy products (ice cream, yogurt, soft cheeses, desserts), which cannot absorb all the milk diverted from Class 1;

Class 3—Harder cheeses, whose market has also plunged, cannot absorb the diverted Class 1 and 2 milk; and

Class 4—Milk powder, butter, and various kinds of canned milk, which are storable, but cannot process the wave of milk available.

Exact prices to the dairy farmer, per hundred pounds (cwt), vary by region, by class of use. In the Northeast, for example, milk prices fell 10 percent in the last two weeks of March, hitting \$15.80 per cwt, which is below the farmer's costs to produce it.

What is required are income supports—prices, stipends, debt stretch-outs, and other kinds of aid to keep dairy herds and operators going. This can range from direct government subsidy, to government buy-up of dairy products from the processor, which can be stored or distributed at food banks and other outlets. Historically this has often been done. In addition, all possible assistance should be given to expand processing. At points of need around the world milk powder should be distributed directly and in various kinds of food relief products.

The Secretary of the Vermont Agency for Agriculture, Anson Tebbets, has written to Secretary Perdue to ask that he set a floor price for milk of \$19.50 per cwt for the next four months, and take other measures for the farmer. Cheese processors, too, need emergency aid.

The Agri-Mark Cabot dairy cooperative circulated a letter on April 1 saying:

It is critical that dairy farmers have a stabilized source of revenue to allow for their operations to continue at a time when they are the most critical to our nation. This is a matter of national food security. The need for financially strong and diverse dairy production and manufacturing sectors is more important than ever.

INTERVIEW WITH RAYMOND PAN

Building the 12-Day Hospital in China

Raymond Pan is the Design Principal and an award-winning architect at the Los Angeles-based HMC Architects, one of America's leading architectural design firms.

Mr. Pan designed the Shunde Hospital of Southern Medical University in China, an enormous undertaking, which opened in 2018. It is a 3 million square foot, 2,000-bed hospital. By number of beds, the Shunde Hospital, located in Shunde, near Guangzhou, is the eighth-largest hospital in the world.

March 13—As the novel coronavirus advanced in the city of Wuhan, on January 23, the Chinese and the Wuhan governments began building the Huoshenshan hospital, containing an infection isolation capacity in Wuhan, Hubei province's largest city, which was then the epicenter of the COVID-19 outbreak. The government, and the construction companies they directed, conducted an all-out mobilization. They deployed 4,000 workers—which swelled to 7,000—led by 700 project managers, and dozens of engineers, who together employed over 1,000 large-scale pieces of equipment (excavators, cranes, etc.) and transport vehicles to level a 50,000 square meter site, excavating 150,000 cubic meters of earth.

They laid essential infrastructure, on top of that put down a foundation, and then, built a 25,000 square meter, two-storey hospital, holding 1,000 beds. In an incredible accomplishment, on February 5, twelve days after construction started, the hospital opened for use.

Mr. Pan has knowledge of the method by which the Huoshenshan hospital was built.

On March 13, *EIR*'s Richard Freeman interviewed Mr. Pan.

EIR: The planning for the building of the Huoshenshan hospital was started a few days before, and then on January 23, construction of the hospital began. Who built the prefabricated units, if you know, that were ready for assembly when they began, after the clearing of the ground and the setting of the sites, and things like that?

Pan: From what I know, it is a general contractor, one builder. But the prefabricated units, the units you see outside, it's just one of the components of the hospital, because to build this hospital on the ground, it



Site preparation begins for Huoshenshan Hospital.

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also involves the utilities, the roofing company, the mechanical system companies, and those things. But the prefabricated units, the steel frame kind of housing that you saw, was manufactured by a company. I don't know the name of the company, but it had to be fabricated by a single company, otherwise it wouldn't work as the parts would not come together very precisely. With the required assembly precision, you don't want them manufactured by different entities.

EIR: How was the planning for this done? I know that there was a hospital built in Beijing to treat SARS

in 2003. But is there some conception of what was needed for a 12-day hospital; is this a standby capability that China has developed? How did the Chinese government put together what is an incredible achievement in 12 days?

Pan: Obviously, as you know, they had experience with the smaller hospital they built for SARS in 2003. That was the prototype that they developed for this hospital, but on a much smaller scale. So, looking at how the site works, and I have seen the published building blueprint, it was custom fit for the site. That means that the hospital was conceptualized as something that could be scaled and shaped in different ways, based on the modules needed. For example, it can get re-configured



Huoshenshan Hospital about midway in its construction.

in another site, based on how many rooms they need, such as isolation rooms—you can also have wards as needed, which are larger rooms with multiple beds for people with less coronavirus acuity. In the more severe acuity cases, you would isolate them in a single room by themselves.

I would imagine there is a scaling methodology.

There is one commonality that is crucial to Chinese infection control hospitals. You will see there is always a central spine, a central corridor, what they call a clean corridor and they keep it uncontaminated. And that corridor can extend longitudinally or the other way, but the thing just replicates, based on the desired shape. Then that corridor connects to individual treatment wings on its sides, so this corridor can extend indefinitely and connect as many wings and rooms as it could.

EIR: So, this clean corridor could be expanded longitudinally or latitudinally and could go in either direction for as long as needed?

Pan: Yeah, yeah. The blueprint shows that it is a pretty traditional Chinese infection control building type. In terms of how the plans are laid out, it is not groundbreaking. The innovation is really in the technology to “modulate” it. To do it, offsite pre-fabricated modules are produced, and you bring them on-site assembled, at a speed that you saw [in Wuhan], we all see today. But this is based on the traditional Chinese model for infection control.

EIR: Would this be the case in some of the hospitals that are built elsewhere in China? I mean, they would not look like the Huoshenshan, because it is a two-story and some of the hospitals are many stories. But in terms of the infection control plan, would it be that which you would see in a Chinese hospital or in the infection ward section of the hospital?

Pan: Yes. I designed one large hospital in Shunde, the Shunde Hospital of Southern Medical University in China that has an infection control building. In fact, that replaces the original hospital there, the old hospital, where

SARS got started.

EIR: SARS started in Shunde?

Pan: Yes. The first case of SARS was discovered in Shunde in the early 2000s. Patients were housed in the old hospital, which afterwards was demolished and replaced by one that I designed.

An added note, if I may: Given this was the epicenter of the SARS outbreak, we designed the whole hospital with infection control as an overarching strategy. Each of the hospital’s major building components is designed to be able to connect physically and decouple for quarantine instantaneously in case of outbreak within. It’s an innovative design approach for the region that has since been copied in other Chinese hospitals.

EIR: That's significant.

Pan: Yes, so there, as I worked on this Chinese hospital, the one thing I learned is that the way Chinese address infection control is different than elsewhere. And what that means is they always build one stand-alone infection control building in the hospital.

EIR: Is it a separate building or floor?

Pan: It is a separate building. It is very different from our concept of infection control in the West. It is a completely different concept. It is a stand-alone infection control building and the layout in the infection control building of the prefabricated [Huoshenshan] hospital that was built in ten days is based on that tradition.

EIR: I imagine from what you are saying that the reason it is a separate stand-alone building is to keep it separate from all other portions of the hospital.

Pan: Yes. That is the way the Chinese do it, which is based on how they treat infected people and how they perceive pandemics can be stopped. It really is pure total isolation. There is no question of failure of mechanical systems. Don't touch anything. Just leave it alone; leave it at a distance.

The hospital that I designed in Shunde has six buildings connected by walkways and an arbo-retum. If there is an alarming number of infection cases, the infection control building is shut off from the rest of the hospital.

Cooperation, Centralization, and Capacity to Intervene

EIR: In Wuhan and Hubei province, it is very hard to have 60 million people under quarantine. And yet what struck me is that the population worked with this concept. No one likes to be quarantined, but they worked with the idea, realizing that it was a very important step to take, to save lives.

Pan: Yes, under extreme conditions they understood that they had to take extreme measures, probably

the most extreme measure, for controlling an epidemic in shutting down a whole city, in locking down the whole province of 60 million. They took extreme measures for sure.

EIR: The *Construction Times* reported that there were about 700 project managers and they had about 4,000 to 7,000 workers for Huoshenshan. This took a high degree of centralization; how did they select the project managers and the workers?

Pan: I don't know exactly where these people are from. But I would assume the benefit of China is that a lot of their construction companies are central government-owned. They have the capacity to mobilize unlike anything we've seen elsewhere. For example, the hos-



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Workers labored around the clock to construct Huoshenshan Hospital in less than two weeks.

pital that I designed and was built in Shunde, during a time when there was no emergency to get it built, at one point there were 2,000 workers on site, and it was normal. In the U.S., at hospital construction sites, there are normally 400 workers.

The one thing that China is able to do is to mobilize, that's one thing they can do and that is one of the reasons they can build this [Huoshenshan] hospital this fast. It is this capacity to mobilize, not only the people but the necessary construction material itself. You have to have the construction materials in place, concrete, all these pre-fab units. Another advantage is that in China, in the recent twenty years, there's been a construction boom. They have a lot of workers at hand, at their disposal. Having gone through this process of

a massive construction boom, the skill set is there. The company that built this, likely a state-affiliated company, already had pretty significant capacity. They can mobilize.

EIR: You seem to marvel at the building of infrastructure.

Pan: Yes, and the reason I say that, is that to build hospitals, *it is what you don't see that is most complicated*. It is what I call the infrastructure work, including water supply, electrical, the gas, all those utilities that are all underground. In fact, when we build hospitals, the underground utilities take a major amount of effort just to get the site ready. It is very complicated. But, in



Huoshenshan Hospital nearing completion on January 31, 2020.

this case, they did it in such a short span of time. They had to select a site. Not only that, they had to select a site in a way that they could already tap into public utilities because you don't have time to create new utility lines to the site. What I find under-appreciated is the Chinese capacity to identify where the site can be so they can tap into public utilities, and be able to connect to that and bring those lines in and put them in underground, which also involves a large amount of earth excavation. It's what you don't see that was one of the greatest efforts in building this hospital.

EIR: When you build a hospital, how long would you take to build the required infrastructure, if you weren't in this 12-day mode, if you were trying to do it as quickly but as competently as possible, within strin-

gent standards, how long would that normally take, as say with the Shunde hospital?

