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‘Great Again’: From Space Exploration to Family Farming



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‘Great Again’: From Space Exploration to Family Farming

EDITORIAL

CITIZEN ALERT: SHUT THIS DOWN!

Roger Stone Gets the LaRouche Treatment

by Barbara Boyd

Jan. 25—At 6 a.m. this morning, FBI agents in full tactical gear with long guns, hit the door of a 66-year-old, unarmed political consultant whose sin is defiance and mockery of their authority. They were accompanied by a CNN camera crew, whispering sports-type commentary for this Robert Mueller staged geek show. Roger Stone, the victim of this thuggery, pointed out, in a statement following his initial court appearance, that throughout Mueller's investigation of him, he has been represented by an attorney, and normal procedure would be to contact that attorney and enable Stone's voluntary surrender. Instead, Stone was indicted and arrested, and, as of this writing, his house in Ft. Lauderdale, Florida and his apartment in New York are being searched. He was released after an appearance in the U.S. District Court in Florida and will appear to answer the charges in Washington, D.C. next week.

The words which come to mind are those of the famous poem, "[First They Came for the Socialists](#)," by Martin Niemöller about an apathetic and cowardly citizen confronted by Nazis hauling off one allegedly dissident group after another and not acting. Or, perhaps, Maurice Ogden's "[The Hangman](#)."

The indictment is about lying to Congress and raging by email against people who sell you out once the full force of the state is applied against them. Stone

tore into Randy Credico, a New York radio commentator, comedian, and Democratic Party hack who allegedly helped Stone contact WikiLeaks, as Credico sold Stone out to House investigators and to Robert Mueller. The Stone emails containing these tirades are now called by Mueller "obstruction of justice" and "witness tampering." It appears from the indictment that Credico and conspiracy nut Jerome Corsi, who assisted Stone's attempted contacts with WikiLeaks, both sold Stone out to save their own skins.

As most know, lying to Congress is a Washington, D.C. art form, which—if you are a presently favored servant of the Beltway Bandits, of the national security state—never receives public mention, let alone an indictment. Stone adamantly denies that he lied to the House Intelligence Committee or engaged in any obstruction or witness tampering.

Stone's attempts to find out what WikiLeaks had obtained

from Democratic National Committee computers and the emails of John Podesta, regarding the Hillary Clinton campaign and the timing of any releases by WikiLeaks, were not illegal. For a long-time political consultant like Stone, not seeking to learn more about the emails would amount to campaign malpractice, if Stone was actually employed as a consultant to the Trump Campaign. Yet, Trump himself broke off his relationship to Stone in 2015, long before the WikiLeaks



email episodes. In fact, this is yet another Mueller “bombshell,” in which the crime alleged has been created by Mueller based on harassing and bankrupting potential witnesses—a so-called “process crime” for falling into created perjury traps—a concocted crime, which has nothing to do with Trump himself.

Roger Stone has been bankrupted by legal fees stemming from the investigatory and grand jury process as well as by civil suits launched against him by Democratic partisans. It’s obvious that Mueller will now try and flip Stone, using the hammer created by the years in prison implied in multiple false-statement, obstruction, and witness-tampering charges. To date, including in his first post-arrest statement, Stone has loudly and publicly refused to cave, compose, or fabricate to falsely implicate the President in any crime.

Mueller’s Evasive Charade

The WikiLeaks purloined emails at issue, demonstrated beyond any reasonable doubt that Hillary Clinton and the Democratic National Committee (DNC) were rigging the 2016 Democratic presidential primaries against Bernie Sanders and that Hillary Clinton was a craven suck-up to Wall Street. The truth about Clinton and Podesta that WikiLeaks released in 2016 has largely been buried in the fake drama concocted by Mueller and his collaborators in the media and the Congress about “Russian interference” to swing the election to Trump. This drama was originally produced and directed by British intelligence with the Obama White House and intelligence agencies as its main actors.

Mueller’s job is to re-run the drama endlessly, dressing it up, and destroying those who refuse to play their part in the now completely confabulated tale. It is hoped that as the result of the sheer volume of the bull pucky thrown, all with self-righteous and pompous seriousness, some episode in this fabricated drama might finally stick with the American public. At the very least, the aim is to make most forget how the story began, with a blatant, illegal, British attempt to swing the election to Hillary Clinton, seconded by the full use of the intelligence powers of



FBI

Robert Mueller in 2008.

the United States by the Obama White House to defeat the Trump candidacy and, thereafter, to subvert his Presidency. Mueller’s job is to throw up enough smoke to justify actions which are illegal and seditious, to ensure that those in the Obama White House, in the Justice Department, and the CIA never see prison for their crimes.

Even Barack Obama admitted that the “Russian hack” part of the concocted drama had a fatal flaw: Exactly how did the material, allegedly purloined by the Russian GRU, get to WikiLeaks with Julian Assange being confined to the Ecuadorian Embassy in London and under constant and intense surveillance? Julian Assange and former British Ambassador Craig Murray have insisted there was no Russian hack, and that the emails were leaked to WikiLeaks by individuals in Washington, D.C., with Murray serving as the courier.



CC/Romy Marquez

Craig Murray, former UK Ambassador to Uzbekistan.

Smoke and Mirrors

By his indictment of Stone, Mueller is hoping to throw up enough smoke around “lies” concerning links to Trump that the public will forget the fact that his story about the Russians makes absolutely no real sense. And, as *EIR*, LaRouche PAC, and others have repeatedly shown, it is all part of the [British campaign](#) to force Trump’s impeachment at all costs and to mobilize U.S. citizens for war with Russia. Stone has

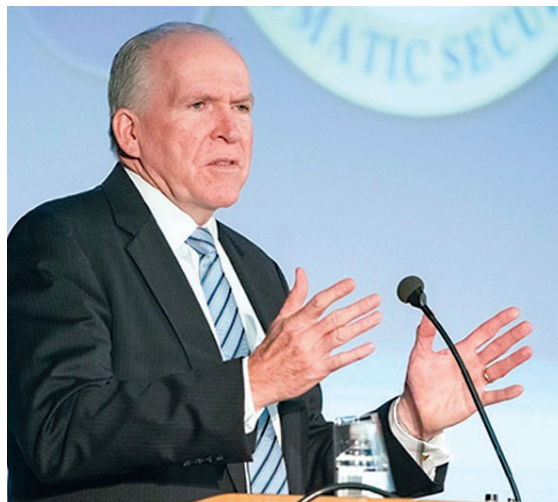
been outspoken in pointing to the British as the actual foreign culprits trying to shape the 2016 Presidential campaign to Hillary Clinton's benefit, and the British have noticed.

Contrary to the nonsense that people in Washington preach about "Saint Mueller," he leaks like a sieve ahead of any indictment in order to create a popular and ugly perception of his targets with both the public and the grand jury. Thus, the news media had already reported, weeks and months ago, about what is in the indictment, even if the names are now belatedly disguised and redacted per Justice Department guidelines. The false statements allegedly made by Stone were made to the House Intelligence Committee; they concerned efforts by Credico and Corsi, at Stone's alleged direction, to find out what WikiLeaks had, and Stone's emails about this process. The media is salivating over the citation, in the indictment, to the minimal involvement of Trump Campaign figure Steve Bannon in Stone's efforts.

According to leaked news reports, Margaret Ratner Kunstler served as an attorney for Julian Assange. Credico is close to her, and it's claimed he got his information from her. She is the former wife of William Kunstler, the famous New York City criminal defense attorney, now deceased.

And Brennan?

The media coverage of Stone's arrest is noteworthy for its noxious perfidy. John Brennan, who headed Obama's CIA, conducted a completely illegal investigation of candidate Trump, beginning in early spring 2016, using CIA headquarters and British and NATO "intelligence" leads, along with surveillance and attempted entrapments. Now employed to pontificate against Trump on MSNBC, Brennan opined that Stone's arrest showed, once again, that "the walls are closing in." He went further, predicting that Mueller was about to issue innumerable indictments showing a conspiracy between the Trump Campaign and Russia. This leads to the question which must be asked by any



Former CIA Director John Brennan.

U.S. State Dept.

honest intelligence or law enforcement figure now: What, exactly is Brennan's relationship to the Mueller investigation? Since it is actually Brennan who is guilty of criminal actions in 2016, since he played a central role in the British interference with the election, if he is being given leads by Mueller's minions, isn't this the real cover-up and actual obstruction?

'Then They Came for the Jews'

Indicative of the outright insanity in certain Washington circles, Senator Michael Bennett, while viewing the footage of armed-to-the-teeth FBI agents running into Stone's front yard and toward his front door, proclaimed the triumph of the "rule of law," in his television appearance. Senator Chris Coons bloviated too, offering similar quisling formulations.

Only an aroused and informed citizenry can stop this charade. Ultimately, what the British, Mueller, and complicit Washington are afraid of, is you, exercising your role as a citizen, the ultimate decider in our constitutional republic. Call your Congressman or Senator, and demand that they [move forward](#) on the economic and scientific political program which can advance this nation. End Robert Mueller's witch hunt, now, before it claims our Constitution itself as its last and final victim, loosing anarchy upon the land. Organize your friends and neighbors to do the same. As the Niemöller poem makes clear, that's the only way to make sure that someone will be there, not just to speak for you, but to vanquish those who attempt our ruin.

First they came for the socialists, and I did not speak out—because I was not a socialist.

"Then they came for the trade unionists, and I did not speak out—because I was not a trade unionist.

Then they came for the Jews, and I did not speak out—because I was not a Jew.

Then they came for me—and there was no one left to speak for me.

—Martin Niemöller

Cover This Week

*Modern corn
harvester with a
12-row head.*



‘GREAT AGAIN’: FROM SPACE EXPLORATION TO FAMILY FARMING

2 EDITORIAL

Citizen Alert: Shut This Down!

Roger Stone Gets the LaRouche Treatment

by Barbara Boyd

I. The Context for a Moon-Mars Crash Program

6 ZEPP-LAROCHE WEBCAST

**British Empire Jailed Lyndon LaRouche
Thirty Years Ago: That Same Apparatus is
Now Aimed at President Trump**

12 THE COMMON AIMS OF MANKIND

**The Strategic Defense of Earth: the ‘New
SDI’**

LaRouche PAC interview with Ben Deniston

II. LaRouche Economics To Jump-Start the Economy

21 One Million New Family Farms

More Farms, More Factories,
More Future!

by Robert L. Baker

35 Lebanon’s President Aoun Proposes Arab Reconstruction and Development Bank

by Hussein Askary

III. Unpublished LaRouche Memo on Cusan Science

41 The Next Twelve Months’ Work Must Consolidate and Systematize the Cosmological Ontological Standpoint of Cusa’s Founding of Modern Science

by Lyndon H. LaRouche, Jr.
June 10, 1986

I. The Context for a Moon-Mars Crash Program

ZEPP-LAROCHE WEBCAST

British Empire Jailed Lyndon LaRouche Thirty Years Ago: That Same Apparatus Is Now Aimed at President Trump

This is the edited transcript of the Schiller Institute's January 26, 2019 interview with the founder of the Schiller Institutes, Helga Zepp-LaRouche, by Harley Schlanger. A [video](#) of the webcast is available.

Harley Schlanger: Hello, I'm Harley Schlanger from the Schiller Institute. Welcome to our weekly webcast with our founder and President Helga Zepp-LaRouche. It's Jan. 26, 2019.

We're having a re-emergence, or not so much a re-emergence as a reassertion of the neo-con faction in Washington, now with their sights set on a regime-change coup in Venezuela—some of the same people who were involved with the Bush family, going back to Iran-Contra and other operations. Helga, what's the significance of this in terms of the global strategic situation?

Venezuela: New Crisis Hot Spot

Helga Zepp-LaRouche: With the successful Russian intervention in Syria and President Trump's decision to U.S. troops out of Syria, that crisis spot has been defused. Since the real aim of the war party is to cause a confrontation with Russia and China, it appears that the war party has shifted its assault to Venezuela. From the standpoint of international law, what Secretary of State Mike Pompeo and others are demanding is completely illegal. Pompeo went to the Organization of American States (OAS) to demand full support for Juan Guaidó as President of Venezuela. It's not a question of liking



Juan Guaidó



U.S. State Dept.

Mike Pompeo

or not liking President Nicolas Maduro—he is the President of Venezuela. This is a classical regime-change operation and it was completely rejected by Russia, by China, by India, by President López Obrador from Mexico, by Uruguay—even the Brazilian military has flatly refused to involve any Brazil troops.

This is now a highly dangerous situation. It could lead to a civil war, which is why all reasonable parties are calling for dialogue. This move in Venezuela has the potential to lead to a U.S. confrontation with Russia and China. Even more important, the assault on international law, is really, the biggest problem.

Just to give you a sense of it: Somebody stated clearly—if you demand that the head of the National Assembly, Guaidó, should be recognized as President,

by the same token, President Maduro could say the Yellow Vests are the legitimate government of France, and not Emmanuel Macron. Once you start doing these kinds of things, much more will go haywire politically, internationally, than the supporters of such actions may expect. This is really a very, very dangerous development.

It's also pretty transparent. Even the economic commentator on the official first channel of German TV said "this has nothing to do with democracy or human rights. It's all about oil." Now while that is not the whole story, because it's the larger global confrontation between the old and the new paradigm, oil for sure is also a factor in this situation.

This will all accelerate the process of discrediting the present neo-liberal order, because the methods with which they operate are becoming clearer to everybody, in every corner of the world.

Schlanger: You mentioned that geopolitics is a major feature of this. It's not surprising, then, that the "usual suspects"—Britain and France—endorsed this regime change. I don't know whether other countries have been heard from yet, but as you mentioned, Uruguay, Mexico, and Brazil, are very much opposed to this. I think it's important to note that it's the old Bush crowd that's coming forward now, attempting to take over policy, certainly in this case.

Missile Defense Review

Let's look at the neo-con danger. The 2019 National Intelligence Strategy (NIS), released January 22, is quite a chilling document. What was the reaction from the Russians and the Chinese to being named, again, as adversaries?