Pan: The utilities itself? Shunde hospital was designed in essentially a new city where the infrastructure had not been laid out. So, I had to go in and suggest to the government how the future adjacent roadways could work, including the subway station, which was completed a year after completion of the hospital. The scale of the project was so big, I see it as an urban project. It is no longer one single building. It is such a big building, and also if you think about city growth, to build a city, you need hospitals, and schools as essential infrastructures.

Most of my projects are in the U.S.; the U.S. takes longer because the regulations are different. The underground utilities for a hospital are a pretty major endeavor that people don't see for hospital design.

But I would say, probably infrastructure is a third of the time.

EIR: At the Huoshenshan hospital they were able to put in the underground infrastructure in two to three days. That's quite something?

Pan: Yes. The most challenging part of that is coordinating between different trades and types of workers. What I mean is when

somebody is trying to lay out different types and conduits of water supply, and there is also another set of persons who are laying down the concrete floor, and it all has to be coordinated. This is where it is quite amazing. They were able to coordinate it all, with so many workers on site because sometimes the more workers on site, the more complicated it becomes. You now have to manage a big group of people. It's not just the capacity itself, but the quantity, the sophistication of being able to manage so many types of workers at the same time.

EIR: Which might explain why there were 700 project managers?

Pan: Yes, yes. Each project manager probably

manages one aspect of this. For example, one is managing the electrical lights, another the water supply, another the sewage system, etc., etc. But even for 700 project managers to manage themselves as a team is quite amazing.

Imagine you were working on a project where you had 700 team members, how do you actually manage within yourselves? With seven hundred managers, there is a pretty daunting complexity in this aspect alone.

EIR: Are the rooms at the Huoshenshan hospital pretty standard rooms or were there changes made to accommodate the fact that they had to be built with speed?

Pan: The concept of the rooms is for quarantine. The rooms themselves, the modular unit is already designed somewhere else before this happens. The two parts to that question are: one is, what is already designed. And those rooms, the technology surrounding the room; how air gets into it, how a person gets into it; how do you supply medication? Those are already designed.

Now the second part of the question, the room is actually not the same as a normal patient room because it is an infection control unit. For example, in a typical patient room, you would have a bed, a bathroom, and a family area. This quarantine unit, the difference is, there is no family area in the room. You have the patient, the doctors and all the technology for treating this patient in an isolated manner. So, it is not a typical patient room that has to be pre-designed.

EIR: Is the machinery the same as that which you would have in a normal isolation ward?

Pan: Conceptually, yes. What I mean by that is that they're negatively pressured, where air only goes inward, it does not go outward. These rooms are pretty



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A typical patient room in Huoshenshan Hospital.



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One of the first coronavirus patients to be admitted at Huoshenshan Hospital.

bare bones, because the wall's finish is metal as it comes. Then what we call the head-work, the electrical outlet, the gas lines and all the devices behind the patient's head on the wall, those are pre-fabricated, so it is a lot more utilitarian than what we would see in a normal patient room. However, the room is every bit a hospital room. Its general layout is based on the traditional Chinese infection control model.

The Shunde Hospital

EIR: How long did it take to build the Shunde Hospital of Southern Medical University in China near Guangzhou? It is one of the largest in the world, having 3 million square feet and 2,000 beds.

Pan: From design to construction? So, design was about a year, construction was three years. But there were some delays, not because of the construction process. There was some delay primarily in the funding of the project. At one point the Chinese government, since it was a public hospital, the Chinese government was being very cautious on public project funding. That caused delay for six months.

The Chinese government became very cautious about releasing funds. They wanted more documentation, more support documents, to make sure the funds were not being abused. Before, they would have released the funds more freely.

EIR: Otherwise the construction phase would have taken two and a half years rather than three?

Pan: Yes, two and a half to three years. To put this in perspective, for a hospital of that scale in the U.S., the construction time would probably take five to six years. That is twice the amount of time.

EIR: Why?

Pan: A lot of it has to do with our U.S. regulations, which is a good thing. We have stronger regulations in terms of the inspection process, and the review of our design by our governing health agency.

But, as I mentioned, it is also the number of workers. On the Shunde hospital project, there were normally, about 2,000 workers building it per day. For the U.S. hospital construction sites, it would normally be about 400 workers.

EIR: How much are pre-fabricated modules used?

Pan: The technical term is modulated facade system which represents LEGO-like facade assembly systems. So we defined 60 different wall modules for the project, each one is roughly ten feet by fifteen feet. The construction team can pre-fabricate some of these wall systems off site, and then bring them out to the site and assemble them. So that would help speed up the process but also for us it is about quality control. We can control

consistent quality of exterior finishes, of exterior materials, for wall systems throughout the whole campus, throughout the whole hospital.

In the U.S., it actually makes a lot more sense to pre-fabricate, because now you can have less workers on site, and then more workers in the factory in a controlled environment.

We're going to see that more and more in the U.S.

EIR: Could you name some of the companies in the U.S. that make pre-fabricated modules?

Pan: There are companies that manufacture exterior wall systems, modulated wall systems. One com-



Kiwi Information Technology Co Ltd.

The Shunde Hospital of Southern Medical University in China, designed by Raymond Pan.

pany is called Digital Building Components. Another company is called Kapture. There are several in the Phoenix, Arizona area.

Plan, Plan, and Mobilize

EIR: Let me pose this to you. We've been looking at the situation in the United States, and it used to be we had 4.5 beds per 1,000 population. And now we're down to about 2.3 beds per 1,000 people, so roughly half, since 1975. COVID-19 is getting much worse. What would it take, could America do what was done with the building of the Huoshenshan hospital in twelve days, or if not that time, at least quickly? What could we do if say President Donald Trump, and the Congress, and others, together said, we've got to build 20 of these infection isolation hospitals in selected areas, could America do it? How would that

look? Because, if we could do it, we would develop a capability, a new technology of building, that we could use to build regular hospitals much more quickly, as well.

Pan: Let's look at how China is doing this. What it takes is, you have to have the mentality to prepare for it, so you have to think ahead, you've got to plan ahead, because as I mentioned, when the Chinese build this, they did not start in on it on day one of the construction [without preparation]. They planned ahead. They knew that this is something they would have to deal with. You have to have people who plan ahead.

As well, you have to have the experience of doing this. There was a small hospital that you mentioned in Beijing that was built as a prototype during SARS. They had the experience, they planned ahead, and they were able to mobilize a massive amount of resources. So, that's three key components.

So, for the U.S. to do this, we've got to think that way. You've got to be able to plan this as if we are preparing for the pandemic, and to have a strategy to implement that. But also you've got to do it, you've got to do it to gain the experience. Think ahead of time. You can design anything you want, but until the rubber hits the road, and without such preparation, you don't know what you're doing; you don't have time even to test things out. You have ten days to build this hospital. There's not any last minute there that you can say, "Let me try this system out and see if it works."

We've got to think ahead, plan ahead. In advance, we've got to test it out, and have a strategy of how we can mobilize. Because, I think mobilization is one key area that is going to be more challenging in the U.S., because a lot of work forces are privatized. So that means that it's harder to mobilize, compared to China where there's a lot of state-owned construction companies; they can mobilize workers a lot faster.

So, there needs to be a planning phase to do that, to look at all those things. Not just physically building it, but I think it's the work ahead of time in preparing for it, in case anything happens. So I'm afraid we [in America] are a little bit late to this, at this point.

But I wonder, I've always wondered, if there is an entity that should be ready for this type of pandemic, it should be our military and military capacity. You would think that they must have developed some type of military hospitals, battlefield hospitals that they can probably adapt, because they must have some-

thing that can be put together in a very short period of time.

EIR: That makes sense to me. Would it make sense to take an area and see if we can replicate this Huoshenshan building process, where it might be needed? In the United States, we have the Army Corps of Engineers, and other branches of the military, and some Governors and parts of the Federal Government have raised the issue of mobilizing them.

Should the United States broaden channels to China on this matter, including military-to-military?

Pan: Yes, yes. I think that definitely is one avenue that we can explore. Also, there is the WHO, the World Health Organization. The mission of the WHO is to create a common platform on a global scale between countries to share healthcare policies and activities.

EIR: Do you think there are other ways?

Pan: Well, the U.S. State Department should contact the Chinese State Department and find the right contact, and I suspect China's Health Department, equivalent to our CDC (Centers for Disease Control and Prevention), here. I think that that's probably the counterpart with CDC.

EIR: And would they talk to them about hospital building on this emergency basis, do you think?

Pan: I believe so. China is willing to share, I think it's probably willing to share, yes, I think that definitely, on the state level they could find out more details than civilians could.

EIR: In the United States, is there sufficient innovation in building hospitals?

Pan: There is some degree of limitation. In the U.S., innovation in healthcare, especially in hospital design, is closely coupled with our health insurance policies. The current U.S. push on innovation is based on how to build it faster and better, and cheaper. You know you treat a patient with some sort of normal disease, influenza for example, you may have three days to treat a patient. The goal is to get the patient out of the hospital in three days or as fast as you could, in some cases. In China, it is different.

II. A New Era of Science

September 8, 1987

NEVER BEFORE PUBLISHED

The ‘Strong Hypothesis’ of Biophysics

by Lyndon H. LaRouche, Jr.

The following is prompted by reading of the manuscript of the eminent Dr. Sydney J. Webb, “A Possible New Approach to Force Fields and Biophysics Through a Unification of Modern and Classical Physics.” Despite a strong criticism, whose nature will soon become obvious, I believe it urgent to cause the manuscript to be published soon, with very little editing of the literary form for such included improvements as a paragraphing more convenient to the reader, some footnotes needed for a broader readership among scientists turning their attention now to this current of biophysics, and so forth.

Although the subject, optical biophysics, is not within the province of ICLC¹ membership generally, there are three reasons that the membership as a whole must have a certain sort of competence in key aspects of that subject-matter. The urgency of *AIDS research* is one such reason; the emerging strategic role of electronic agents of biological warfare, is another. The “political heat” broadly to be experienced in connection with these two applications, will be greater than we have experienced since our February 1982 introduction of what became known later as the “Strategic Defense Initiative (SDI).”