Zepp-LaRouche: The 2019 Missile Defense Review (MDR), released January 17 by the Department of Defense (DOD), raises the idea of militarizing space, which was denounced very clearly by the Russian Foreign Ministry. The Russian response was that this once again shows that instead of going for dialogue, there is a very clear intention to "ensure U.S. domination in space." That response makes an inaccurate and mistaken reference to President Reagan's "Strategic Defense initiative" (SDI), which was, as we've discussed many times in this program, a much more complicated issue involving a grand design to finally overcome "Mutually Assured Destruction" (MAD) with a supe-



WEF.swiss-image.ch/Sebastian Derungs

Mega-speculator George Soros.

rior conception, namely, Mutually Assured Survival.

We can see that the tensions in the international strategic situation remain extremely high, and the situation is therefore extremely dangerous.

George Soros: China the Biggest Threat

Schlanger: There was the recent appearance of the almost 90-year-old George Soros at the World Economic Forum in Davos, Switzerland, where he sent out—I think you could say—"marching orders" directed at confronting China and Russia and getting rid of Trump. What do you make of Soros's appearance there?

Zepp-LaRouche: Well, I think that most people would agree with me that he is the ugly face of neo-liberal capitalism, if you ever have seen one.

But what he said there is quite interesting, because he lumps together President Xi Jinping and Donald Trump. What he said is that China is not only an autocratic government, but they are wealthy and economically powerful, and they have now developed "Artificial Intelligence" (AI) to such a degree that they are capable of imposing their system. He added that Xi Jinping, therefore, is the biggest threat to Soros's conception of an "open society"—the idea that everything goes, the so-called "liberal values of the West."

This is quite incredible. The Chinese reaction to this was to say that it doesn't deserve a response—if somebody so obviously turns black into white and white into black, it doesn't deserve a rebuttal.

I think the Russian reaction to Soros' speech was

also very interesting: It was the Minister for Economic Development, Maxim Oreshkin, who said, well, the United States has nobody to blame but themselves. Look at what this “open society” conception did to the United States in the last 30 years, a society with falling income, tripling of health care costs, and general cultural decay. Then that is the result of this-called open society.

And I think this is really the problem, because this open society conception is a nothing but a synonym for everything that has gone wrong. This is what Lavrov calls the “post-Christian values of the Western system”; or what some people defend as “Western values.” But if you look at these “values,” what you see is moral rot and decay. Soros made quite a picture of himself there in Davos, and I think he is really the synonym for everything that is wrong with the West.

Schlanger: It’s also the case that Soros has been a life-long operative of this British Imperial system. Besides his ugly face, it is the British Imperial system that’s disguised under the philosophical cover of being an open society.

Zepp-LaRouche: Yes! I think that’s quite true!

Roger Stone: Latest Mueller Target

Schlanger: As for the British, there have been a number of exposés recently. Just yesterday, there was the incredible arrest of Roger Stone, who’s accused by Special Counsel Robert Mueller of lying to Congress, and yet, his pre-dawn arrest was carried out with a huge corps of FBI agents, and with a pre-alerted CNN camera crew there to film it. This is overkill! Do you think people can begin to see the desperation of Mueller’s apparatus, with the way Roger Stone was treated?

Zepp-LaRouche: The renowned Constitutional law scholar, Alan Dershowitz, issued a statement that is very much to the point, saying that the entire aim of such heavy-handed action—as was done in the case of Paul Manafort and Michael Cohen—threatening close

associates or former close associates of Trump with so much trouble, threatening long jail times, ruining them financially, bankrupting them through legal fees, is all an effort to turn them against Trump. Now, Roger Stone has declared that he will absolutely not lie against Trump, and I think he’s a man of honor and will not do that, for sure. But I think it is also very clear that Mueller’s “investigation” is creating an environment of complete McCarthyism and terror which is really absolutely incredible.

For their part, the Russians sometimes provide really good humor. For example, in the context of the coup attempt in Venezuela, Foreign Minister Sergey Lavrov commented that it worth thinking about the fact that the United States is paranoid about somebody interfering in its elections, even though it has no proof of that, and yet now the United States is trying to rule the fates of other peoples. In Venezuela there will be no need for Special Counsel Robert Mueller to determine that there is foreign meddling in the situation. That is, indeed, very true. And I think Roger Stone is absolutely right when he said that he’s not guilty. He’s now free on bail. Dershowitz also said that all of Roger Stone’s alleged crimes were not related to Trump in the

2016 campaign. Even more to the point, almost all of the crimes that Mueller has indicted people for are crimes that resulted from his investigation: false statements, tampering with the witnesses, obstruction of justice. It’s all orchestrated. It’s time for people to think seriously and really understand that this now must be stopped.

Schlanger: Dershowitz made an additional interesting point about these all being “process crimes,” that is, they have nothing to do with the Russiagate story—the narrative of Russian meddling and Trump campaign collusion with Russia. These “process crimes,” have to do with people reacting to being put under pressure by Mueller. Dershowitz said, perhaps the way Mueller is approaching things, and the way the prosecutors are approaching things, is witness tamper-



Schiller Institute

Roger Stone

ing—by threatening people with bankruptcy, as in the case of Roger Stone, who has millions of dollars in legal fees; the same with Manafort. When people are no longer able to fight, some end up submitting—or that’s the prosecutorial theory.

This has to be stopped in the United States. At a meeting last night, people who understood this, told me it reminded them of the period of the Stasi in East Germany, or the Nazis! This kind of pre-dawn raid, in which someone is dragged out of his bed and charged with completely frivolous charges.

The other area of desperation that we should take up now is what’s happening with the financial system. There are new reports coming out on derivatives, and on inequality—what have you been looking at, Helga, in terms of the ongoing financial crisis?

Financial Time Bombs

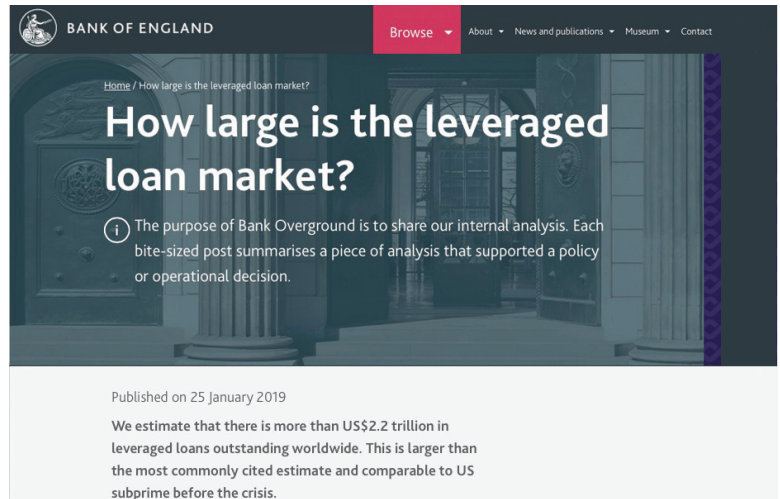
Zepp-LaRouche: The powder keg is ready to blow. On January 25, the Bank of England issued a report saying that the amount of outstanding leveraged loans is not \$1.3 trillion, as the most commonly cited estimate, but—oops!—\$2.2 trillion, almost double! And that this is “comparable to” the U.S. subprime mortgage amount prior to the subprime crisis in 2007, which triggered the big financial crash and recession of 2007-2009. The only difference today is that all the instruments of the central banks have been used up.

There is another report that the Federal Reserve cannot continue with their incremental interest rate increases, because the situation might blow at any moment. The report claims that the Federal Reserve will keep the total amount of quantitative easing money at about \$4 trillion, because they cannot afford to continue tightening up, even if it’s only very marginally. We are sitting on a time bomb.

Belt & Road Initiative

Compare the effort to keep this absolutely bankrupt system going with the steady development of the Belt and Road Initiative. Czech Republic President Milos Zeman is now welcoming the Belt and Road Initiative, hoping that Czechia will be a bridge to Western Europe for the Belt and Road Initiative.

Officials from the much-slandered Sri Lanka,— the world was flooded with claims about Sri Lanka being



caught in the Chinese debt trap in its port development project. The new reports are that this port is beautiful; this is the best port. This will mean that Sri Lanka will be a hub for the whole South Asian development.

Interestingly, there are even good developments in France. Chinese Foreign Minister Wang Yi is presently visiting France, participating in various bilateral institutional meetings. Together with his French hosts he celebrated the exchange of Chinese and French students in the 1920s, among them, Zhou Enlai and Deng Xiaoping.

From France, Wang Yi traveled to Rome, where he participated in the 9th meeting of the Joint Italy-China Government Committee.

Michele Geraci, Undersecretary of the Italian Ministry of Economic Development, again praised the collaboration of China and Italy, especially in the development of African projects, saying that Italy should be concerned, not about the thousand refugees coming now, but about the 20 million young Africans who will come if Italy does not pursue the development of the African continent together with China. Geraci praised the recent Memorandum of Understanding between Italy and China. He also called for Chinese investment in the United States, overcoming America’s trade deficit by China buying commercial airplanes from the United States, but even more importantly by China making large-scale capital investments in infrastructure development in the United States.

In all of these constructive approaches, you can see that if people decide on the new paradigm of economic cooperation, of win-win projects, things do move in the right direction.

China also just issued—in Davos, actually—a statement that all this talk about China slowing down the world economy because it had *only* 6.6% growth in the past year, is completely false; that, in fact, China remains on a path of steady growth, and that the problem lies in the Western, neo-liberal—the Soros-model, if you want, so to speak—not in the Belt and Road Initiative.

Two paradigms in complete contrast. I can only say again: The Schiller Institute is absolutely committed to increasing the knowledge and understanding of people in the United States and Europe about the real nature of the Chinese model. It is absolutely the opposite of what Soros said in Davos.

A Just and Prosperous World Economy

The accusation that China is using “Artificial Intelligence” (AI) to control its population is rather ludicrous, given the massive use of AI in the surveillance conducted by the National Security Agency (NSA) in the United States, and the Government Communications Headquarters (GCHQ) in Great Britain—and beyond those agencies, the United States and European governments broadly use the same kind of artificial Intelligence.

AI algorithms are used to predict crime, with pre-programmed racial bias—these algorithms are developed based on the idea that there will be more crime from minorities. Governments also use surveillance data to determine creditworthiness, and other such things. It’s really complete hypocrisy!

The question is, to what end are you using these things. That comes down to the question of the image of man that underlies your actions and use of your technologies. I think the West at this point, is not looking so good by comparison.

Schlanger: Let us not forget, China has reduced the number of people who are poor by 800 million in the last two decades and intends to reach a point soon in which there will be no one under the poverty line.

And you mentioned in an earlier show, the recent Oxfam report provides a striking contrast—looking at the enormous wealth accumulated by multibillionaires. Did you take a closer look at this Oxfam report, Helga?

Billionaires

Zepp-LaRouche: Last year, according to the Oxfam International report, published January 21, there were 26 multi-billionaires in the world who own as

much as half of the rest of the human population. These billionaires are accumulating \$2.5 billion more per day, while half of the world population is losing \$500 million per day; the richest 26 individuals own \$1.4 trillion—as much as 3.8 billion other people.

I think this absolutely perverse. It’s not just that these people have amassed so much money and power, which is really perverse and abnormal, but such a disparity in wealth is also very dangerous. It can lead to unpredictable consequences. More and more parts of society, almost the entire population in United States and most of Europe, are completely alienated from their governments and are losing all trust in leading institutions.

And since I jokingly mentioned already that the Yellow Vests could be recognized as the legitimate government of France—look at Brexit, look at the vote for President Trump and the new Italian government that has rejected these perverse conditions. The Yellow Vests phenomenon in France is a similar rejection. It is really leading to a condition in which this famous Western model is being rejected by more and more people, because they recognize that the present establishment could not care less about the common good of the people. I think this figure of 26 billionaires owning as much as half of the human population is really the giveaway of what’s wrong with this system.

30th Anniversary of LaRouche’s Imprisonment

Schlanger: Let’s come back to something we were talking about earlier, the corrupt operations that are run outside of official channels, the so-called “secret government,” that is, in fact, British meddling in the United States. Tomorrow, January 27th, is a very important anniversary of something that was done under the direction of George Herbert Walker Bush, who was acting at the behest of the British. Please say more about that, Helga, because it has a special, personal meaning for you.

Zepp-LaRouche: Yes. The 27th of January 1989—thirty years ago—that was the day my husband and a number of his associates were put in prison with lengthy sentences for crimes they never committed. This was the biggest atrocity in the legal history of the United States: This is not only my view, but it was expressed publicly by Ramsey Clark, the former Attorney General under President Lyndon Johnson, who, on his own,



EIRNS/Chris Lewis

Lyndon LaRouche, being led away from the Alexandria, Virginia Courthouse after being sentenced on January 27, 1989.

came to the defense of my husband, simply because he thought that his railroading was the biggest case of injustice in the entire history of the United States. Because it was not only aimed to destroy a political leader and his movement—Ramsey Clark said it was aimed to do both those things—but it was especially an effort to extinguish a birthplace, a cradle of beautiful ideas, ideas to bring solutions to the problems of the world.

Now, I think the biggest crime was not just what was done to my husband and his colleagues. That was terrible, and the people who did that will have a place in history and in Hell. The biggest crime was that the American people were denied the access to those solutions.

I would absolutely make the point that the imprisonment of Lyndon LaRouche has resulted in the miserable condition in which the United States finds itself today, what Maxim Oreshkin, the Russian Minister for Economic Development, spoke about at Davos, relating to the “open society” and the neo-liberal model. The United States today is I think the only so-called “advanced country” where the longevity of its citizens is going down! Probably the most telling parameter for an economic collapse of a country, is when its people’s life-expectancy goes down. This has now happened for the second year in a row.

The United States today is wracked with an epidemic of drugs and an increasing suicide rate. It’s a

very dire situation: one just has to look at the collapsing infrastructure in the United States. President Trump, despite his best intention has not yet been able to remedy any of this, simply because the adversity he continues to face from the Democrats and the neo-cons in his own party. He has been stifled, especially because of this relentless coup operation by Mueller.

Barbara Boyd has pointed out, in an extremely important three-part [series](#) of articles about this whole complex, that the apparatus which went after my husband and his colleagues in the 1980s, the apparatus which covered up the Saudi role—in cooperation with corrupt elements in the United States—in the cover-up of 9/11, and the apparatus that is going after Trump today, are all run by the same people.