My criticisms of Dr. Webb’s choice of physics defines the specific kind of competence which must

become established within our membership as a whole. This represents not merely a criticism, but, rather, the definition of a vantage-point from which our membership can develop a competent grasp of those aspects of the subject-matter of *optical biophysics* which bear directly on policy decisions to be considered by governments and other agencies.

It is our included duty to prompt the widest circulation of materials representing the best knowledge supplied by leading workers in the field of optical biophysics generally, and “non-linear,” especially “non-thermal” effects of electromagnetic radiation by and upon mitotic and subsumed processes. This must include background materials, such as the roots of biophysics in the relevant deliberations of Parmenides, Plato, and Archimedes; and the emergence of modern optical biophysics from the pioneering work of Nicolaus of Cusa, Pacioli, Leonardo da Vinci, Dürer, Kepler, Fermat, Pascal, Leibniz, et al., through Pasteur, Vernadsky, Gurwitsch, et al. This must include the best selections of work of researchers over the recent forty years, among whom Webb has special importance for anyone attempting to master the field today.

Dr. Webb’s manuscript in view has a special place in that reporting. It summarizes much valuable experimental inquiry from the standpoint in physics which he adopts for this manuscript. Although I disagree with the elementary features of the physics employed for this purpose, for reason akin to my earlier criticisms of [Nicolas] Rashevsky’s method, Dr. Webb has thus situated the material itself in the integrated way most advantageous for deliberation upon the choice of physics. Although I would disagree with some of the formulations,

1. In a 1981 [article](#), LaRouche described the ICLC (International Caucus of Labor Committees) “as an international academy movement, consciously modeled in intent and practice upon such precedents as Plato’s Academy at Athens, and tracing its heritage through Philo, Augustinian Christianity, the Arab Renaissance, and the 15th-century Golden Renaissance ... in existence since 1973-1974, based chiefly in the U.S.A., Canada, Latin America, and Western Europe.”

for reasons to become clear, his formulations are not to be discarded on that account, but rather restated by the simple expedient of translating them into the proper physics language. Hence, those formulations have an historic scientific importance in the form he supplies.

In other words, Dr. Webb has arranged his evidence in the quasi-Newtonian form suitable for describing primary experimental events in terms of the discrete manifold as such. If the manuscript is read in that way, it has durable value. The challenge is to restate the same points in a different physics-language, seeing the discrete manifold as a projection of what is ontologically elementary only in the Gauss-Riemann complex domain.

I think that the membership, reading now what I have to contribute on this matter, will soon recognize much we have already covered in many frames of reference over the past twenty years of study of economic science, and other applications of Riemannian physics. From this vantage-point, it should become obvious, rather quickly, where our specific, delimited competence lies in this matter and the policy questions of application involved.

1.

The Meaning of 'Strong Hypothesis'

1.10 Deductive Schemas

All deductively consistent systems of hypotheses and theorems in a formal logic are merely giant tautologies, subsumed everywhere, within each particular system, by what Bertrand Russell, et al. referenced as an "hereditary principle." Each system as whole is thus describable as forming what Professor Garret Birkhoff et al. have described as a "lattice." All of these features of any such deductive system of hypotheses and theorems are aptly illustrated by the deductive system of the Ptolemaic "false Euclid," *Euclid's Elements*.

The system begins with an array of axioms and postulates, to the effect that, if we consider all possible deductive systems, within any one system the distinction between "axioms" and "postulates" has no functional significance. The only "axioms" within any choice of deductive system, are those postulates which are implicitly common to all possible deductive systems. Hence, in practice, I use the term "axiom" to signify those postulational assumptions common to all deductive systems susceptible of logical consistency; I use



EIRNS/Stuart Lewis

Lyndon H. LaRouche, Jr., in 1985.

"postulate" to signify arbitrary assumptions whose inclusion sets one or more such "lattice systems" apart within the domain of all possible forms of consistent deductive schemas.

During the past 2,000 years, very little has been added to our knowledge of the "properties" of deductive systems which was not already known to Aristotle and those among Aristotle's epigones whose combined efforts constitute the Ptolemaic *Euclid's Elements*. More precisely said, there is nothing new known about the properties of such systems which can not be adduced through criticism of Aristotle's dialectic from the standpoint of Plato's Socratic dialectic.

To build a deductive lattice, begin with the array of postulates. Make various combinations of the original postulates, to assert something deductively implicit in that selection, but not in contradiction to any of the postulates not immediately considered. Repeat this, until all possible combinations of the original array of postulates have been treated in this manner. This supplies an initial layer of hypotheses (or, theorems).

Next repeat this, treating the initial array of hypotheses as building-blocks for members of a new layer of hypotheses, each of which is without contradiction to any among the original array of postulates. Exhaust all possible combinations, so. This is the second layer of hypotheses.

Repeat this indefinitely, adding successively new layers of hypotheses. So, the lattice is constructed deductively.

Thus, the most obvious “property” of each and every deductive system, or “lattice,” is that no hypothesis exists in the system which is not implicit in the statement of the original array of postulates. This “property” is the *hereditary principle*.

1.11 Common Axioms of Deductive Schemas

It is often assumed falsely, that matters of logic can be separated from the subject-matters to which a system of formal logic might be applied. A commonly encountered expression of this mistaken belief is the assumption that there exists a body of *pure mathematics*, which can be distinguished from any one kind of *mathematical physics*, at least to the degree that experimental physics could not refute a formal principle of *pure mathematics*.

Any formal system of rational thought, each sometimes identified as specific choice of *method*, is readily shown to be permeated, hereditarily, by elementary *ontological* assumptions, to the effect that any choice of *method* is also a choice of *physics*. To restate this crucial point of our entire argument here, any choice of method, insofar as that it is distinct choice of method, is also a distinct kind of assumption respecting the nature of “matter,” a different notion of “matter” than that embedded in employment of a different choice of method.

The axiomatic assumption *hereditarily* common to all deductive method, is the assumption of *discreteness*. This assumption is commonly expressed in the form of statements to the effect that the existence of time and space is *linear*, with no possible quality of *discreteness* associated with space as such or time as such. “Matter,” in contrast to such notions of *space* and *time*, has the essential, assumed characteristic of *discreteness*.

In other words, in the definition of a “point,” in each and every deductive system, the “point” in space or time has the attributed *quality (property)* of being infinitely divisible, without limit; whereas *substance*, or *matter*, can not be subdivided without limit. *Matter* can exist, according to such species of axiomatic assumptions, only to the degree that there is a limit to our assumed ability to subdivide it into smaller portions. *Matter* can be reduced, it is assumed, only to some definite, smallest degree, which latter is assumed to be the *elementary* state of existence of *matter*.

In all deductive systems, all of the possible properties of *matter*, or *substance*, are derived deductively from the bare, axiomatic assumption of the self-evident equivalent of *matter* to *discreteness*. If the proponents

of the method do not themselves argue for the existence of such a connection, it can be shown, nonetheless, that those proponents have unwittingly adopted such an assumption as a hereditary feature of all applications of that method.

Thus, in all deductive method, *percussive action* and *action at a distance* are the only forms in which events can occur within abstract, linear space, and abstract, linear time. These two *properties* of *discreteness* are expressed as a single property, in the deductive method’s notion of *force*.

For this reason, all deductive method is intrinsically *linear*, and false to reality on that account.

1.12 Deduction’s Limits

This interdependence between axiomatic notions of *discreteness* and *linearity* shows most clearly in the easily demonstrated reasons that no deductive method can employ the terms *creation* (the verb, *to create*) or *life* (the verb, *to live*), except as empty, *unintelligible* notions. In the proper alternative to deductive method, *constructive-geometric method*, we can supply an *intelligible representation* of both terms, and can show that the two terms are properly different ways of saying the same thing.

In deduction, *creation* signifies that something exists at moment B, the which did not exist at an immediately preceding moment, A. “Creation” thus signifies the occurrence of such a moment B. No representation of a *process of creation*, bridging the two moments, is possible; the term, “creation” is used in all deductive method to signify that which no logician knows, for which he can supply no intelligible representation. Thus, in the mouth of the logician, the verb *to create* is a meaningless one.

In the same way, and for the same reason, *life* is an empty notion in the mouth of the logician. In other words, *life* as a concept does not exist within the scope of *molecular biology*. On this point, the relevance of these issues of method to optical biophysics begins to be made clearer.

Dr. Sydney Webb is among those biophysicists who have implicitly recognized and emphasized this fact as a biological, experimental fact. The practical problem underscored by the importance of his work, as well as other researchers working in the same vein, is the need to define a method of mathematical-physics representation appropriate to the *non-linear*, i.e., *non-deductive*—character of the processes examined.

1.20 ‘Strong Hypothesis’ in Deductive Method

By “strong hypothesis,” we should understand one another to signify emphasis upon the “hereditary properties” of deductive lattices, rather than arguments situated within some locality of a specific choice of such lattice. In other words, each theorem or hypothesis is addressed directly, immediately, in terms of the most fundamental characteristics of the schema as a whole, rather than in the customary manner associated with the use of that schema. Within deductive method, an hypothesis which addresses an hypothesis only directly in terms of the characteristic properties of a specific lattice would already be a “strong hypothesis,” relatively speaking.

For our purposes here, in contrasting the application of any sort of deductive method to a constructive method, it is the axiomatic features of any and all deductive methods, upon which our interest is focussed directly. This represents the “strongest” kind of hypotheses which could be introduced to the examination of any issue of deductive method.

Rather than tracing our arguments through each node in the lattice, back to the underlying axioms and postulates, we take advantage of the “hereditary principle” directly, to focus only upon those limitations which are implicit in each and every hypothesis within a lattice as a whole, because of the implications of the set of axioms and postulates on which the generation of the lattice as a whole is premised. It is those axiomatic features of each theorem which draw our attention directly.

In this case, it is the axiomatics common to all deductive method which draw our attention in that way. I.e., how does Dr. Webb’s use of “classical physics” incur the implications of axiomatic assumptions of discreteness to such effect that a living process can not be directly represented in this way?

2.

Constructive Geometry

In the manuscript, Dr. Webb’s approach to approximating the self-replicating features of living processes borrows, at least in effect, from 1930s and later discussions of “Turing machines.” At some points, he employs arguments identical to those shown by topologists to have been central to the “Turing machine” theses.