All this must be remedied, justice must be served. I have said many times that President Trump should do what he announced he would do: Declassify all the documents relating to the British aspect of the Christopher Steele dossier, and this coup against him.

Reopen Assassination Investigations

I think the [call](#) to re-investigate the four assassinations of John F. Kennedy, Robert Kennedy, Malcolm X, and Martin Luther King, Jr., which was issued recently by 60 prominent Americans, including the children of Robert and Ethel Kennedy, is also a very important initiative.

My colleague Dennis Small wrote a very beautiful [statement](#), calling for the exoneration of Lyndon LaRouche at this thirtieth anniversary.

I appeal to all of you who are watching this program: Help us to make the exoneration of Lyndon LaRouche an international campaign—it will put under scrutiny the same apparatus that is the problem today, the same apparatus that, if successful in its endeavors, will bring about confrontation with Russia and China.

Please sign this [appeal](#) for the exoneration of my husband and his associates. I think this is the most important thing you can do for the future of humanity, for peace, and for the honor of my husband.

Schlanger: Helga, thanks for joining us, and we’ll see you next week.

Zepp-LaRouche: Yes, till next week.

THE COMMON AIMS OF MANKIND

The Strategic Defense of Earth: the ‘New SDI’

This is an edited transcript of the weekly LaRouche PAC [Webcast](#), featuring LaRouche Science Team member Ben Deniston. He was interviewed by the program's host, Matthew Ogden.

Matthew Ogden: The title of our broadcast today is “The Common Aims of Mankind: Strategic Defense of Earth.” The acronym is SDE. This is not a coincidence: SDE is a direct reference to SDI, President Ronald Reagan’s famous, history-changing announcement on March 23, 1983 of the Strategic Defense Initiative—a proposed missile defense system to make nuclear weapons “impotent and obsolete.”

Now President Reagan’s impetus for this call, in the 1980s, was that this would not be merely a defensive measure against another country, but a joint project among all nations of the world, including at that time, in the context of the Cold War, the United States and the Soviet Union.

On January 17, President Donald Trump made an announcement compared by several to Ronald Reagan’s Strategic Defense Initiative. The occasion was the release of the 2019 Missile Defense Review (MDR), commissioned about a year ago by Congress, which contained some language very clearly pointing in the direction of continuing along the lines of what had been developed, or begun to be developed, in the 1980s for space-based missile defense systems. Let’s just read a little bit of that document’s Executive Summary:

Importance of Space. The exploitation of space provides a missile defense posture that is more effective, resilient and adaptable to known and unanticipated threats. Space-based sensors, for example, can monitor, detect and track missile launches from locations almost anywhere on the globe—they enjoy a measure of flexibility of movement that is unimpeded by the

constraints that geographic limitations impose on terrestrial sensors, and can provide “birth to death” tracking that is extremely advantageous.

As rogue state missile arsenals develop, the space-basing of interceptors may provide the opportunity to engage offensive missiles in their most vulnerable initial boost phase of flight, before they can deploy various counter-

measures. Space-basing may increase the overall likelihood of successfully intercepting offensive missiles, reduce the number of U.S. defensive interceptors required to do so, and potentially destroy offensive missiles over the attacker’s territory rather than the targeted state. DOD will undertake a new and near-term examination of the concepts and technology for space-based defenses to assess the technological and operational potential of space-basing in the evolving security environment. . . .

DOD will identify the most promising technologies, and estimated schedule, cost, and per-



sonnel requirements for a possible space-based defensive layer that achieves an early operational capability for boost-phase defense.

[The complete 108-page MDR document is [here](#).]

I've asked Ben Deniston to join us here today because he's the author of an [item](#) that appeared on the LaRouche PAC website just a few days ago, "The 'New SDI' Must Be the SDE—Strategic Defense of Earth."

What we're going to discuss here, today, is very, very critical when it comes to war and peace. But we will also discuss the idea of a New Paradigm of relations among nations—that we, as the human race, must unite not to fight wars against each other, but to fight to defend mankind from threats which come external to our planet, and that's the subject of the Strategic Defense of Earth.

I'm going to let Ben tell us about this idea. Ben?

Lyndon LaRouche's Concept of the SDI

Benjamin Deniston: Just to underscore one other critical aspect of Lyndon LaRouche's view of the SDI: We're talking here about strategic balance—a stable, mutually beneficial, win-win strategic order. One key aspect of the SDI that LaRouche campaigned on, and Reagan picked up on, famously, and Dr. Edward Teller supported, was the intention to eliminate the threat of nuclear Armageddon. Our younger viewers might not be aware that the strategic military doctrine and U.S. national security policy at the time was technically called Mutually Assured Destruction, appropriately termed MAD. The entire strategic balance was based on the idea that if we detected a launch from another power that we believed would completely annihilate our country, our response would be to launch an annihilating strike against that country, in the minutes before we were about to be annihilated: mutually assured destruction. That was the strategic military balance at the time.

The idea of creating a defense system that could effectively stop mutual annihilation was crucial.

Another element, both critical and unique, added by LaRouche, was that the basis for peace also in-



"A Strategic Defense of Earth," by Ben Deniston in the Fall/Winter 2012-13 issue.

volves progress: Eliminate the threat of Mutually Assured Destruction, which is insane, but at the same time, introduce a cultural regime which fosters the uplifting of human nature, while also fostering anti-entropic economic development. Key and central to LaRouche's proposal for the SDI was this joint science-driver program: It must be a joint program, a joint program pursuing new, fundamental scientific principles.

The Strategic Defense of Earth

With the SDE, you need the defense aspect, but you cannot separate that from creating an environment where nations can jointly develop and share the most advanced technologies available, and use those not just for defense but also generally for production, for infrastructure development, for manufacturing—that is absolutely required for any positive future for civilization on this planet. The joint development of the most advanced technologies, and the sharing of those—not just siphoning them off for defense, keeping them secret from your own people, keeping them secret from your supposed adversaries, where they just sit there, with no application to general progress. Instead, open that technology up, bring it out to the economy more generally, and engage in the kind of programs that continuously force the development of new technologies, new breakthroughs.

So that was central to LaRouche's idea of the SDI—very different from the way a lot of people played it at the time, and the way people talk about it today. In fact, it really was a minority—LaRouche, Reagan, Teller—

that really understood that aspect of the idea. And a lot of other people tried to play geopolitical games with it, and tried to use it as an excuse to try and bankrupt the Soviet Union. But that was not the program that Teller, LaRouche, and Reagan were behind.

That's important to know, because the exact same people who were campaigning on that idea in the 1980s, around the SDI, when the Soviet Union fell, it happened to coincide with a very interesting situation, where people were beginning to realize the actual threats that existed to our planet from things like asteroids existing in the Solar system. And you have this fascinating period, in the early 1990s up until the mid-1990s, when there was a coming together in a series of conferences of a lot of key players in the defense area and in the nuclear labs, in both the former Soviet Union and in the United States, to discuss the issue of planetary defense against asteroids and comets.

This even happened in some of the leading nuclear labs in the United States and in Russia: Russian leaders in their nuclear labs programs, nuclear weapons programs, coming to the United States, coming to places such as Los Alamos, being brought into our nuclear centers to discuss what to do as a unified people on this planet, in the case we have an asteroid that threatens civilization. They had a conference at Lawrence Livermore National Laboratory. There were conferences in Russia at their nuclear labs—Chelyabinsk, for example, which used to be a secret science city, which people didn't even know existed, where they pioneered this research.

I guess maybe the Solar system heard that they were planning to defeat these asteroids. Chelyabinsk was ironically the place where a 20 meter near-Earth asteroid exploded on Feb. 15, 2013.

Convergence on the Common Aims of Mankind

So, there's a natural evolution to the SDI and SDE concepts—the central idea being what Teller termed “the common aims of mankind.” That was core to what LaRouche, Reagan, and Teller were fighting for with the SDI in the 1980s. That spirit naturally evolved into addressing asteroidal threats and threats to the Solar system. Unfortunately, a lot of geopolitical perspectives prevailed in the 1990s.

We never went with a joint U.S.-Russia planetary defense program in the spirit of the SDI, but it is an idea

which has kept on popping up in various forms. In 2011, the Russians proposed it again. Dmitry Rogozin, Russia's ambassador to NATO, was appointed as Special Representative on anti-missile defense to negotiate with NATO countries. In 2011, as NATO began moving missile systems closer to the Russian border, Russia proposed instead looking at the bigger issues, those threatening the entire planet: threats to mankind in the Solar system from rogue asteroids and comets. So, the SDI/SDE was again put on the table.

There's an historical and natural connection, and it comes inherently in technologies developed to defend against intercontinental ballistic missiles (ICBMs), for example, and some of the newer technologies coming up—hypersonic missiles—some of these advanced systems the Russians have just recently unveiled. The kinds of technologies you would need to defend against these newer technologies very much overlap the technologies needed to detect and defend against the threat of an incoming asteroid or comet. There's a natural convergence between strategic defense from the threat of nuclear war, and a broader defense of the planet as a whole from threats in the Solar system.

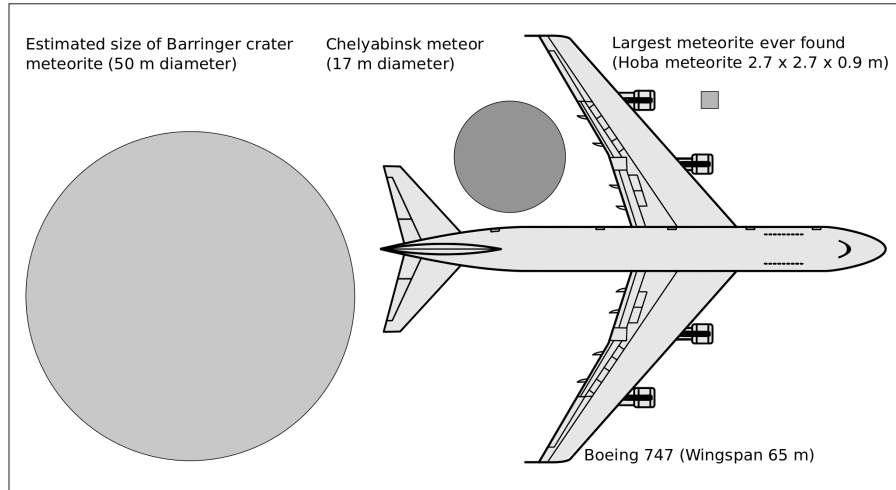
Living in the Solar System

There's a lot more we can get into, but I want to make the point, with some graphics here, that this is just a regular part of living in the Solar system. Asteroid impacts happen quite frequently. I'm sure everyone remembers all the dash-cam footage and other raw footage from this amazing, and completely surprising impact from the very small asteroid over Chelyabinsk. Next to that, in **Figure 1**, we have a comparison of the size of the Chelyabinsk asteroid with other incoming bodies. The reason these things are so destructive is that the impact speeds are so high. The Chelyabinsk asteroid was on the very, very small end, just on the border of what can really start to be damaging. It damaged windows in some buildings, and some people were injured. Luckily there were no fatalities.

But that's the small end, minimum threshold. If you look at other things, like the estimated size of the object that caused the famous Barringer Crater in the Western United States, a relatively fresh impact, a huge crater that was caused by an object not that much bigger than the one that hit over Chelyabinsk. Another famous one from the beginning of the 20th century, is an impact that happened over Tunguska, in Siberia in 1908, which lev-

FIGURE 1

Comparison of Meteor Sizes



eled hundreds of square miles of trees. It took scientists a long time to even figure out that it was probably the effect of an impact, which it was.

These are just a few examples of relatively recent impacts. In the chart of “Bolide events,” every dot marks an impact from a small asteroid exploding in the atmosphere. A lot of meteors explode with the energy equivalent of small nuclear weapons. These are not just “shooting stars,” these are pretty significant explosions in the upper atmosphere. But they’re not quite big enough to reach the surface without breaking up. Looking at the 10-

year intervals in the Bolide chart in **Figure 2**, we see that most of the data were obtained relatively recently. These upper atmosphere explosions were detected with systems designed to monitor nuclear tests. The monitoring teams happened to be picking up all these explosions in the atmosphere, and (fortunately) figured out these were small asteroids exploding, not nuclear weapons going off.

If we don’t have a competent ability to detect these objects as they are coming in, it’s not inconceivable that a small asteroid could explode over a country and be thought to be a nuclear blast. That’s been raised as a concern.



U.S. Geological Survey/D. Roddy

The Barringer meteor crater in northern Arizona.



A still from a dashcam video from Chelyabinsk, Russia of the meteor streaking over a highway on October 16, 2013.



Leonid Kulik expedition, 1927

The Tunguska event effects in Krasnoyarsk, Russia, 1908.

Threats Seen and Unseen

This is the environment that we live in, in the Solar system. Many people are probably familiar with the 1994 comet impact on Jupiter, around the time of the conferences I mentioned earlier. People began to realize such impacts occur in the Solar system; these bodies do collide. These occurrences are not just events that happened billions of years ago, and everything now is ordered and pristine.

The collision of Comet Shoemaker-Levy 9, a very big comet, with Jupiter was a big wake-up call for a lot of people. Some scientists detected the comet before it hit Jupiter. They were able to forecast the impact and collect images of it as it happened, as we see in **Figure 3**. The comet broke up into chunks before impact, and so there were multiple impacts. This was a huge event, not from an asteroid in this case, but from a comet. Comets pose potentially greater challenges and threats.

This has now been recognized for 25 years. There's been a significant effort to find and track these bodies in the Solar system. But we still have a lot of work to do. **Figure 4** is one depiction of where we are in asteroid defense, in particular the detection and tracking aspect. The graph is a logarithmic scale, so the numbers go up by orders of magnitude.

For the larger asteroids—in the range of a diameter of 1,000 meters and up to 2, 3, 4, or 10 km in diameter—there's a correspondingly smaller total of near-Earth asteroids (NEAs) out there. NASA has done a pretty good job of tracking these relatively larger asteroids in space.