As we know, such schemas apply to non-living processes; 1950s work on clever topologists’ toys, such as “shake boxes,” illustrates the point. So, it should be

clear, from the outset, that the methods of Alan Turing, and similar approaches, are not appropriate for treating *the characteristics of living processes*.

As should be rather well known, this is familiar terrain for me, from my 1940s-1950s work in refuting “information theory.” Norbert Wiener and his collaborators, for example, worked through the “Turing machine” paradigms, as models implicitly susceptible to Ludwig Boltzmann’s statistical model of *entropy/negentropy* measurements. For related reasons, the Turing model would appear to provide an intelligible representation within the range of the “classical physics” which Webb references. Nonetheless, for axiomatic reasons referenced already by Johannes Kepler’s [treatment](#) of the snowflake, a Turing model lacks all of the essential characteristics of a living process.

2.10 The Limits of Euclidean Space

The fallacies of deductive method are made rigorously clear, most emphatically, by the classic treatments of two central problems of geometry: the impossibility of the quadrature of the circle, and the uniqueness of the platonic solids. The Golden Section (Platonic solids) represents the boundedness of intelligible representation of construction within visible (e.g., “Euclidean”) space. As Luca Pacioli demonstrates, an effective treatment of this uniqueness of the platonic solids is possible only from the standpoint of Nicolaus of Cusa’s representation of the isoperimetric properties of physical space-time: a solution developed by Cusa with reference to Archimedes’ treatment of the attempted quadrature of the circle.

Although it is now clear enough, that the geometry known to Plato et al. was a *constructive*, or *synthetic* geometry, rather than a deductive system, it is meaningful to state, that modern constructive geometry begins with Cusa’s *De Docta Ignorantia*. Cusa’s “Maximum-Minimum” principle, in that location, is not merely an *isoperimetric theorem* principle; it is the first modern statement of a universal *principle of least action* in physical space-time: *the least perimetric displacement subtending the relatively largest area of volume generated by that action*. It is also, more generally, a solution to the classical Parmenides problem, of rendering intelligible the efficient interdependency of microcosm and macrocosm.

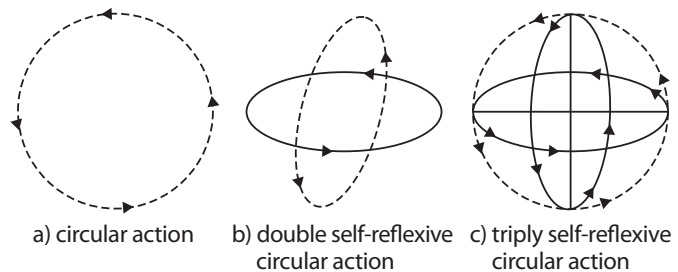
Starting from this notion of least action, all intelligible forms of constructible existence in visible (discrete manifold) space are generated without additional

axioms or postulates, and by methods excluding any employment of deductive methods. All notions of axiomatic discreteness of “matter” are excluded; this elimination of axiomatic discreteness forces us, as Kepler exemplifies this for the foundations of comprehensive modern forms of mathematical physics, to eliminate the relatively distinct notions of *matter*, *space*, and *time*, and to introduce *physical space-time* instead.

It is to be emphasized that Cusa’s 1440 *De Docta Ignorantia* already establishes a true “non-Euclidean geometry,” one entirely distinct in notions of method, as well as axioms and postulates, from the deductive system of *Euclid’s Elements*. This non-Euclidean (constructive) geometric method, premised upon no assumption but the principle of least action, is the underlying distinction in method within the more fundamental qualities of work of Pacioli, Leonardo, Kepler, Desargues, Fermat, Pascal, Leibniz, Gauss, Riemann, et al.

In *constructive* geometry, as in the elementary form *synthetic geometry* elaborated by Professor Jacob Steiner et al., the existence of “points” and “straight lines” is constructed, thus eliminating all assumptions of *linearity* and *axiomatic discreteness* embedded in all deductive method. *Multiply-connected* circular action suffices to generate both of these linear forms from nothing but continuous circular action; both points and straight lines appear as *singularities*, *discontinuities*, or *boundary conditions* generated by continuous least action.

So, Pacioli prefigured the work of Leonhard Euler et al. in treatment of Leibniz’s *analysis situs*, and in a



Multiply-connected circular action.

more refined examination of the matter of the platonic solids. The Golden Section, as the boundary condition defining the limits of intelligible representation of construction within visible space, expresses the *self-boundness of visible space*.

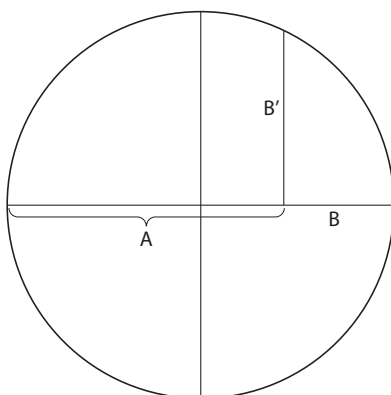
This work of Pacioli et al., as elaborated by Kepler, defined, by the onset of the seventeenth century, two facts about our universe as a whole. First, that all living processes are characterized by an harmonic ordering of growth which is congruent with the Golden Section. Second, Kepler’s proof, that the most general laws of ordering of the universe are also governed by the same harmonic ordering otherwise peculiar to the growth and activities of healthy living organisms.

It is also the case, that on the atomic and sub-atomic scale, events are organized harmonically according to the same principles manifest in Kepler’s system.

Thus, at the two extremes of scale, and in the instance of living processes, the picture of the laws of the universe manifest to us in terms of the discrete (visible) manifold, is that of harmonic orderings congruent with the Golden Section. Between the two extremes of scale,

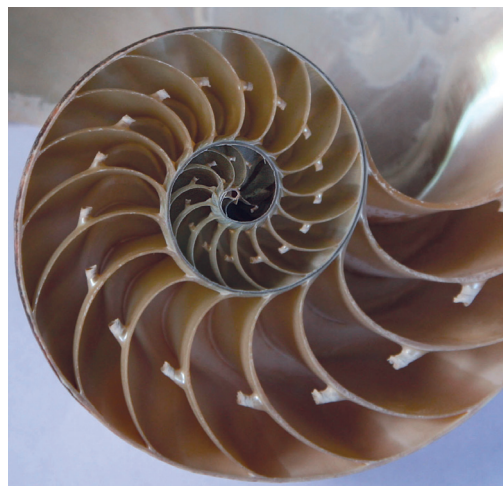
any process which is so characterized is either a living process, or a special class of work by a living process. All processes not so characterized are non-living, in the sense that Kepler identifies the distinction in his paper on the snowflake.

Thus, a strong hypothesis for the mathematics of living processes, must locate the harmonic ordering characteristic of living processes within the atomic scale of physical phase-space. It appears, at first inspection of the evidence, that the order-



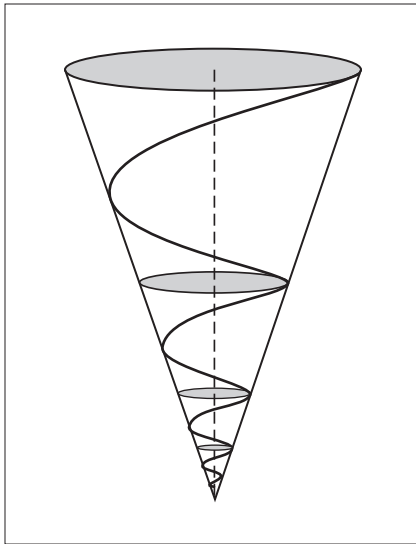
Golden Section

$$\frac{A}{B'} = \frac{B'}{B}$$

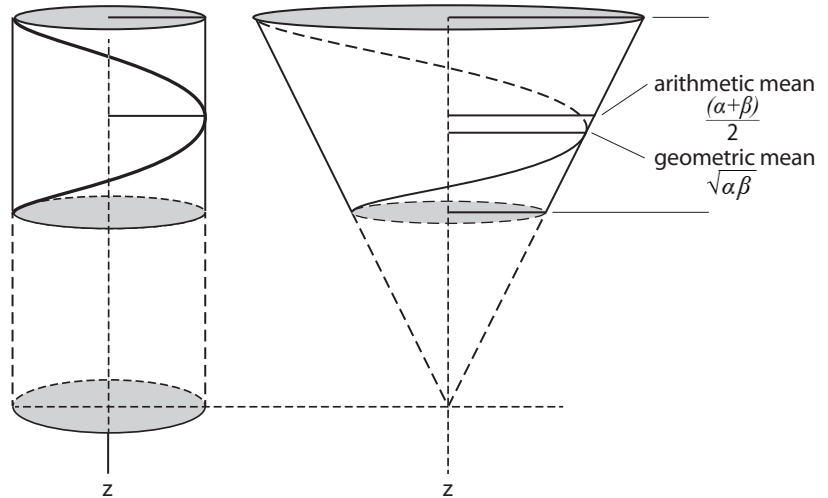


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“All living processes are characterized by an harmonic ordering of growth, congruent with the Golden Section.” Shown: Cross-section of a nautilus shell.



Conic self-similar spiral



Simple spiral action in the complex domain (left) is cylindrical in form; at one-half rotation, the distance moved along the vertical z -axis is one half the distance moved along the z -axis by a full rotation. The radius at one-half rotation is the arithmetic mean $(\alpha+\beta)/2$. In conical spiral action, the radius at one-half rotation is the geometric mean, $\sqrt{\alpha\beta}$.

ing of living processes is “teleologically” ordered, such that whatever healthy living processes do, the result is congruent harmonically with the Golden Section. Therefore, it is the first rule for elementary statements respecting living processes, that we must situate those statements within the geometric ordering congruent with the Golden Section, an ordering whose root is the Golden Section harmonics embedded within the phase-space of processes on the atomic scale.

2.11 Beyond the Visible Domain

Harmonic orderings congruent with the Golden Section are the limit of intelligible constructability within a visible space defined in terms of *multiply-connected, circular forms of physical least action*. They represent so the inherently self-bounded quality of the visible manifold. Yet, we can construct forms which go beyond those limits, provided that we shift the location of construction to the Gauss-Riemann complex domain; this latter is simply the domain defined through the replacing of circular least action by self-similar-(conical)-spiral least action.

From the higher vantage-point so defined, the visible domain is the projection (upon, for example, the brain’s visual cortex) of processes in the higher-order space, the complex domain, upon the visible domain. Since the higher domain is characterized by conic self-similar-spiral action as the form of multiply-connected least action, the characteristic feature of the projection is the Golden Section, which appears within the lower domain, the discrete manifold, as the characteristic

form of self-bounding of the lower domain. (Conformal projections in Riemannian space make this connection transparent.)

The Gauss-Riemann complex domain is not the only form of the complex domain conceivable. The Fourier domain is also a complex domain, defined in terms of multiply-connected, self-similar spiral action: helical, or “cylindric” action. Yet, Fourier Analysis can not render intelligible certain classes of functions which actually exist: continuous functions which subsume *discontinuities (singularities)*. The multiply-connected, self-similar-spiral form of least action renders such continuous functions intelligibly constructible. Implicitly, as Riemann addressed this potentiality, any seemingly arbitrary function is susceptible of intelligible—constructive and trigonometric representation in the Gauss-Riemann complex domain.

The bare form of the Riemann Surface function illustrates the point.

Prudently, the constructive synthesis of the Gauss-Riemann complex domain should begin, pedagogically, with an intensive examination of Gauss’s treatment of the *arithmetic-geometric mean*. This is simple self-similar-spiral action, examined solely in terms of strictly determined elliptic cross-sections of a single or double rotation of the spiral generating the cone.

We examine these constructions two-foldly, as constructions within the cone generated, and as projections of those constructions upon the plane. The conic generation and its characteristics represents the mental image of the most elementary aspect of the complex

domain, and the plane projections prototypical of the corresponding images in the visual domain (*discrete manifold*).

We translate these constructions into their descriptions, the trigonometric functions which describe the generation of the cone, and also of each construction within that generation. We view this as a more advanced, more adequate representation of the corresponding arguments of Kepler. That is to stress the point: we re-examine all of the conceptions of Kepler, especially the most crucial ones, from this starting-point in Gauss-Riemann physics.

We observe, that the plane projection of the elliptic cross-sections corresponding to the harmonically ordered divisions of one cycle of the cone's generation, define the focus of the ellipse coinciding with the cone's axis as the Keplerian "Sun" of the elliptic functions. We note the significance of the perihelial/aphelial ratios of perimetric action from Kepler in these terms of reference.

Most notably, we show that the Keplerian orbits, so situated, are *least-action pathways*. In conventional physics-language today, these are *force-free pathways*. The relevant work of Drs. Winston Bostick, James D. Wells, Robert Moon, et al. comes directly into play as a standpoint of reference for our discussion of this. We include emphasis upon Dr. Moon's work on geometric determination of the periodic table and its properties, and *fine-structure constant*, and correlate this treatment of the microphysical form of the *fine-structure constant* with Dr. Benedetto Soldano's related work on differences between gravitational and inertial mass for the astrophysical scale. We emphasize the electromagnetic standpoint of reference, adopting the starting-point of the progress of Gauss, Weber, Riemann, and Beltrami in electrodynamics.

We emphasize such notions as Riemannian *induced transparency* of the physical space-time (phase-space) medium for propagation of electromagnetic action. We emphasize, in this connection, the notions of *retarded potential* for both propagation of induced transparency and propagation of the wave or wave-pulse itself. We are concerned to define synthetic geometric constructions for each of the physical propositions, and to render these fully intelligible by aid of methods of *strong hypothesis*.

In this mode, we pass to the more general case for synthesis of the Gauss-Riemann complex domain. Our next construction, is the construction of doubly-con-

nected self-similar-spiral action. This case introduces the generation of *true singularities* (as distinct from the singularities of elementary, circular-action synthetic geometry of the visible domain). This gives new physical meaning to the importance of hyperbolic trigonometries, in addition to the circular, elliptic, and parabolic trigonometries subsumed by simple self-similar-spiral action. This also introduces the simplest form of the notion of a Riemann Surface function's conformal mapping.

This simplest expression of the Riemann Surface function's conformal projection shows already how and why a properly defined continuous function may generate *discontinuities* (null points in topological continuity) and yet remain continuous as a function. Hence, from this standpoint, the case for a doubly-connected self-similar-spiral action makes necessary, according to the Dirichlet Principle employed by Riemann, the triply-connected self-similar-spiral action's domain, and the *hyperspherical* trigonometries so generated. It is useful to think of a Riemann Surface as a Gauss-Dirichlet-Weierstrass-Riemann Surface, as Dirichlet emphasized the situating of the case by Gauss's work, and as Riemann situated his own work with respect to the topological principle of Dirichlet and the principle of the famous Weierstrass function.

This is more warmly appreciated as a fully intelligible principle from the vantage-point of 1871-1883 work of Georg Cantor. The most important specific proposition from the work of Cantor, is the notion that the number of discontinuities within an arbitrarily small interval of a continuous trigonometric function (in the complex domain) is implicitly enumerable. The derived function, of enumerability of a rate of increase of such density of discontinuities, is the form of expression of the strong-hypothetical characteristics of the Gauss-Riemann domain which bears most directly and pervasively upon proper choice of mathematical physics for living processes.

Looking backwards from Cantor's indicated work, to the work of Riemann, situating Cantor's notions of *transfinite orderings* as specific to the Gauss-Riemann domain, illuminates the latter, and enables us to continue in the proper further directions beyond the accomplishments of the former.

Most specifically, we locate *ontological actuality* as existing *efficiently* within the complex domain so defined. Only those functions which correspond to assured continuity of cause-effect in the Gauss-Riemann complex domain represent for us ontological elementa-

urity of existence. Hence, the universe is *ontologically transfinite*.

That means, for example, that ontology is efficiently located by no less adequate means than functions for transfinite orderings corresponding to an ordering of changes in the rate of increase of the density of discontinuities (*singularities*) per interval of multiply-connected self-similar-spiral action (i.e., *negentropy*). This is the general form of the function required for intelligible representation of living processes (as, for intelligible representation of physical-economic processes).

This is our meaning when we say: It is continuous functions which subsume, potentially, increasing density of discontinuities (*singularities*) for any chosen interval of action, which meet the minimum requirement for representation of living processes. Such functions, comprehended as statements in Gauss-Riemann synthetic geometry, are the intelligible form of *negentropy*—in opposition to the unintelligible statistical-thermodynamics definition.

2.20 The ‘Force-Free’ Requirement

Kepler already shows, that, to adduce the general laws of physics, we must eliminate all consideration of notions of *forces* acting among discrete bodies. *We must adduce the laws of the universe from nothing but the geometry of physical space-time as a true continuum.*

The *fine-structure constant*, for example, illustrates the significance of this. So does the definition of the *speed of light*, if that definition is made intelligible in terms of the Gauss-Riemann domain; the correct reformulation of Max Planck’s argument for the necessity of the *quantum* constants is a by-product of this determination of the speed of light.

For example. Assume any value for the rate of propagation of simple, cylindric-helical (self-similar) propagation of radiation, with the mere requirement that this be a constant value, whatever that value might be assumed to be. This is the value for force-free (least-action) radiation, not subject to retardation of the potential rate of propagation by any medium. A *medium* is distinguished, in physical geometry, as a density of singularities per interval of action.

Such radiation in the complex domain has zero values each cycle, defining a *quantum* of force-free action (least action).

This has richer meaning in the self-similar-spiral domain, and still richer in the multiply-connected such domain. Implicitly, all of the characteristic *dimensional*

constants of physical phase-space are derived from this physical geometry as a physical geometry of continuous physical space-time. All of the fundamental laws of physics (and biophysics) must be properly stated in terms of *dimensionless constants* so given intelligible representation.

The more adequate statements are those obtained by applying the Gauss-Riemann domain retrospectively to the work of Kepler, to derive a Keplerian physics more adequate than that developed by Kepler himself. In other words, every crucial proposition in Kepler must be reconstructed in terms of the Gauss-Riemann domain.

Kepler employs the preceding work of, chiefly, Cusa, Pacioli, and Leonardo, to unify the geometry of living processes with that of astrophysics. We know that the Gauss-Riemann recasting of the Keplerian geometry of astrophysics is also the geometry of microphysics. Thus, all strong hypotheses in physics must situate all general statements, those corresponding, in power of argument, to general physical laws. We must treat physical space-time as triply-self-bounded experimentally, by the extremes of scale, of microphysics and astrophysics, and by the characteristics of living processes as living processes. A strong hypothesis is thus one intrinsically true with respect to all three bounding conditions taken as one general condition.

Reference should be made to Riemann’s posthumously published criticisms of the work of the anti-Kantian Herbart, with emphasis on the antinomies included in those papers. The standpoint of the initial, seminal papers which Riemann produced through 1854 under the direction of Gauss, is efficiently located in these posthumously published commentaries on Herbart’s work.

Whatever we say of the fundamental principles of astrophysics must be shown to be true for microphysics and living processes as well, and similarly for all combinations of the three.

The characteristic of all physical space-time geometry, is that it is internally self-bounded by harmonic orderings which, in the discrete manifold, are congruent with the Golden Section. Why this must be so, is made intelligible by the characteristic of the Gauss-Riemann domain: multiply-connected self-similar-spiral action. The pathways of action corresponding to these harmonically ordered values are least-action pathways, and thus the relatively most-force-free pathways of action.

This prescribes a definition of fundamental laws in



NASA, ESA, CXC, JPL-Caltech, J. Hester and A. Loll (Arizona State Univ.), R. Gehrz (Univ. Minn.), and STScI
"Whatever we say of the fundamental principles of astrophysics must be shown to be true for microphysics and living processes as well, and similarly for all combinations of the three." Shown: The Crab Nebula, from the Hubble Space Telescope.

terms of a generalized notion of *dimensionless constants*, including the intelligible representation of the construction of the *fine-structure constant*. The Gauss-Riemann correction of Keplerian harmonic orderings is the generalized notion of all such *dimensionless constants*. They are *dimensionless*, because they defy the deductive assumption of ontological discreteness peculiar to all parodies of a Euclid-Descartes manifold, and are simply the physical geometry of a physical space-time continuum, in which singularities are generated without tolerating notions of self-evident existence of discreteness.