But as their diameters get smaller and smaller, their numbers go up geometrically. These are harder to detect, because they're smaller and there's way more of them. The Chelyabinsk asteroid was on the very, very low end.

FIGURE 2

Bolide events 1994-2013

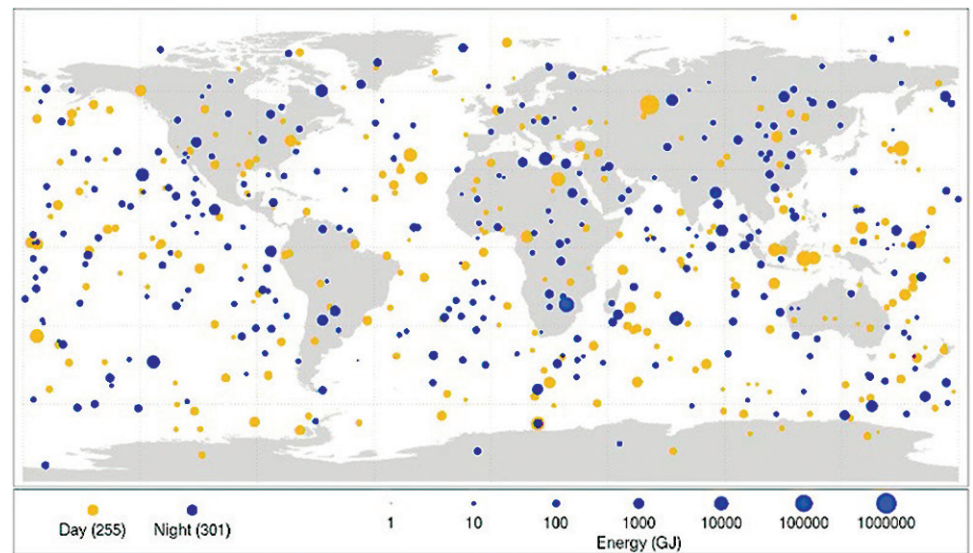


FIGURE 3

Comet Shoemaker-Levy 9 Impacts in Ultraviolet

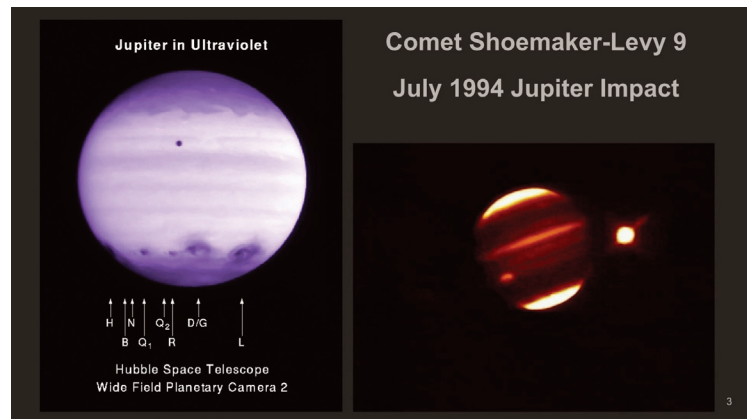
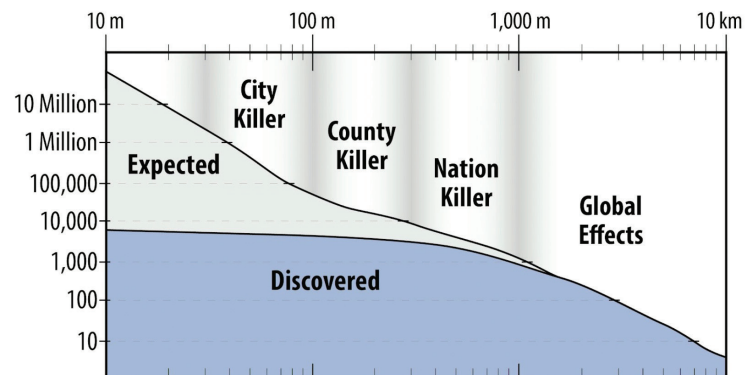


FIGURE 4

Near-Earth Asteroid Sizes



We have a huge gap of really hundreds of thousands of these objects that we have just not detected that could be big enough to take out a city, all the way up to taking out an entire country with their impact effects, were they to hit. There are literally hundreds of thousands of them out there that could wreak major damage. We are not currently tracking them; we don't know where they are. A huge effort remains to be made just on the asteroid defense aspect.

The Case of Apophis

Some Russian scientists have recently raised new concerns about one particular asteroid that is being tracked, called Apophis. It has a very small chance, but not a zero chance of hitting Earth in the future. What they're looking at right now is what you see depicted in **Figure 5**, the expected close pass of Apophis by Earth in 2029. We know for certain that unless something quite unexpected happens, it's not going to hit in 2029—but it's going to come extremely close.

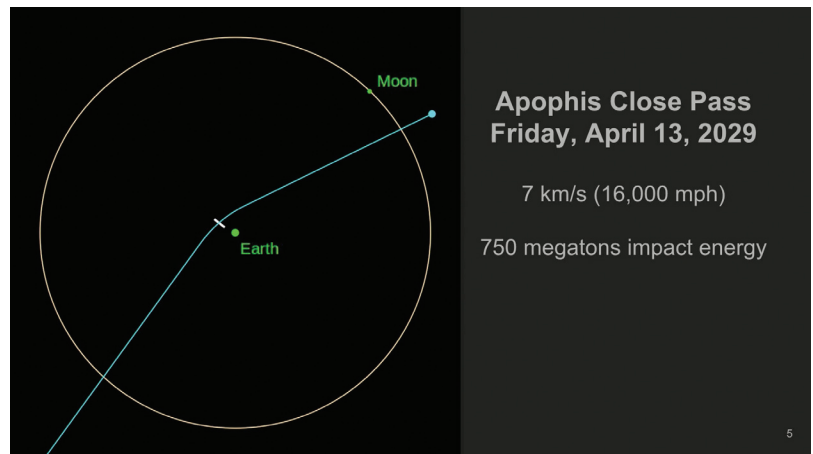
This image is to scale; the asteroid itself is not to scale, but the size of the Moon's orbit around the Earth and the relatively close pass is to scale. Apophis is coming much closer to Earth than many everyday man-made satellites. It's coming so close that Earth is going to significantly change this asteroid's trajectory, it's orbit. If it changes it just the right way, which is a small chance—but again it's not impossible—if it passes by in just the right way, its orbit will be changed just enough to put it on a *future* impact trajectory with Earth.

Apophis is not on the super-large scale, but it's also not on the super-small scale; this is something that is really of significant size. If it were to hit, depending on the angle and the speed, it could release on the order of 15 times the energy of the largest nuclear weapon ever exploded in the history of nuclear research. That's not a small impact. This is one particular case that's now being studied and watched. This is one case we know about; we're tracking it, we're watching it.

At the same time, we have the potential of thousands of other cases that we currently *don't* know about. And that's just asteroids! Comets are a little bit of a different challenge, and a lot less is known about them. We have to think about living in the Solar system. Also, we have huge questions about what the Sun does, and the

FIGURE 5

Apophis Close Pass, Friday, April 13, 2029



effects of solar activity on Earth.

It's only in recent years that there has really been a growing understanding of potential electro-magnetic pulse (EMP) effects that can be generated by explosive outbursts of solar activity. A solar EMP surge has the capability of knocking out our entire electrical grid, although that has so far never happened. Solar EMPs have frequently caused minor damage, but most people don't know about these occurrences. A very large EMP would have catastrophic consequences.

There are many open questions about the role of solar activity in climate change. Scientists are raising legitimate concerns that solar activity could be going through an extreme weakening phase, which could lead to what some call a mini-Ice Age. It would have huge effects on agricultural production, the ability to produce food. The last time this happened—around the 1600s—it did have major effects on human populations. If it were to happen again today, that would be a major concern.

Moving Beyond Geopolitics

These are the issues—the asteroids are a leading one, but not the only one—that really need to become the basis of a new era of strategic policy. Leading nations—the United States, Russia, China—instead of developing defense technologies in secret, kept from other nations and frankly even kept from their own people most of the time, must come together in cooperation to address these threats.

We have to move beyond the geopolitical perspec-

tive on strategic relations and open up technologies in a joint way to defend the entire planet from the kinds of threats I've mentioned. These are real threats; these are threats that we are not capable of handling at this point.

One last critical subject to emphasize, one which LaRouche is quite frankly unique in emphasizing in the SDI/SDE program, is the absolute necessity of its science driver aspect. We're not just talking about opening up these technologies and dumping a bunch of money into this stuff with no effect on the general public. This program could really have the same type of effect that the Apollo program had—President John Kennedy's science-driver program to bring us to the Moon. The right kind of investment in these kinds of advanced technologies generates technologies that are not just applicable for defense—for defending mankind against the threat of nuclear war and from asteroids and other threats from space.

These are *fundamentally* important new technologies; technologies we can use for all kinds of applications on Earth. Generating progress in this direction is absolutely going to be critical to having stable strategic relations on the planet as well.

I think these are the things we should be putting on the table in response to what Trump recently released with the idea of space-based sensor systems, that is, a space-based defense capability for nuclear threats. The history behind that type of discussion is very important. We play a critical role in pushing forward the critical science-driver elements of it.

Mutually Assured Survival

Ogden: This is all extremely relevant, because the discussion of the history of this is one which goes hand-in-hand with the idea that we have to overcome this Cold War-era Mutually Assured Destruction [MAD] doctrine which really, as John F Kennedy said, this is hanging like a sword of Damocles over the heads of every man, woman, and child on this planet. It continues to do so today, and the power of thermonuclear weapons becomes exponentially greater and greater. This destructive capability really could engender the extinction of mankind. We need to quickly move out of that phase of humankind and move into a New Paradigm in which the common defense of man becomes one of the common aims of mankind.

In 1992, Teller spoke at Los Alamos, and here is just a quick quote:

In the last three years, very remarkable changes have occurred in the world. Now, for the first time, incredible things can really happen, including international cooperation on a subject like defense against asteroids.

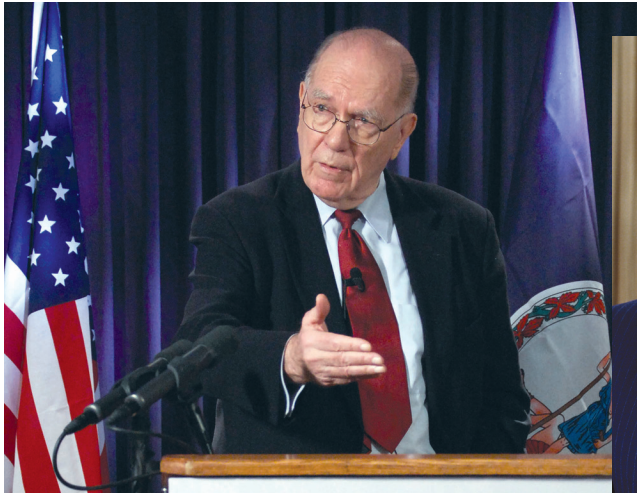
In 1993, Teller attended a conference in Erice, Italy [the annual International Seminar on Nuclear War, jointly chaired by Teller and Yevgeny Velikhov]. You had a discussion with one of the participants at that conference. Do you want to say a little bit about what you talked about?

Deniston: The discussion was a confirmation of what we've been talking about here. Erice has been the center of an interesting series of conferences on planetary emergencies and global threats. In the 1980s, around the SDI work, conferences were held in Erice on the subject of the threat of mutual annihilation from nuclear war. Famously, at a number of these, there were discussions about the SDI, about joint U.S.-Soviet collaboration in eliminating the threat of nuclear weapons.

Another conference at Erice, in the early 1990s, taking up the issue of asteroid defense, brought together some of the same people. From discussions with some of the people involved, it is very clear that the same core spirit of the SDI was there. The idea was that the SDI should not be relegated to just a little bit of collaboration between some scientists, but it should be the basis of a fundamental strategic policy shift. The idea was that we should have a strategic policy of cooperating with the Russians now that the Soviet Union was no more, and that we should utilize advanced defense technologies, apply them to defending the planet from asteroids, comets—challenges threatening the entire planet, arising from our very existence in the Solar system.

That was very much on the table. A lot of the key players in the SDI work from the 1980s, from both the Russian side and the U.S. side, were active in these conferences in the 1990s. So, you see a continual resurgence and development of the idea, coming back to the common aims of mankind.

Ogden: The idea of the common aims of mankind is what inspired Edward Teller, one of the leading physicists in the United States in the 1980s. In 2001, two years before he died, he published an [autobiography](#).



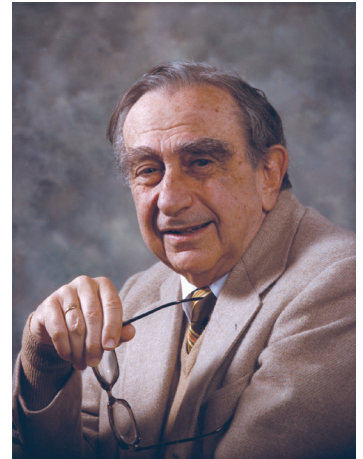
EIRNS/Stuart Lewis

Lyndon LaRouche, in 2009.



Official Portrait

President Ronald Reagan, in 1985.



CC/UC Davis College of Engineering

Dr. Edward Teller, in 2012.

It's a very fascinating autobiography. The conclusion, the last chapter, is on planetary defense and asteroid defense specifically. This is really what he dedicated the last 10 to 15 years of his life to. Here's the very last statement he makes in the book:

I think that learning cooperatively with other nations how to prevent damage from meteor impact, becoming knowledgeable enough to prevent a globally catastrophic natural disaster, that this would be a worthwhile way to begin the new millennium.

Maybe you want to go into a little bit of detail on how some of this technology would work. What are some of the different strategies on diversion of asteroids?

Detection and Deflection

Deniston: There are two aspects to it. The first is detection. And then if you do detect something that is on an Earth-impact trajectory, you do something about it.