So, rather than attempting to account for the existence of apparent or actual *force-free* states from the standpoint of "classical physics," we treat *force-free* states as the ground-states of matter, in which the laws of the universe are most proximately manifest, and derive the existence of conditions appearing to exhibit *force* from the *force-free* states of matter. We accomplish this in the only way this can be managed, by treating the physical geometry of the Gauss-Riemann domain not merely as a method, but as a direct representation of the physical composition of cause-effect in the universe.

In reviewing Dr. Webb's manuscript, we observe that that which he attempts to situate, as biophysical

evidence, within his representation, begs precisely this approach. Our proposed approach would supply the best representation of his argument. The implied task, is to work through each phase of his argument from this fresh standpoint. Thus, we lose nothing of his contributions as a biophysicist, while placing his essential, biophysical observations on the more appropriate basis. It is the peculiar value of his attempt to construct a case in terms of "classical physics," that the thoroughness of his endeavor states the case in the digested terms most suited to our own additional treatment of the experimental evidence he correlates.

2.20 'Non-Linearity'

The formal mathematical definition of "non-linearity," is an empirically continuous process which is more or less densely populated with actual or potential singularities (discontinuities), and this to the effect that no linear statement of the function could bridge these discontinuities.

From the standpoint of *strong hypothesis*, we would find such a definition acceptable up to a point, but otherwise inadequate. The more adequate definition can be approached on two successive levels.

First, with respect to deductive systems as a whole, a "non-linearity" has the form of a modification, "mid-stream," of at least some among the underlying postulates of the system.

This is analogous to the action accomplished by a Socratic dialogue (As Plato's "Socrates" says: "my dialectical method."). The critical examination of a proposition, through successive peeling away of underlying implicit assumptions, leads to some modification of an underlying, implicitly required postulate of that proposition, and to a new proposition, replacing that criticized, premised upon a correction of the faulty postulate. This is the method of *strong hypothesis*, another term for Plato's "dialectical method," as distinct from that of Aristotle, Kant, Hegel, et al.

Our use of *strong hypothesis*, refers to a higher form of the ordinary aspect of that dialectical method, which Plato represents as *the hypothesis of the higher hypothesis*. The domain of action of the latter is *strong hypothesis* applied to higher-order *transfinite orderings*, such as the elementary ontological ordering-principle—

changing rate of increase of density of enumerable discontinuities, as the metric of *negentropy*—we have identified here.

In Riemann's 1854 "On the Hypotheses Which Underlie Geometry," this is given the initial, approximate representation, in terms of alterations of *degrees of freedom* of a function, to the effect of changing the characteristic metric of action in physical space-time (phase-space). It is the generalization of the point of that dissertation from the vantage-point of the Riemann Surface, and its indicated representation by a neo-Cantorian transfinite ordering, as we have indicated this, which best defines the meaning of *non-linear* for most usages in mathematical physics.

This brings us to the second, more adequate representation of "non-linearity" of continuous functions, from a standpoint consistent with our *strong hypothesis*.

The adequate representation depends upon elimination of the axiomatic, interdependent notions of *discreteness* and *linearity* intrinsic to all deductive lattices. We have already indicated that *linearity* is but the complement to the notion of axiomatic *discreteness*. We have already indicated also, that our ontology—that required for study of the characteristics of living processes defining them as *living*—prohibits all axiomatic notions of either discreteness or linearity, by the introduction of the notion of *physical space-time*, to replace entirely the Euclid-Descartes notions of elemental distinctions among *matter*, *space*, and *time*.

In physics today, we are cruelly burdened by the popular assumption, that "physically elementary" is signified by that which is primitively countable arithmetically, and the presumed elementarity of linearity. Hence, the notions of physical laws are stated in terms of scalar (discrete) magnitudes, together with linear notions of space and time. This is a cruel burden, since all truly elementary statements are non-linear propositions in the Gauss-Riemann complex domain.

It is this mistaken approach to representation of fundamental and other physical laws, the which prevents such a mathematical physics (or, biophysics) from rendering intelligible such elementary notions as "creation" and "life." It is this which causes the actuality of "creation" and "life" to fall between the cracks of statements in acceptable forms of deductive logic, and of a mathematical physics defined formally in terms of a deductive logic. The axiomatic assumption of discreteness and linearity is the vicious root of these formal difficulties; without eradicating these complementary,

axiomatic assumptions of all deductive systems, a valid astrophysics, microphysics, and biophysics is impossible, in each and all cases.

The solution is most simply represented by the statement, that discreteness and linearity are brought into existence within the discrete manifold by that multiply-connected form of continuous least action which is axiomatically neither discrete nor linear. Hence, the mere existence of discreteness or linearity is a product of "creation" so defined: the generation of true singularities by an adequately defined notion of continuous function. On no less a basis than this correction, can either "creation" or "life" be rendered intelligible.

2.30 'Non-Thermal'

The experimentally false argument that electronic agents of biological warfare destroy targets through "thermal effects," actually signifies two very large assumptions.

First, it assumes the scale of caloric measure of molecular biological events, on the scale of either the cells as such or some large element of the cell. The phenomena relevant to use of non-linear electromagnetic effects for biological warfare, may be viewed as the electronic equivalent of poisoning of the targetted tissue by the most powerful biological agent imaginable. Even from the "thermal" standpoint, we are dealing with events on the scale of quanta/phonons.

Thus, the proponents of the "thermal-only" dogma, are making arguments which are most kindly rebutted as being in error by orders of magnitude.

Second, underlying the thermal argument more deeply, is the superimposition of the axiomatics of deductive lattices in the guise of such axiomatic assumptions widely adopted by molecular biology. The events which primarily distinguish living from dead tissue experimentally, involve non-linear phase-shifts in electromagnetic pulses on the scale of quanta.

The aspect of Webb's manuscript bearing upon this matter is most crucial for our work: the treatment of protons and electrons, as well as photons, as "standing waves," is key. This is the point of departure for our examination of the physics of Webb's manuscript.

For example, in tuning to the brain alpha waves, at circa 8 Hertz, our concern must be the modulation of those waves by non-linear pulses ("solitons," "chirps"). This presents us a challenge in design of instrumentation and methods for study of brain waves generally, and, obviously, other tissues.

We may say, for purposes of broad description, that “life,” as distinct from presently accepted notions of molecular biology, is characteristically electromagnetic in these indicated terms of non-linear reference. Hence, crucial experiments in this domain must show, that we can destroy or strengthen life, with non-linear electromagnetic pulses, without actions defined in terms of presently accepted notions of molecular biology. Hence, the error in the “thermal-only” dogma, is not merely that it is orders of magnitude off scale in thermodynamic terms; it ignores the point that molecular biology is the medium of biophysics as such, rather than life being an epiphenomenon of molecular biology as presently defined. I use “medium” in the sense of “medium” of induced electromagnetic transparency and of retarded potential for propagation of electromagnetic pulses.

The phenomena to be measured are situated within a physical phase-space within the atomic scale. Larger molecular structures are both “wave guides,” and function also as very complex “lasing devices” within which the essential actions occur on the scale of atomic phase-space. The source of the negentropy which is generated in this sub-feature of the molecular biological medium, is the “Keplerian” negentropy already inherent in sub-atomic phase-space, as we have indicated the more adequate Gauss-Riemann reconstruction of the Keplerian universe.

Thus, sub-atomic phase-space must be mapped in terms of Gauss-Riemann least action (e.g., “dimensional constants”), and thus given intelligible representation on an ostensible “force-free” elementary basis, with no explicit or implicit assumptions of discreteness or linearity to be tolerated.

Once we introduce axiomatic assumptions of discreteness and linearity, we exclude axiomatically from experimental inquiry the class of phenomena which is most crucial. Webb’s manuscript, like related work in non-linear electromagnetic characteristics of living processes, demands this approach as the only hope for a true solution to the propositions emerging from experimental work.

3.0

Policy Implications

For the reasons so summarized, our urgent work of promoting crash programs of research and development in both electronic agents of biological warfare, and

AIDS research, will encounter a dogmatic force of resistance much greater than encountered in our promotion of the SDI since February 1982. The resistance to be encountered will be both the politics internal to science, as we have implicitly stressed here, and also Soviet and Soviet-fostered political and strategic resistance.

Politically, it is of the utmost urgency to Moscow strategically, that the West not effect leaps in scientific fundamentals. This pertains not only to military applications of discoveries. It pertains also, equally emphatically, to Moscow’s opposition to any economic recovery in the West, and to Moscow’s interest in opposing anything which might foster a renewal of scientific, and hence cultural and political optimism within western civilization.

Otherwise, we must recognize that this experimental work challenges most directly the fundamental axiomatic assumptions prevailing in taught science today. Even an aversive glance in direction of an axiom which a scientist has learned to treasure all his life, an axiom he considers integral to his status as a scientific professional, has usually evoked red-eyed fanaticism by professionals against those who seem to regard such an axiom as merely unnecessary. The angered reaction will be Kantian, as Heinrich Heine’s *Religion and Philosophy in Germany* points to the homicidal brutishness simmering in the tortured soul of every Kantian.

Notwithstanding the political objections to scientific progress so identified, this progress must be forced through rapidly. The combined urgency of mastering the AIDS pandemic and Soviet work on electromagnetic strategic-assault weaponry, identifies this scientific progress as indispensable for the very continued existence of our civilization.

We have thus come, in this quarter as well as others, to the point in recent history at which the cultivated habit of toleration for preferences in opinion and “lifestyle,” must give way to the requirement that no opinion is any better than its scientific truthfulness. That which is not truthful in this sense, is wrong, and persons who cling to untruthful sentiment are culturally inferior, and less moral than those who cling to passion for nothing but truth. The continued existence of our civilization can not longer tolerate political and scientific practice based on the irrationalist and immoral dogma of “tolerance” for opinion per se. Liberalism must now die, so that mankind, and civilization may live. There is no middle ground, no room for compromise, between the two.

Overcoming the Crisis Begins with Dumping Geopolitics and Neoliberalism

This is the edited transcript of the Schiller Institute's April 8, 2020 interview with Helga Zepp-LaRouche, by Harley Schlanger. A [video](#) of the webcast is available.