So, one aspect is improving the detection capabilities. Once something coming is detected, even if it's large but you know it's coming, maybe 20, 30, 40 years in the future, you have a lot more options than if you have only a short warning. In the long time-frame detection cases, you really only need to potentially slow the object down or speed it up, or change its trajectory just a little bit. Often, speeding it up or slowing it down is looked at as a more effective way. A minute change in

velocity added up over 30 years can amount to a pretty significant difference in where it actually will be decades into the future. A lot of discussion, hypothesizing, and modelling is going on these days. People are writing papers about what could be done. A lot of it depends on the particular scenario.

People discuss the possibility of kinetic impact to change the object's velocity. Say Apophis does not hit during this small window of time in 2029, but the gravitational interaction with Earth puts it on an impact trajectory some decades into the future. If we were to get to it quickly enough and just slow it down a little bit by running a spacecraft into it, then we could ensure that it would miss that collision date decades into the future. If you wait longer, you're really in the domain of needing nuclear explosives.

There's nothing that we can do currently that surpasses the energy density of a nuclear explosion. Even with that, there's a lot of disinformation and confusion. A lot of the things that people have studied in the nuclear labs here and in Russia are concerned with preventing a nuclear explosion from shattering a meteor into a million pieces. An explosive detonated near the surface can change its trajectory—without exploding it into a million pieces—just using the blast to push it a little bit.

The Necessity of Nuclear Propulsion

There are a lot of aspects and details to the different designs, but I think the most important thing is a more general principle of expanding mankind's access to and presence in the Solar system generally. Limiting us in a major way is the lack of nuclear

fusion propulsion to get us around the Solar system. So, say Apophis is on an impact trajectory, and we need to get to it quickly. Right now, we have to wait years until the orbits line up just right so we can launch a spacecraft that can do its own gravity assist and do its own orbit, such that at some point many years later the spaceship will rendezvous with Apophis. Our ability to travel around the Solar system with the current chemical propulsion technologies is really just incredibly limited compared to what we could be doing.

If we had fusion propulsion; if we had a presence on the Moon; if we could launch off the Moon; if we were actually building systems from resources in space, and building spaceships in space; if we really move to what we should have been doing decades ago, really colonizing and industrializing and developing nearby space; that's a whole platform that's going to give mankind all kinds of new capabilities.

This was Lyndon LaRouche's evolution of the SDI. He put the SDI on the table; he fought for it. Around the mid-to-late 1980s, he started stressing a transition, where he said that the core benefits of the SDI should really be subsumed under a Moon-Mars colonization program. We would be just as well served, if not better served by a Moon-Mars colonization program. So, at a certain point, that was his emphasis in the evolution of the real principle and spirit and nature of the SDI.

It's a statement of principle that now there really is a convergence of those ideas. On the one hand, recognizing that the evolution of this defense aspect takes you to dealing with the threats from space; but doing that means going with what LaRouche was saying already in the 1980s—that mankind needs to go to the next platform of the development of space and mankind's capabilities in space.

I think that's what is really most important. You can talk about particular scenarios: in this situation, you could do this, in that situation you could do that. But the underlying issue is, is mankind really an active presence in space? Are we increasing our ability to get to anywhere we need to in the Solar system, quickly? Get there effectively to do what we need to do to deflect one of these things? To even know where they are? To really populate the whole Solar system with more advanced sensory systems so we can detect them. It's all a question of whether or not mankind is going to take this next step to the new economic platform of space development; that's the real underlying issue.

Collaboration, not Confrontation

Ogden: On January 11 our show discussed the importance of collaboration between the United States and China on space exploration and the breakthrough that China had just made by landing a rover on the far side of the Moon. We need to lift the Wolf Amendment, the ban on collaboration between the U.S. and China on space exploration.

At the same time, with regard to Russia, the strategic environment is so toxic that NASA Administrator Jim Bridenstine, who had invited Dmitry Rogozin—the Director General of Roscosmos, Russia's State Corporation for Space Activities—to come to the United States to have meetings and discussions on U.S.-Russian space collaboration, had to disinvite Rogozin because he's under U.S. sanctions. Dmitry Rogozin is the person responsible for coining the name SDE—Strategic Defense of Earth.

Deniston: Despite all of these insane attacks against Russia and China, President Trump has said—and he has been consistent on this—that he does think the United States can have positive relations with Russia and China. This is one of the key intentions that he is very serious about, and this is really freaking out the British establishment and their Tory colleagues in the intelligence agencies. Trump has shown an inclination to move to some new type of strategic framework, where we no longer have to view Russia and China as existential threats; we don't have to continue running these proxy wars to try and undermine their activities in various parts of the world. So, that is there; that's real.

I think in that context, it's a perfect opportunity to put these ideas back on the table again and kick back against all this other geopolitical stuff. That's what defeated the SDI in the 1980s; it's what defeated the attempt to move to the asteroid defense in the 1990s; it's still the fight today. If we can defeat those forces, this is the kind of program that mankind should be pursuing.

Ogden: Wonderful. We currently have several [pages](#) on the LaRouche PAC website that provide a background on the SDI. We also have a [page](#) on planetary defense with a lot of details. Also your [paper](#), “The ‘New SDI’ Must Be the SDE—Strategic Defense of Earth” is there.

Thanks a lot, Ben, and thank you all for tuning in.

II. LaRouche Economics To Jump-Start the Economy

One Million New Family Farms More Farms, More Factories, More Future!

by Robert L. Baker

Jan. 25—In this report, we introduce, for discussion, the concept for a proposal for what can be formally called the “21st Century Homestead Act, for One Million New Family Farms” in the United States. This proposal addresses two fundamental and related matters: the crisis in U.S. and North American agriculture and the need to vastly increase world food productivity for a growing population. Optimism for a new, positive U.S. agriculture policy is realistic, based on the historic progress that can be achieved through the collaboration of Four Powers—the U.S., China, Russia and India—with other nations, in economic growth, especially abundant food for a growing world.

The “Million Farmers” idea cuts through the apparent irony, that while the U.S. is still producing large volumes of surplus farm commodities for export (everything from corn and soybeans, to almonds) using the most inspiring, very high-tech methods, the rural farming community itself—the basis for real productivity—is being destroyed as surely as we see equivalent destruction in other sectors of



Kansas Cattlemen's Association
Robert “Bob” Baker addresses the 2016 state convention of the Kansas Cattlemen’s Association.



Indiana Farmers Union
Jim Benham, President of the Indiana Farmers Union, in 2017.



Robert L. Baker
Ron Wieczorek in Sioux Falls, October 2018, at a policy conference he hosted, during his Independent campaign for the all-state South Dakota Congressional seat.

the economy: the decayed manufacturing sector, the decrepit infrastructure base, and so on. The farm belt is being depopulated; drugs and despair are rampant.

Responsibility for the degradation in the U.S. farm states lies in the last half-century of “financialization” of the mode of every aspect of farming and the food chain, from credit, to planning, to logistics, etc., and the fact that this has occurred in the context of an ever more deregulated financial system—the world casino economy. So, just as clearly as the U.S. industrial states became the “rust belt,” the agriculture states were de-structured and became the “de-population belt.”

The essence of the “21st Century Homestead Act, for a Million New Family Farms” is to restore the sovereignty and constitutional action of government, to reverse this down-trend, take actions to provide a secure food supply, and serve the overall national interest, including the improvement of U.S. relations with other nations. These proposed policies include fostering production of desired crops and farm commodities; fostering the desired scale of

family farming and training new generations of farmers; fostering a stable pricing domain for the producer and consumer alike; fostering science and technology; and achieving a world of plentiful food.

The essentials of the “Million New Farmers” proposal will be provided below. Let us first, however, review the U.S. farm sector crisis and the international strategic picture.

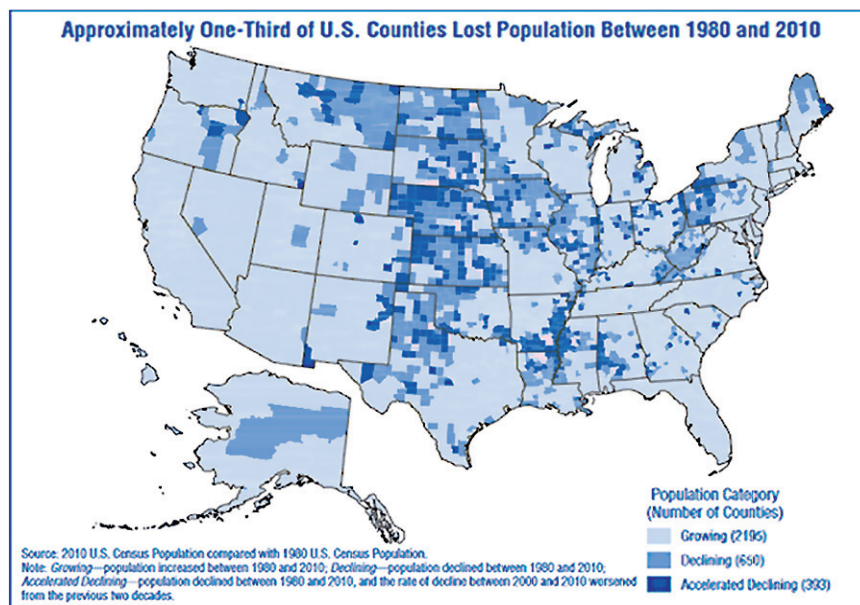
The proposal arose after discussion among farm state leaders in 2018, especially spurred by the Independent Congressional campaign in South Dakota by cattleman Ron Wiczorek, endorsed by LaRouche PAC, which is promoting an across-the-board “Way Forward” program for the U.S. economy, promoting international collaboration among the “Four Great Powers,” and domestically, the implementation of LaRouche’s “Four Laws.” Resolutions for such policy change have been adopted by several farm organizations.

High-Tech Family Farms to Mega-Corporate Farms

The empirics of the de-structuring of the U.S. farm sector are efficiently displayed in two maps: the geography of depopulation of farm counties across the country, and the location of the concentration of what can be called mega-scale farming and food processing (Figure 1). The depopulation map shows that the outstanding pattern of loss of population, by county, is across the Plains States (Figure 2). The map of locations of “mega-operations” in farm and food processing activity, shows that these are located in the same regions as those with population loss.

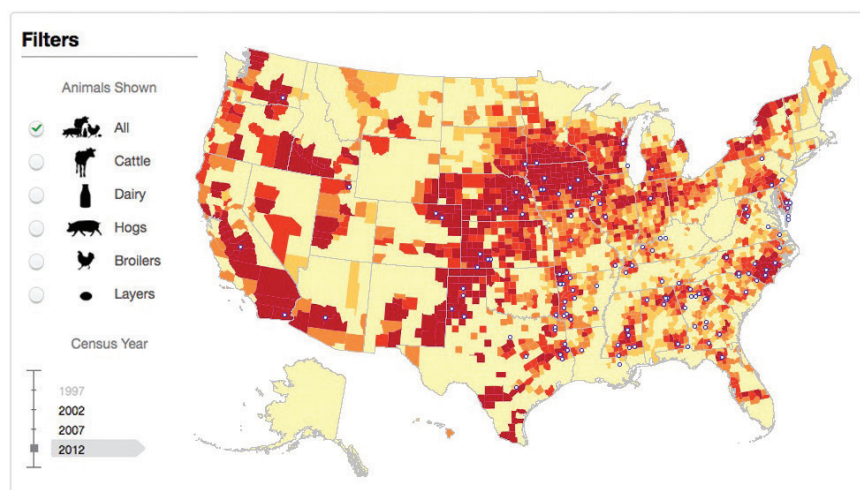
Drive across the countryside here—Minnesota, South Dakota, Iowa, across the nation—and what you see is fewer and fewer farm-

FIGURE 1



steads, houses and buildings. You would think you had returned to the old 1800s wilderness days. In the majority of current farmland purchases, the farmer’s house and buildings are either sold off or bulldozed down into a hole to eliminate the cost of tax and insurance obligations, repair and upkeep, and vandalism. A community with fewer and fewer homes and neighbors then leads to the shutdown of local shops and support-

FIGURE 2



Food and Water Watch, from USDA Census of Agriculture

This map of counties, for Agriculture Census Year 2012, shows the gradations in density of livestock (darkest indicates the most)—cattle, dairy, hogs, broilers and layers—in total. The circles show meat processing plants.

ing businesses, in addition to the increasing shutdown of schools, churches, and medical and other services. The rural towns are becoming demographically older and older, as most of the young people move away.

One point must be stressed: advanced technology is not the cause of the depopulation. Population loss in the farm belt is a direct result of a farm commodity market system that keeps prices below the constantly rising costs of production, that increases the shutdown of family farms and the subsequent consolidation or integration of these surviving family-scale operations into bigger and bigger crop and livestock units. The family farm should not be held hostage to a marketing system that penalizes the farm producer for becoming more productive when he invests in space-age technology to produce more and higher quality food for the nation.

The nation should have a policy that fosters high-tech, productive family farmers and keeps them in business. We need to protect the American System culture of U.S. agriculture from mega-speculators so the nation has a solid, food-growing sector of millions of owner-operator, citizen-statesman farmers.

How Did the Transition Happen?

This destructive re-tooling of the U.S. farm sector happened as the principles and practices of what has been long known as the “American System” were phased out over the last half-century, and replaced by the City of London/Wall Street form of neo-liberal monopoly economics that came to dominate. In short, the market system the United States fought a revolution to defeat—“British Free Trade,” characterized by plantations, enforced low prices, and single-purchaser control of the likes of the British East India Company—has returned.

Today’s counterpart is in the form of mega grain and livestock processors, trading companies and, now, retail outlets (WalMart, Costco, etc.), that have fostered a vast network of outstandingly talented, high-technologically skilled farmer producer-suppliers, who pro-



Robert L. Baker

Abandoned buildings in the former town of Union Level, in the farm area of southern Virginia. The same scene is typical throughout the Mid-West Farmbelt, where buildings are now frequently bulldozed to the ground, for public safety.