Harley Schlanger: Hello! I'm Harley Schlanger with the Schiller Institute. Welcome to our weekly webcast with our founder and chairwoman Helga Zepp-LaRouche. Today is April 8, 2020, and we're going to be discussing the total upheaval in the world, the craziness on the one hand, as well as the potential to become a moment of great collaboration and success, to usher in a New Paradigm.

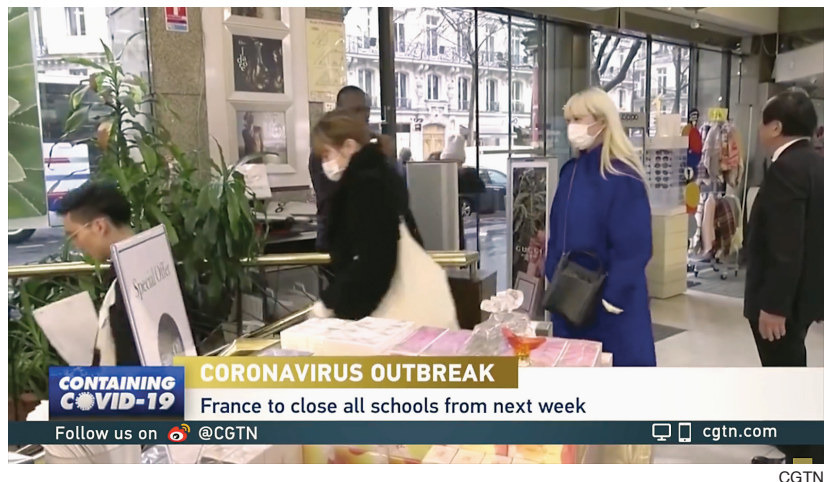
Helga, there's a big debate going on: There are people who are saying we now should move back to the previous normal, that we should no longer continue with the lockdowns and the restrictions on movement, and so on. What's your sense of that?

Helga Zepp-LaRouche: This is wishful thinking, either by the neo-liberal establishment, which has so far absolutely failed to recognize the causes for this crisis, but also by ideologies on the left and on the right, of people who are just not willing to face up to the reason for this present crisis. If you look at a survey of the different countries, I think France, belatedly, has recognized that the only approach is the Chinese way: That you need to have a total lockdown, and that that lockdown has to stay as long as it is necessary, and not prematurely lift it. And that includes masks, testing, and the whole program that China did in Wuhan and Hubei province.

That, however, does not mean that there are not some foolish Parisians: There are several hundred thousand who left Paris to go into the countryside, risking spreading of the disease. Also, Denmark and Austria want to lift the restrictions, for which they got a very

serious warning by the World Health Organization (WHO), warning that lifting the restrictions too early threatens a return of the pandemic full force.

Then you have a middle ground sort of thing in Germany, where on the one side there is no question that the authorities know the seriousness of the situation, because there are warnings of worst-case scenarios, that if they do not get the pandemic under control, Germany will have a collapse of the system and a takeover by anarchy. In Italy, where over 10,000 medical caregivers



France is now locked down.

have become infected; almost 100 have died, there is a lockdown, but people are leaving from the hotspot areas like Bergamo to go to the beach and the mountains over Easter, implying the danger that this is spreading to the regions from these hotspots.

New Hotspots Developing

Romania is developing into a hotspot. Ecuador, Mexico, and India, where the lockdown has resulted in a massive flight by day-workers—people who have work for a day at a time, and who with the lockdown can't find work—going to the countryside. So this is not under control at all.



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Universal testing for coronavirus is a necessity.

I can only repeat: Only if we take an approach to fight this pandemic in the way it has to be fought, is there any hope to contain it, without millions and millions dying. There will be millions of people dying, but there must be absolutely the approach we have been pushing for, for several weeks now, and we will escalate that: To now have a *world health system*—that a health system must be built up in every country on what used to be the standard under the Hill-Burton Act in the United States, or as it used to be before Germany and France privatized their health systems, which used to be very excellent health systems before the privatization. We need to have an international mobilization to accomplish that.

And that's what the economy should be oriented to. Any idea to just speed up the economy and go back to the usual, without taking that as a prime focus, is just foolishness.

Schlanger: Helga, in talking internationally about the World Health Organization, the Health Silk Road as you and others have called it, there are those who say this would be a mistake, this would be a violation of sovereignty. I think this gets to what you said about people not facing up to the reason for this crisis. But I think it's necessary for you to just identify briefly again, why it's the neo-liberal system that caused it, and that in order to have a world healthcare system that works, we need to junk the neo-liberal system.

Zepp-LaRouche: It's the elephant in the room! Anybody who knows what happened over the last fifty years, with the IMF conditionalities demanding that the

developing countries forego investment in their infrastructure, and in their health system, but instead pay their debts, this imposition prevented industrial development of many, many countries. And in the so-called advanced countries, where you did have a decent healthcare delivery system, the idea to privatize it, and make the common good of the public health subject to the greed of the speculators, simply led to a situation where many hospitals were closed, many beds were eliminated, other procedures privatized and/or made more costly: So it *is* the neo-liberal system which is responsible for this.

And this we have been warning against since early 1974, when my late husband, who at that time, called into being a biological-ecological holocaust taskforce, which produced many studies over the years pointing to the fact that exactly this kind of a takedown of the living standard due to the IMF conditionalities would result in pandemics.

Ignorant or Covering Up?

So anybody who does not want to confront that, is just either ignorant, or consciously covering up the situation.

Just to contrast what I'm saying with the neo-liberal system, what we need to do—and this goes against any idea of neo-liberal profit concerns—is, first of all, apply the pandemic health laws; we need to test, test, test, everybody. But to test all 8 billion people, obviously is not instantly possible because the test kits and evaluation capabilities are not there yet.

So we have to go back to what, by the way, every decent veterinarian is doing, and to what in the area of veterinarian medicine is already the case, that there is an illness survey. When you call up your veterinarian and ask what kinds of endemic diseases are in the area, they can tell you what you should be paying attention to. That has been the normal standard.

Then we need to have a massive building of hospitals, of ICU units, of all the medical equipment, the protective clothing; we have to train tens and hundreds of thousands of doctors, nurses, health caregivers—there has to be an approach where,— the only image one can have is what Franklin D. Roosevelt did in the New Deal, gearing up the economy after the Great Depression, creating the CCC youth training camps; or what Germany did in the postwar period with the German economic miracle. Now we must gear up to build a



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"We must mobilize now for a world health system, built up in every country." Shown: Huoshenshan Hospital under construction in Wuhan, China.

worldwide health system—not just in one country, because it is the nature of pandemics that every country must do these things to defeat it.

That obviously means we have to retool industries; rather than complaining that the auto sector is suffering because there's no demand, and the whole thing is going to not be returned to normal—why not retool these industries? We go to the machine-tool design people and ask, "How long do you need to produce medical equipment, sophisticated medical machinery?" And maybe it takes them a few weeks to redesign and retool, but eventually they can do that: We can gear up the economy entirely for the common good of the people.

But that means we have to throw out the neo-liberal philosophy that the profit of the speculators is primary, and the common good is nowhere. That has to be completely reversed. And we have to say that the only way the human species is going to get out of this crisis, is by protecting the people against this virus, and the danger of future viruses, because we have to have a completely different healthcare delivery system; and we have to do basic research; we have to study what are the processes of life, we have to go into basic R&D, and not leave it to the pharma industries to just invest in the areas that are profitable—everything has to be

geared toward the common good and a decent health system.

That that is not being done right now, and the difference between what I'm saying now and what was the case for the last fifty years, should be obvious to anybody. So I think there should be some seriousness in the discussion and all of this stupidity should end.

A Shift?

Schlanger: There have been steps taken toward international cooperation, especially by China's delivery of five plane-loads of health equipment yesterday to the United States.

To some extent, President Trump's invoking the Defense Production Act, has oriented the government to take charge, to make sure there is a shift toward what's necessary. But at the same time, in the midst of this financial crisis, a massive bail-out is underway. Some people haven't yet grasped the actual causes of the crisis. What can be done to get people to see this? I believe this is a unique opportunity to break away from a policy which has not only failed, but failed disastrously.

Zepp-LaRouche: First of all, one should see the complete inability of the European Union bureaucracy to respond to this crisis. I think most telling is the fact that the new President of the European Research Council, Mauro Ferrari, just resigned. He is a highly trained scientist and medical professional who assumed that office January 1. He had previously talked about his enthusiasm in taking on this job, as he thought he would be working in the forefront of medical and other scientific research. When the coronavirus crisis broke out, he immediately drafted a proposal for the EU Commission detailing how to gear up research; and he got completely rejected. His proposal was rejected, with no argument given. The only thing they said was that the purpose of the European Research Council is not to make suggestions from the top down, but to look for bottom up ways. Nothing else.

Ferrari somehow managed to talk to EU Commission President Ursula von der Leyen, and she contributed something to his plan, but when he went back with the modified plan, the bureaucracy had a complete fit that he had dared to talk to the President of the EU Commission directly, so now he's resigned. He said he



WEF/Sikarin Fon Thanachaiary

The EU Commission rejected the idea that its own European Research Council should exercise any leadership in the COVID-19 crisis, and was shocked that the council's new president, Mauro Ferrari (l.), had worked on a plan for such leadership directly with the President of the EU Commission, Ursula von der Leyen (r.). Ferrari resigned.



wanted to be in the forefront of science, and the EU bureaucracy in Brussels for sure is not.

Then, you also have more and more warnings about what the EU and the ECB are doing by still pumping money. But they could not agree on either the Eurobonds or the European Stability Mechanism (ESM)—these are all bad proposals anyway. So both Guido Tremonti, the former Italian Economics Minister, as well as Professor Hans-Werner Sinn, former President (1999-2016) of the IFO Institute for Economic Research in Munich, warned of hyperinflation. That's very important, because so far, we have been the only ones saying that all this money-pumping by the central banks eventually will blow up in a global hyperinflation, but now they're warning of it. Sinn was talking about the lessons from the post-Versailles period, and Giulio Tremonti, former Italian Minister of Economy and Finances, said there will be a very bad awakening fairly soon.