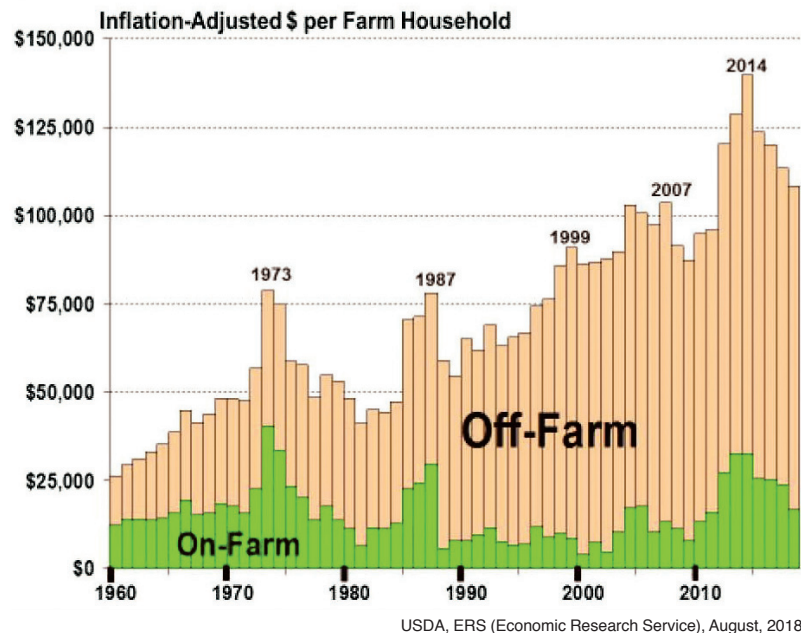
duce commodities for the mega-firms and related financial institutions to acquire on the cheap, which companies then use the money for profiteering and geopolitical gains around the globe.

In this global “free trade” structure, the farmer-producers are located farther and farther away from the consumers, thus increasing costs added on by the numbers of middlemen involved in transportation, retail, insurance and other food logistics work. To pay for the middleman costs, the producers are paid less, and the consumer is charged more. This is not the American System of economics.

Under the American System, policies are fostered to decrease the distance between producer and consumer, in fact, to bring them closer and closer together. That was the thinking behind Lincoln’s Homestead Act (1862)—to foster the development of tens of thousands of small towns in rural America to support millions of independent self-sufficient family farmers. Lincoln’s policy succeeded by making sure the farmer got a fair price to stay in business, and provide high quality, reasonably priced food to the people.

There have been outstanding statements on this, and examples in action. The first U.S. Treasury Secretary, Alexander Hamilton, promoted policies during the presidency of George Washington to foster agricultural and industrial activities. Abraham Lincoln signed a series of laws that settled the farm and western states, with the Homestead Act and the Pacific Railroad Acts of 1862, the Morrill Land Grant College Act (starting

FIGURE 3

U.S. Average Farm Household Income, by Source, 1960-2018

USDA, ERS (Economic Research Service), August, 2018

The average farm household income comes mostly from the off-farm jobs of family members, and has declined in total, for the past five years. The figures are inflation-adjusted, with 2017=100.

the agricultural extension services), and a new bank and credit system to finance it, during the Civil War.

Franklin Roosevelt also passed multiple laws to stop farm bankruptcies, establish the parity farm price system that lasted into the 1970s, create new credit systems, all of which created the biggest agro-industrial rebirth in history. Eisenhower built the interstate highway system and promoted “Atoms for Peace.” Kennedy launched the space program, expanded nuclear power and tried to build the big water transfer program, the North America Water and Power Alliance. In this context of progress, the productivity of American farmers also advanced in many ways, from the use of more powerful, versatile machinery, to better seeds, livestock breeding, and other improvements. Chief in all of these was the training of new young farmers, through both “school learning” at college, and hands-on learning from their families and highly-skilled communities.

‘Big Global Ag’ Takes Over

In contrast, under the Wall Street/London system, the American System was phased out, beginning with the 1971 removal, by Nixon, of the dollar from the Bretton Woods fixed exchange rate regime. Since then,

the floating dollar has become a pawn of financial speculation and has contributed to the accelerated destruction of U.S. family farms. This unfolds in many ways, but most obviously by erratic swings in farm commodity prices, which overall suppress the farmer’s revenue below the farmer’s costs of production. This accelerated twenty years ago, when the “Commodity Futures Modernization Act” was passed in 2001, and before that, in 1999, when the Glass-Steagall law was rescinded, which together ushered in waves of liquidity and speculation.

Farmers in particular remember the free dinner meetings sponsored by Wall Street marketing firms to teach them how to hedge and play the Wall Street grain and livestock markets. On the Chicago Mercantile Exchange, trading in “shadow” bushels by far exceeds trading in actual physical product. During the same decades, parity-pricing for farmers was completely phased out.

In this new speculative era, the so-called “market place” (of speculation) sets the prices. With the dollar value itself going up and down, the prices of farm commodities have gone into higher highs and lower lows, stimulating farm debt buildup, and boom-bust price cycles—which, like “controlled disintegration,” slowly over time, forced more and more farmers into seeking off-farm income. This became the only way to survive, and now accounts for most of the income of millions of mid-sized family-scale farms (**Figure 3**).

All the while, the Wall Street/London financial institutions funneled money into a select few mega-global grain and livestock monopolies, and global food processing and retail chains. Here then, is the source of the apparent farm sector irony: U.S. farm output—crops, beef, pork, poultry, etc.—comes from the most competent, talented producers in the world, using the most advanced space-age methods, but the mega-control system of monopolization, low prices and speculation, is so severe, that the farm belt itself is disintegrating.

It is worth looking at the phase-shift decade of the 1970s more closely. After Nixon’s 1971 post-Bretton Woods introduction of the floating dollar, the domestic

price of U.S. grain went up through the roof, the highest in history. Why? The cover story was that the Russians had cornered the market on U.S. grain and were driving the prices up. (The Russians again?) But no, the real cause was the collapse of the U.S. dollar, which dropped in value about 50% in terms of international trade, such that the cheap 1970s dollar made U.S. grain some of the cheapest grain in the world. So, countries all over were sucking up U.S. corn, soybean and wheat exports due to the cheap U.S. dollar. This is London/Wall Street financial manipulation in action. Follow through what happened to farmers.

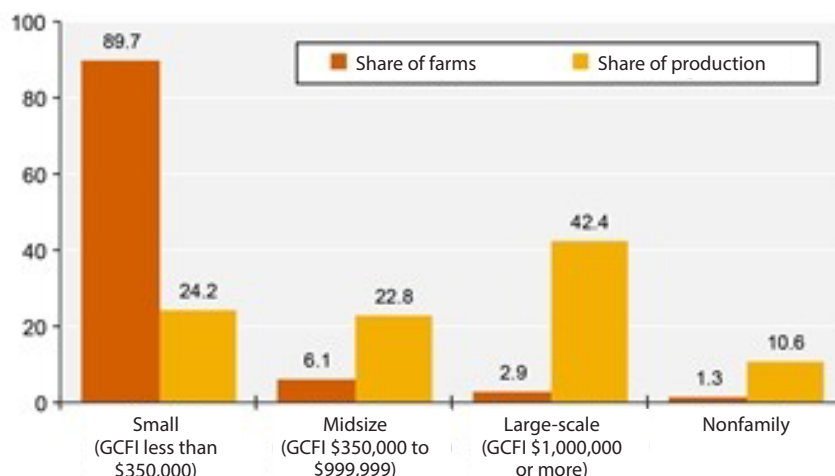
The large U.S. grain export demand drove the domestic prices of grain to all-time highs and farmers started making good money, as they should. However, this increased land values. The farm media were full of articles about “buying land because we are running out,” and farmers started buying lots of machinery and increasingly higher-priced farmland, which jumped 25-35% per year in price, several years in a row. Big inflation set in throughout the nation, and there were oil embargos.

Then in 1980, Paul Volcker, chairman of the Federal Reserve, increased interest rates to the unprecedented level of 15.5% plus. The value of the dollar soared. In turn, the high value of the dollar made U.S. grain and agricultural products very expensive to other countries, and export demand dried up. U.S. farm commodity prices crashed, and a wave of farm and financial institution bankruptcies swept the nation. Rural communities were devastated. In 1978-79, some 3,000 farmers drove their farm machinery cross-country to Washington, D.C. in a protest Tractorcade. But U.S. agriculture shifted into a direction of producer consolidation that has led

FIGURE 4

Farms and Their Value of Production by ERS Farm Type, 2015

Percent of U.S. farms or production



Note: GCFI refers to gross cash farm income: ERS refers to Economic Research Service. Analysis by size is for family farms. Nonfamily farms are those where neither the principal operator, nor individuals related to the operator, own a majority of the farm business.

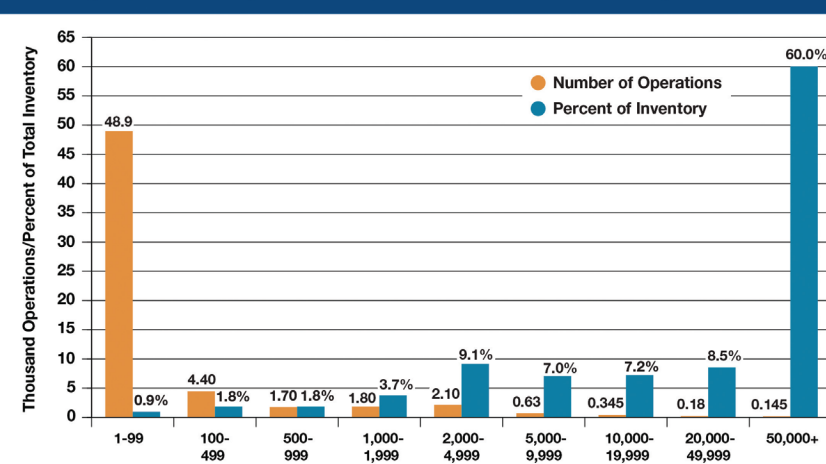
Source: USDA, Economic Research Service and National Agricultural Statistics Service, Agricultural Resource Management Survey. Data were revised March 8, 2017.

to the monopoly-influenced “Big Global Ag” that we are discussing in this article.

All this has led to the most serious situation a nation could face—not enough family farmers to farm the land. Is it going to be high tech, very productive family farmers, and a productive countryside, or mega-global corporate controlled food, a thousand empty rural counties, and the threat of shortage?

FIGURE 5

U.S. Hog Operations by Size Groups and Percent of Inventory - 2012



Source: USDA, 2012 Census of Agriculture

USDA

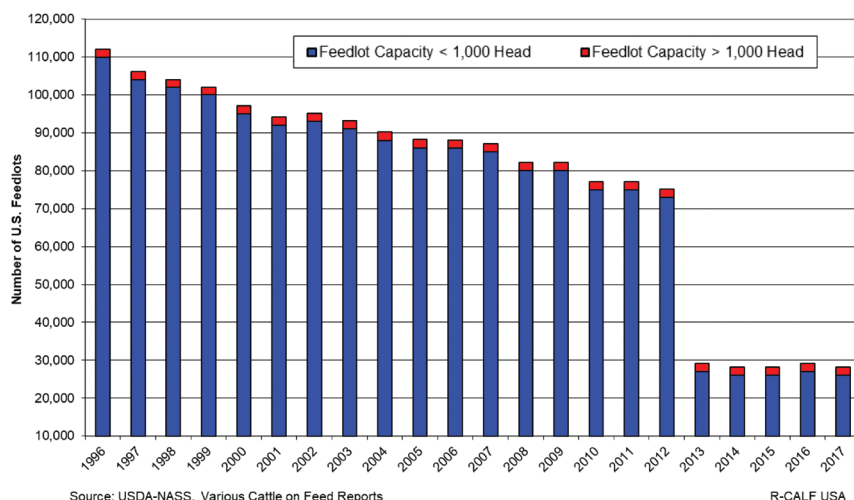
Scale of Mega-Corporate Integration

The process of breakdown of U.S. family farm agriculture has led to the dire situation of today, characterized by many dramatic features.

Loss of family-scale farms. The headline, “82% of U.S. agricultural family income comes from off-farm jobs,” tells the story. This is from a March 28, 2018 article in *Beef Daily* by Amanda Radke, which went on to say, “If ranching isn’t profitable, it isn’t sustainable. Are family farmers doomed, or will they be able to adapt to the changing times?” Many farmers are walking away or being forced out. The average age of the U.S. farmer is 58.3 years. There are six times as many principal farm operators aged 65 and over, as there are 35 years old and younger. Some would argue that most farmers today must work their farms as a hobby, which is pretty tough to do, especially if you are raising a family. The security of our national food supply is under threat unless we maintain millions of viable, diversified, financially strong young farmers on millions of smaller, high-technology farms. This requires a policy that will maintain agricultural commodity prices above the cost of production.

Mega-Farms and Monoculture. United States Department of Agriculture (USDA) records indicate that

FIGURE 6
Decline in Numbers of U.S. Feedlots, 1996-2017

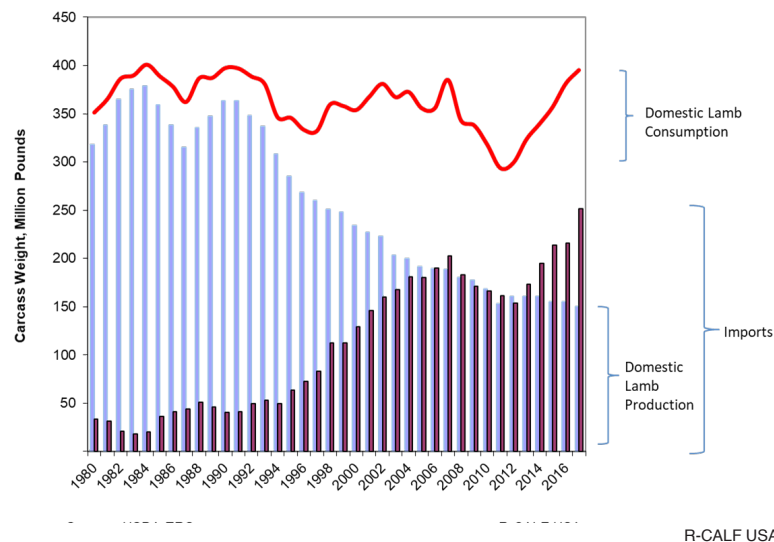


in 2015 the United States had about 2.1 million farmers. The so-named “Large scale” and “Non-family farms,” which make up 4.2% of all U.S. farms—about 88,200 in this big-farm category—produce 53% of total production (**Figure 4**). That is not very many farmers. At the same time, almost 90% of U.S. farmers produce less than 25% of total production, and 48% of U.S. farmers—about 1.0 million—produce only 1% of all U.S. farm production. The 1% figure may seem unbelievably low, but it is true, and it is not good news.

This 48% of all U.S. farmers has become increasingly under-productive as a group, through the impact of receiving low prices, as described above. They lack not only scale, but the ability to invest in farm technology as it improves. Thus, a significant proportion of today’s “farmers” are no longer really productive farmers, and those in the sub-group which still does manage to be high-tech, are getting old and retiring. In addition, there is another sub-group of farm operations—the five- to ten-acre hobby farms, used by rich people for tax deductions and “life-style” farmettes, not for serious food production.

A qualification is in order on the statistics. USDA census-taking on the number of U.S. farms became lax in the past few decades. At the time in the 1980s when family farm numbers were dropping, as the economy declined, the USDA watered down the definition of what is a farm, counting anything as a “farm” if it produces merely \$1,000 a year in saleable production, or “normally” would have.

FIGURE 7
U.S. Sheep Meat Imports Far Exceed Domestic Production



Nevertheless, it is true that a large part of U.S. output is from a small number of huge farming and livestock operations. This becomes clear by zooming in on production, sector by sector. With these farm demographics and fewer and fewer young farmers returning to the farms, it should be obvious why the United States needs a “million new farmers” to feed 326 million Americans now and millions more in the future.

What happened to the livestock producers? Hogs. Based on the USDA 2012 Census of Agriculture, in 2012, 48% of U.S. hog operations produced less than 1% of total hog inventory and, in shocking contrast, an almost infinitesimal 0.145% of producers controlled 60% of U.S. hog inventory. Today, 40 large pork producers produce about 66% of the 121 million total U.S. hogs (**Figure 5**).

Cattle. In the past 22 years, between 1996, the year the U.S. joined the North American Free Trade Agreement (NAFTA), and 2017, 75% or 83,000 U.S. cattle feedlots disappeared. Their number should have increased. Since 1980, 17,000 beef cattle-raising operations per year have exited the industry, bringing the total loss of such operations to 544,000 as of 2017, or 40% of those in operation in 1980. It is worse today (**Figure 6**).

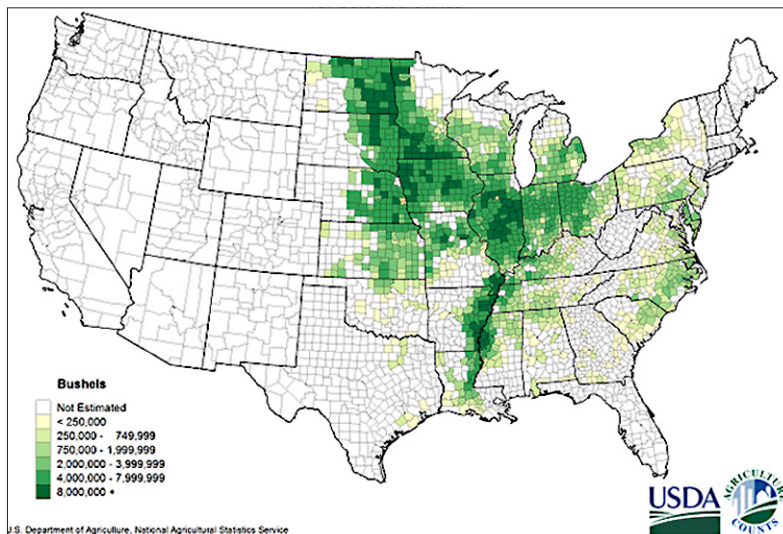
Sheep. In the mid-1990s, U.S. sheep herders produced 80% of domestic consumption. Since then, sheep production has dropped about 50%, and now the U.S. must import about 150% more than what we produce, in order to meet domestic demand (**Figure 7**).

Poultry. The top five poultry producing companies control 65% of all U.S. production, either growing the birds directly, or sub-contracting to what amount to custodial farms. The top five egg producers account for about one third of the nation’s flock, housing more than 99 million laying hens. The country’s top five broiler companies account for more than half of all national production.

Dairy. Licensed dairy farms in the U.S. dropped to just 40,000 in

FIGURE 8

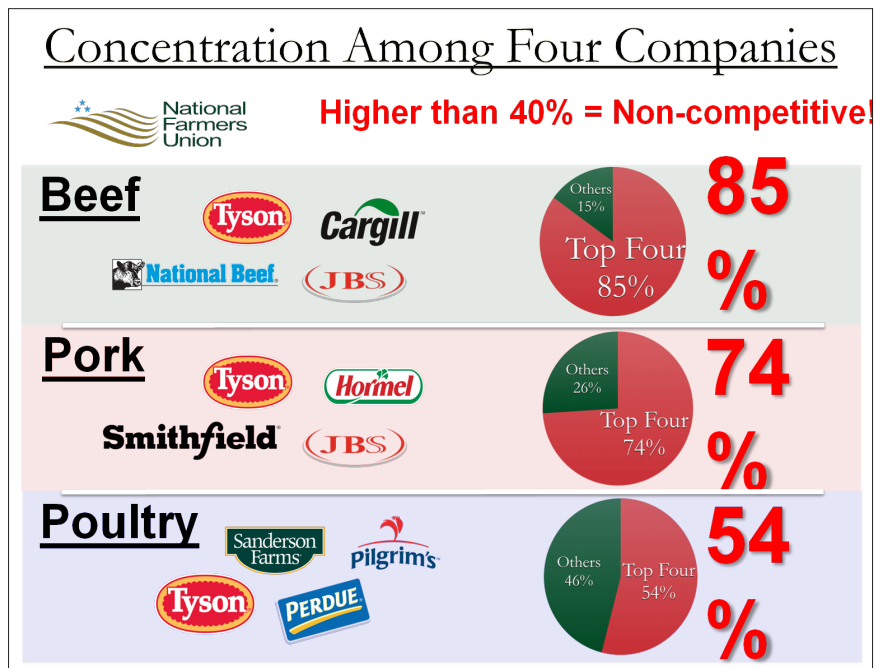
Soybean Production by County 2017



2018, milking 9.31 million dairy cows. Dairy is in the forefront of family farm shutdowns at present.

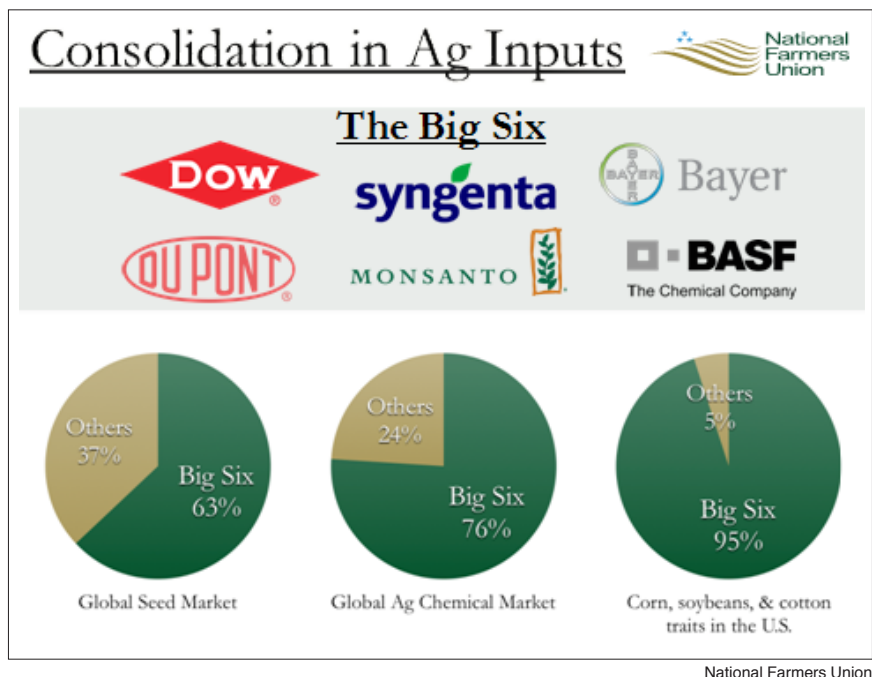
In crops, as well as livestock, the result of this concentration process is monoculture, especially in soy and corn (**Figure 8**). The national map of top soybean producing counties shows the concentration in the Midwest farm belt, which coincides with where the depopulation is underway. Corn presents the same picture, and other crops are similarly concentrated.

FIGURE 9



National Farmers Union

FIGURE 10



Consolidation of processing and agricultural inputs. Food processing is likewise consolidated. In meat processing, the four largest beef, pork and poultry processors control 85%, 75% and 54%, of their respective industries. This is shown in graphics prepared by the National Farmers Union (**Figure 9**). There is extreme consolidation in agricultural inputs as well, with the six largest seed, agricultural chemical and genetic traits companies controlling 63%, 76%, and 95% of their respective markets (**Figure 10**). In fact, grain, dairy processing and all major links in the farm-food chain show the same domination and control.

It is worth noting that in some ways, the only remaining holdout is the cattle ranchers. Pork and poultry are extremely vertically integrated. For what this means, look at the broiler chicken industry. According to the National Chicken Council, “About 25,000 family farmers have production contracts with a handful of big processing companies. Approximately 95% of broiler chickens are produced on these farms, with the remaining 5% raised on company owned farms.”

In the production contract, the chicks or animals, feed, medicine and transportation are owned and provided by the contractor, who, today, is usually the big processor like JBS or Tysons. The farmer-grower is paid so much per head to raise and take care of the animal and provide the land, buildings and equipment, and manure removal. Today over 90% of broilers are

produced under contract, as are 60% of hogs and 30% of beef cattle. Many farmers sign contracts because they risk going out of business from low prices on cash markets, which risk prevents them from securing financing. So, they have no alternative.

Over the 1960s and 1970s, chicken production and processing became vertically integrated. Then over the 1980s through to about 2012, hog producers went the same way, with a loss of 90% of the number of producer farms. Montana rancher Bill Bullard, who is CEO of the Rancher-Cattlemen Action Legal Fund—R-CALF, says, “We’re trying to stop the chickenization of our cattle industry, and it is happening fast.”

Contracts don’t utilize the knowledge and skills of our farmers and ranchers. Contracts transform farmers and ranchers from innovative entrepreneurs into growers with little or no power over decision-making processes on the farm. The loss of autonomy and control raises fears in farming communities of a knowledge drain, as new generations of growers come to rely on contractors to tell them how to run their operation and older farmers find their knowledge underutilized.

U.S. food import dependence has grown all along. Beef imports have doubled since the 1980s and in 2015 were equal to about 20% of domestic production (**Figure 11**). The number of cattle ranches has declined drastically. Since NAFTA and the World Trade Organization (WTO) came in to force in the mid-1990s, the net U.S. beef trade with 20 free trade countries went negative (**Figure 12**). A large share of U.S. vegetable and fruit consumption of varieties well suited to be grown state-side, are nevertheless now supplied by imports.

The London/Wall Street Factor

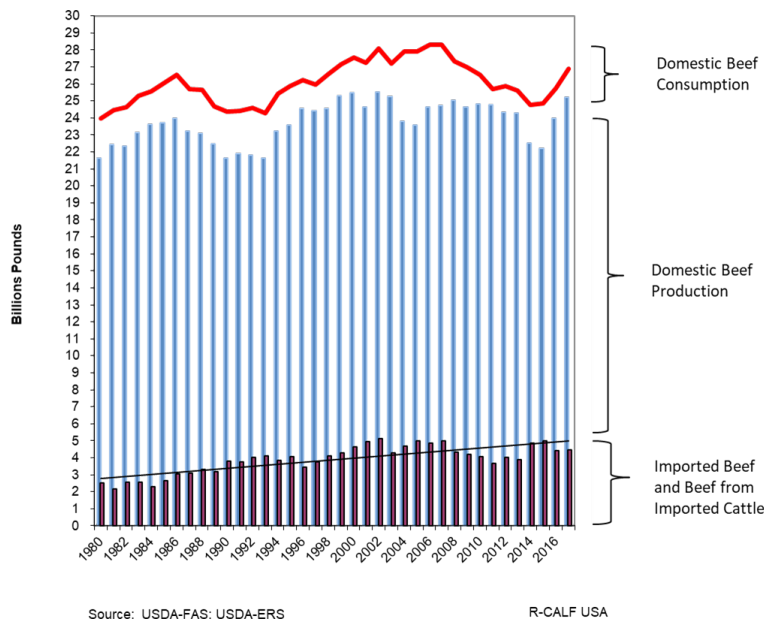
This picture of the dimensions of de-structuring of U.S. and North American agriculture, and the causes behind it, is in line with the process of overall economic decline of the past few decades. Why did farmers “go along” with it? What messes up their minds now? There are a few main reasons.

First, farmers were told to “get smart” about playing the markets themselves, because, they were told, parity

FIGURE 11

U.S. Beef Imports

In 2015 Imports Doubled Since '80s; Are Now About 20% of Domestic Production



This trend of loss of beef cattle ranches, 1980-2012, continues to the present day.

pricing was never again going to be U.S. policy. It was “not modern.” At the same time as the 1971 floating of the dollar, the campaign started up from the USDA, and other Federal agencies, and Wall Street media, that the idea of parity-pricing was “out-moded.” Wall Street denounced as “Big Government,” the parity-related American System policy of farm commodity production management (Federal measures to help farmers expand or reduce production, depending on national interest). Farmers were cajoled to attend seminars on how to do futures, puts, and calls, and how to arrange storage to hold their crops off the market. In the 1980s, the USDA, banks and university extension services offered training in, not high-tech farming, but finance.

At the same time, a scare campaign was begun, aimed at consumers, that parity-pricing for farmers means super-high food prices for

eaters. The implication, aimed at the gullible, is that farmers are fat cats, on the take. The truth is, according to the USDA, the farmers and ranchers get only 14.8 cents of every food dollar that consumers spend, while the non-farm costs of marketing, processing, wholesaling, distribution and retailing account for more than 80 cents of every food dollar spent in the United States. (See box on parity.)