Maren Strehlau Photography

Hans-Werner Sinn (l.), former President of the IFO Institute for Economic Research, warns that continuing central-bank money printing will cause hyperinflation. Giulio Tremonti (r.), former Italian Minister of Economy and Finance, agrees, saying there will soon be a very bad awakening.



EC/Thomas Samson

Money is Stupid

But on the other side, the former Deputy Manager (1987-1991) of the Banque de France Frédéric Peltier [said](#) that the only way to deal with that is a New Bretton

Woods system, writing off the debt. So our demand for the Four Laws of Lyndon LaRouche definitely is not yet hegemonic, but there are people who recognize at least aspects of it.

I think we need to have this campaign for the Four Laws of Lyndon LaRouche as an absolutely necessary attribute of the solution.

Schlanger: Geopolitics has once again reared its ugly head, in the form of an attack against the captain of the *USS Theodore Roosevelt*,

a nuclear aircraft carrier. Capt. Brett Crozier, spoke out about the problem of the coronavirus among the sailors on his ship, and he was fired! The Acting Secretary of the Navy said he was fired because he had said, we're not at war, so there's no problem with going into port. We have seen an eruption of geopolitical nonsense in the last days. What do you think of this? This is really

one of the most dangerous aspects in the midst of the financial crisis and the coronavirus crisis, which is the warhawks are coming back out.

Zepp-LaRouche: I think this is extremely revealing, because Captain Crozier said that there was coronavirus on the *Theodore Roosevelt*, that there were 190 or so sailors infected out of 4,000, and on a ship like



USMC/Dana Beesley



USN



NCSN/Alexander Williams

Hysteria in high places: Almost 200 sailors sick with COVID-19 on the USS Theodore Roosevelt? That's no excuse for bringing the carrier into port! We're at war! With these words, Acting Secretary of the Navy, Thomas Modly (l.), relieved Capt. Brett Crozier (r.) of his command. Modly blamed China for the virus. But the crew cheered their commander.

that, it's super-dangerous. So many people can get infected. He did his duty: He reported it; he did not leak it. Then the Navy Secretary Thomas Modly flew all the way to Guam, and spoke to the sailors over a loud-speaker. He yelled at them, chastising them! He said:

One of the things that bothered me the most about his email was saying that we are not at war. Well, we are not technically at war. But let me tell you something, the only reason we are dealing with this right now is because a big authoritarian regime called China was not forthcoming about what was happening with this virus. And they put the world in danger to protect themselves and their reputation.

And he said that the crew had to do its duty, not to complain, and to show "that it is knocking down this virus, just as it would knock down the Chinese or the North Koreans or the Russians if any one of those nations were ever so stupid enough to mess with the Big Stick...."

It's outrageous to say that the crew of this ship could "knock down" the virus by staying on the ship, showing its military readiness. This is absolute madness. It also shows you that these people believe in their doctrine, claiming that the United States is actually at war with China. And what Modly, in particular, clearly repre-

sents, is the policy called *Education for Seapower Strategy 2020*, which is the [doctrine](#) that you have to remove all cognitive processes from battle decisions, because these decisions have to be made within micro-seconds, and therefore you have to automate it with artificial intelligence.

Geopolitics is Dangerous Stupidity

This is absolutely scary! Because this confrontational outlook can lead only to a catastrophe, including World War III with Russia and China. So I think what this guy Modly—who has resigned in the meantime—has revealed, is that there is no concern by this military grouping for the troops and they are obviously drawing their conclusions from that. And there is wide discussion all over the place and in the military journals, and everybody can see what this is.

But it also shows you the extreme danger of the neo-cons in their ideological hatred of China, in particular.

Schlanger: We see that with John Bolton, former National Security Advisor and Ambassador to the United Nations, once again opening his big mouth, and other usual suspects such as Senators Marco Rubio, Ted Cruz. They're really ramping this thing up, precisely now, when China announced that yesterday was the first day that they had no new deaths from coronavirus; and,

they're supplying aid to the United States. So what Bolton, Rubio and Cruz are saying is really counterproductive and goes against what President Trump is talking about, with his friendship with President Xi Jinping.

Zepp-LaRouche: There are also some positive articles, like the one in *The New Republic* by the science journalist Laurie Garrett, who doesn't like Trump, who doesn't like Xi Jinping, but she comes to the conclusion that the only way to defeat this pandemic is if the United States and China, the two largest economies, work together. We *do* need to move to a new paradigm of international cooperation. China has now helped to bring medical supplies to over 100 countries; it has sent medical teams around the world, together with the Russians, and the Cubans. Such activity is making very clear who is helping and who is not. It's not the EU, for sure, but it is China.

An international approach, a New Paradigm of scientific cooperation, of economic cooperation, of gearing the world economy up together, to build a world health system is really the only reasonable path, the only one that has any chance of working.

Countering British Imperial Psywar

Schlanger: You've been emphasizing the importance of an emergency summit, with Presidents Trump, Xi, Putin, and Prime Minister Modi getting together and hashing these questions out.

One of the problems is that there are all kinds of psychological operations in play, psychological warfare, fake news, that keep getting in the way, in order to confuse people, which operations are adding to the stress and anxiety of the average person, because they're not hearing the truth. Where do you think this is coming from?

Zepp-LaRouche: I think it's important that we look at it as a totality, and not at the specific lines. Because, the purpose of these fake news stories is to make people completely passive, and they're dangerous. For example, in Germany, there is this Dr. Wolfgang Wodarg, a virologist who is being quoted and interviewed by all the "alternative media," who are already equally set in one line (like the mainstream media), namely, that this

coronavirus is all a plot, fake news, a coup to implement world fascism, world dictatorship, that it's all plotted by Bill Gates—he may have a role in it which is not so positive, but that's a different matter—but that the whole pandemic does not exist.

This is idiotic and very dangerous, because if people think this is just like a normal flu, then we will have exactly such phenomena as I mentioned earlier: people from Paris going to the countryside, people from Bergamo going to the beach in Italy, and that way, spreading the pandemic even more and causing more people to die.

This is really stupid, and the only interesting thing is that one such alternative media person, who used to be the founder of a little outlet called Rubicon, says that he wants to say to all of these people, what if they are



China has sent supplies and several medical teams to coronavirus hotspots around the world, including Italy.

wrong? Then the entire alternative media have put guilt on themselves which can never be washed away. I think this is a very decent and correct warning.

But you have the same thing on the right-wing side—QAnon, these are people who say, "Oh, no danger, Trump has it all under control," and I think they're also on the anti-China rampage.

So you have these things, and I would not be surprised if it were not some secret services that have their hands in it, because there are people who indeed are neo-Malthusians.

We have said this from the beginning; it's not just the coronavirus in the medical field. We have two other viruses which are equally dangerous to the continued existence of the human species—that is the monetary virus, sitting in Wall Street and the City of London. Those people who want to go back to the neo-liberal system as quickly as possible, which is impossible

under those circumstances; and thirdly, the neo-Malthusian virus of people who think, well, it's actually a good thing that such a virus exists, because it kills the elderly, it kills the excess population, the overpopulation in the so-called Third World.

Malthusian Fascists Celebrate Death

Now, these are the real fascists: These are the new Nazis, because their image of man is no different from that of those who killed the people in the concentration camps. Just look at the refugee camps in Greece and elsewhere and you see what I mean—the fact that that is not being changed and not helped by the EU, by the EU not agreeing to the industrialization of Southwest Asia and Africa, just is proof that there is such an underlying thinking in the minds of many people.

We are really challenged with an incredible task. Two weeks from now we will be having an international internet conference. I ask all of you to [sign up](#) for the conference, because if you want to have an active participation in this conference, you have to RSVP. There will be discussion on achieving a New Paradigm. There will be top representatives of leading governments of the world, top scientists, top people from music and the arts, and also a discussion of the development of Africa.

This conference will be a crucial intervention into this present situation, to change the direction, and you should be absolutely part of it, and spread the fact that this is taking place, and register as quickly as you can.

Schlanger: This is really important, because what you just identified with these operations, the fake news, the lying [audio loss], which is designed to make people passive and avoid the discussion of the real solutions. And Helga, the Schiller Institute conference you just mentioned, I want to stress to people, go to the Schiller Institute [website](#), or the LaRouche PAC [website](#). It's very easy to find the RSVP registration for this conference: Become a member and use the time between now and then to prepare yourself to be a full participant, not just in the discussion at the conference, but by *bringing other people*: Bring your neighbors, your friends, groups of people you talk to, to participate in this conference.

The Common Good of Mankind

Helga, is there anything else you'd like to add?

Zepp-LaRouche: I think people have to really de-

velop some inner strength to deal with this situation, because for us, in a certain sense, it was not such a surprise, because we have had Lyndon LaRouche with us and our organization, and we have been warning about this for almost half a century. But for many people, this came as a shock: From one day to the next, complete denial and dismissal of the Wuhan stories in January; then, all of a sudden, beginning sometime in March, people fell out of their clouds.

Some are now very upset; some accept it—some people obviously are experiencing extreme hardships. There is a danger that, according to the OECD report, Germany may have an economic contraction of 30% of GDP. Many people are really fighting for their daily existence, and are crowded into small apartments, maybe with little children they cannot let out—I mean, this is an incredibly challenging period.

So, I think it is important that people somehow develop the inner strength, by being optimistic that we can get out of it, if you support what we are saying. If you support the idea that we have to change the system: The neo-liberal economic model has failed and it has gotten us to this point, and we have to replace it with an economic system which is geared towards the common good, which allows economic prosperity and a decent life for the people of every country on this planet. And we have to have a new alliance of sovereign nations working together for the common aims of mankind.

If we move to get this change, there is good reason to believe that we, indeed can, in a year, or hopefully earlier—but it will take a certain time for a vaccine to be developed—we can get out it. And afterwards, really rebuild the world according to more humanistic conceptions like those of the Italian Renaissance, the German Classical period, the principles and ideas of the American Revolution. And that we can *change the system*, together countries like Russia, China, India and all the other countries, and form an alliance for the common good of all of humanity. But it requires your active support: So do not just “think about it” but get active with us, and we can do a lot of good things together, and hopefully come out of this in a strengthened form, together.

Schlanger: OK. Mark that on your calendars, April 25-26. Helga, thank you very much, and we'll see you next week.

Zepp-LaRouche: Till next week.

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