Second, farmers were told that exports were their only way to survive low prices. They were told to back Federal and commodity association efforts—trade missions, diplomatic pressure—to force foreign nations to open their doors to U.S. commodities. In other words, this argument is warmed-over British Empire logic.

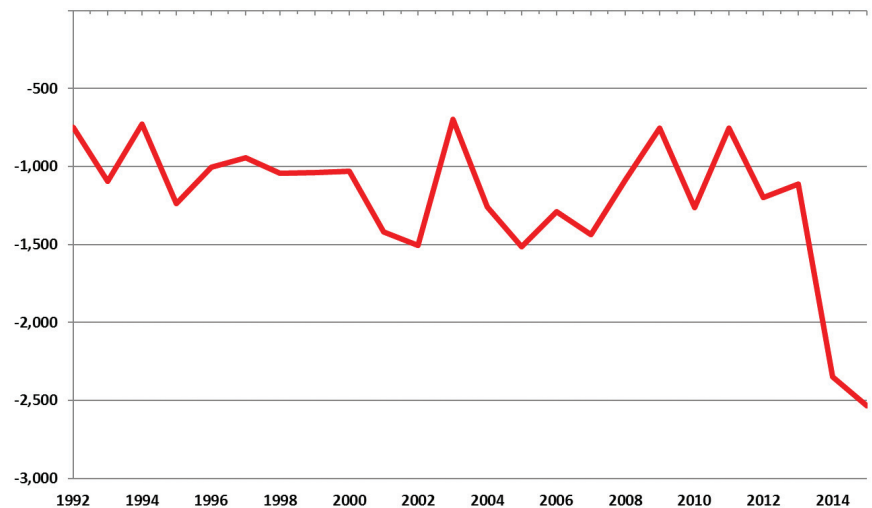
Third, farmers were told that industrial use of crops, and biofuels “are the future,” and corn ethanol and soy diesel would bump up prices to the farmer. This was pushed to the hilt in the Bush and Obama Administrations. Federal subsidies were given to gasoline blenders to use ethanol. Prices for the farmer did not rise long term, of course. But worse, farmers as a group had to betray their own knowledge that biofuels are a lowering of the level of power and technology in society.

Fourth, farmers were told to rely on crop and income

FIGURE 12

Canada and Mexico Beef Balance of Trade with U.S.

\$ Millions



Harwood Schaffer, Director, Agricultural Policy Analysis Center, Knoxville, Tennessee

insurance, instead of trying to change government policy to parity pricing and national interest. In recent years, private insurance is available to farmers, for crop damage and income loss, from a program in which designated private insurers are federally subsidized. The precedent for crop insurance originated in the 1930s under the FDR Administration, but it remained limited, and was considered a safety net, because there was a parity price system. Today, with no parity system, it is the farmer's only recourse.

All the while, the cartels—and their Wall Street financial circles—were not only extending their control over the food chain, they have also become big players in offshore money flows and power plays—what's come to be called the “spider web” of tax evasion and hidden money transfers. JBS, the biggest beef processor in the world, had to leave its off-shore tax haven in Scotland and move it to, wouldn't you know, London.

One current filthy operation from this crowd is the “Global Roundtable for Sustainable Beef,” whose leadership includes such outfits as the World Wildlife Fund, Cargill, JBS, Bayer, McDonalds, Costco and others, and which is targeting independent cattlemen for extinction, under the false flag of “saving the environment.”

Finally, the clincher for the success of the Wall Street/London crowd in the farm belt—besides the sorry fact that the whole nation ever allowed casino economics in the first place, is that “culture” has been removed from agriculture. Farmers were told, “it's a business ... don't care about the future...” This goes hand-in-hand with the general dumbing down of a population, from the effects of the entertainment and sports “industry,” the decline in education quality—especially in universities—and the lack of a future. All across the farm states are sites of former opera houses and cultural centers, now gone.

The exceptions stand out. One farmers' chorus has persisted, from the time of its founding in 1969 in western Minnesota, to the present day. The all-male Chord-Ayres chorus was inducted into the Minnesota Hall of Fame in 2012. The Southeast Iowa Symphony conductor, Bob McConnell, is a hog farmer, and an oboe virtuoso.

World Agriculture Imperative: More Food

All of the crises of U.S. and North American agriculture can be solved, in the context of returning to the American System principles nationally, and in the context of international Great Power collaboration for a future of science, economic growth, and plentiful food.



Chord Ayres, 2014

Members of the Chord Ayres, with Rep. Collin Peterson (D-Minnesota), in the House of Representatives Agriculture Committee Hearing Room, where the men's chorus gave a concert in 2014. The Chord Ayres was inducted into the Minnesota Music Hall of Fame in 2012.

The task is exciting. Consider that it took 10,000 years of advances in agriculture, to be able today to produce food for the Earth's 7.5 billion people. Now we must take measures to be able to have plentiful food for 15 billion people in only 50 years ahead!

One most obvious, and overdue part of this leap ahead, is the development of the vast food output potential of the continent of Africa, which has been forced into food import dependency.

But the main driver of more food, for more people, everywhere, will of course be advances in science and technology in agriculture, and in the social and income levels of farmers to invent and apply new methods. Across the board, scientific advances are promising. Look for proof and inspiration in the photographs of the cotton sprout on the far side of the Moon, in the micro-ecosystem on board the Chang'e-4 lander.

The critical challenge is to foster the conditions for creativity. It's no accident that John Glen, Neil Armstrong and so many of our astronauts grew up in the farm belt!

The author wishes to thank Marcia Merry Baker, Ron Wieczorek, Andy Olson, Gene Schenk, and Jon Baker for their contributions to the discussion leading into this article.

Bring Agriculture Parity Pricing Back in the U.S.: Win-Win for the World

The policy known as agriculture commodity “parity pricing” for farmers, refers generally to the idea that farmers should get a price for their output, which is on a par with their costs of production, plus a decent profit, to enable them to invest in factors necessary for the continuation of U.S. farm sector productivity—land, water, equipment, improved skills, and training of the young. The objective is national food security. Additionally, the idea is that the income of farm households should be on a par with those of other sectors of the economy—workers in manufacturing, mining, transportation, health care, retail, science, engineering, education, government.

This parity concept was discussed widely in the early 1900s and enacted under the presidency of Franklin Delano Roosevelt, in a series of laws beginning with the 1933 Agriculture Adjustment Act. The time period used as a baseline for when prices were on a par with the cost of production, was 1910-1914; other times have since been chosen.

Under the years of parity, U.S. agriculture thrived, consumer needs were fully met, and most foodstuffs were produced domestically, apart from tropical and other specialties. Parity pricing aided farmers during the difficult depression years in the 1930s and enabled the huge increase in output during World War II, despite the absence of so many young men in military service. During the period of the 1940s through approximately 1968, farm productivity increased, and farm families trained the next generation of young future farmers while some youth left the farm for skilled jobs in the city. A farmer could raise a family with no off-farm jobs necessary.

The measures used by the federal government to carry out the parity idea included, for example, purchases, when necessary, of certain commodities—e.g., butter, wheat, corn, etc.—when there was a lot of product and the commercial demand and price were low. Federal payments were also made when necessary. The government also practiced “production management” in tandem with parity pricing—using measures to encourage or deter production of various crops. Such measures ranged from quotas for tobacco and peanuts, to taking land out of production by idling it in a “soil bank,” and setting floor prices for fluid milk. In terms of international relations, the parity concept rejected both the use of U.S. farm capacity to produce surplus to dump on foreign nations,

and the use of foreign, cheap-labor production to import food into the United States.

All this changed radically over the 1970s, with the ending of the post-war Bretton Woods fixed exchange rate system’s commitment to stable currencies and mutually beneficial economic relations between nations. At the same time that the dollar was floated in August 1971, there began a phase-out of the parity pricing mechanism in the United States. Deregulation and the failure to enforce anti-trust



Madison Stallwitz, National Corn Growers Association

Fields-of-Corn 2016 prize-winning photo. Farmer with his toddler at harvest time in a corn field.

law became the norm. The infamous transnational food companies became predominant, producing huge amounts of corn and soy in the United States in order to dominate world trade, and at the same time, American production of fruits, vegetables, and other staples was outsourced to cheap labor areas abroad. Thousands of farms shut down. Others continued only by farm households turning to off-farm jobs to support the very existence of the family farm.

The situation now is extreme. Farmers are getting about 30% of what would be a parity price for what they produce. The U.S. Department of Agriculture (USDA) still calculates and publishes parity prices of various commodities every week. **Table 1** gives specific data for many basic commodities, as of October 2018.

Meanwhile, the consumer is being told to believe the scare story that parity prices for the farmer would mean expensive food for eaters. Not at all. In some cases, e.g., beef, the math shows that if the degree of rake-off by the beef cartel and retailers is reduced, through parity pricing for ranchers, and if beef imports are ended, the consumer will have better quality and safer beef, with no increase in cost at all. The same for other foodstuffs.

Actually, very little of the consumer's food dollar—an estimated 14.8 cents—goes to farmers and ranchers. Non-farm costs account for more than 80 cents of every food dollar spent in the United States, according to data released by the USDA, for October 2018 (**Table 2**). This includes processing, wholesaling, distribution, retailing and marketing.

At present, more than 20% of U.S. food consumption comes from imports, much of it from extremely long-distance supply chains benefitting no one but the commodities wing of Wall Street and the City of London. The import-share, by key categories of food consumption, is: 50% of fresh fruits, 20% of fresh vegetables, and 80% of seafood. Some sub-groups are much higher, e.g., 95% of frozen broccoli

TABLE 1

**Farm Commodity Parity Prices and Price as Percent of Parity
United States, October 2018 with Comparisons**

Commodity/unit		Farmer's Market Price (October 2018)	Parity Price (October 2018)	Price as % of Parity
Corn	Bu	\$3.41	\$13.30	26%
Soybeans	Bu	8.58	32.90	26%
Wheat	Bu	5.22	17.70	29%
Beef Cattle	100 lbs	110.00	337.00	33%
Hogs	100 lbs	50.30	168.00	30%
Broilers	pound	0.46	1.51	30%
Turkey	pound	0.51	1.95	26%
Milk	100 lbs	16.30	52.30	31%
Eggs	dozen	.92	2.19	35%

Source: Agricultural Prices (November 2018); USDA, National Agricultural Statistics Service (NASS)

TABLE 2

**Farmers Receive a Small Share of Consumer's
Food Dollar**

Food Item	Retail Price	Farmer Receives	Farmer's Share
Bread (2 lbs.)	\$3.48	\$0.12	3%
Cereal (18 oz. box)	3.49	0.05	1.4
Bacon (1lb.)	5.00	0.69	14
Sirloin Steak (1lb.)	9.99	1.78	17
Potatoes (5 lbs.)	4.59	0.43	9
Apples (1lb.)	1.99	0.42	21

Source: USDA, October 2018

is imported (mostly from Mexico).

Thus, restoring the policy of farm commodity parity pricing in the United States is a leading part of the required overall upgrade of the entire U.S. economy, and a new sound basis for economic foreign relations that will benefit all countries involved—a win-win approach. Statesman Lyndon LaRouche laid out the policy principles in a 1980 policy paper, when he was mobilizing leaders to oppose the deregulation underway after the 1971 ending of the Bretton Woods system. In that [policy paper](#), “The Meaning of World-Market Parity Prices for Food,” reprinted in *EIR* on December 14, 2018, LaRouche warned, “Many Americans have been subjected to the myth which falsely asserts that cheap labor means lower unit-costs of production. . . .” Don’t believe it.

Twenty-First Century Homestead Act for One Million New Family Farms

The United States needs an emergency mobilization to rapidly generate at least one million new family farms. Currently the U.S. has about 2.1 million farmers. However, as can be seen from the USDA documentation in this article, the majority of these farmers, due to low rigged prices, are producing very little food. That has to be changed fast, because two-thirds of the farmland is going to be turned over to a new owner in the next 20 years.

First, our nation's food supply is a national security issue, and we don't want it bought up and controlled by mega-big global corporations. The biggest pork producer in the U.S. is Hong Kong-owned Smithfield Foods, and the third largest beef producer is JBS, the Brazilian firm now headquartered in London.

Second, for the public at large, more farms and a productive, beautiful countryside, go along with better food. The safety, reliability and quality of the food supply will all increase greatly, by the establishment of family-scale farms, and a variety of local and regional food processing operations and grocery outlets. The pattern of "long-distance/free-trade" food has benefited no one but the London/Wall Street money and control circles.

Third, our nation needs the drive, creativity and cultural orientation historically manifested by the independent family farmer, an occupation requiring highly developed skills in all the sciences such as soil science, chemistry, mechanics, construction and business administration, and the passion to withstand the many weather and health variables that farming brings.

There are three areas of action proposed, to shift the direction of U.S. agriculture away from mega-corporate-like farming system arrangements, to millions of smaller, but super-skilled high technology farmers. They concern land use and transfer, special credit, and restoring parity pricing. These three areas, and related policies for agriculture, are best understood in relation to the "Four Laws to Save the U.S.A. Now!" proposed in 2014 by statesman Lyndon LaRouche for the U.S. economy, which are now urgent. Without the four following overall measures proposed by LaRouche, no fixes to the agriculture sector can succeed:

1. Reinstate Glass-Steagall, to separate speculative from basic commercial banking. Reinstate regulations to curb the mega-speculation in farm/food commodities. Restore anti-trust actions throughout the economy, from banking to the farm/food chain.

Specifically: Restore percent-of-parity pricing for essential commodities. Restore the related policy of production management, referring to the right and responsibility of the Federal government to take measures to encourage production of foods for national self-sufficiency, and deter over-production of commodities.

2. Establish a National Bank for infrastructure, to direct credit to national priorities such as water, power, and the agriculture and industrial sectors. In the farm belt, four areas are urgently in need of infrastructure development: **Water**. The North American Water and Power Alliance, as well as nuclear desalination is urgently needed on the continent, for plentiful water for the High Plains and western drylands. **Power**. A nuclear power development program must be initiated, as well as efforts for early harnessing of fusion energy. The wind and solar program is technologically retrograde. **Rail**. Modernize the entire U.S. and continental rail system, in conjunction with the worldwide Land-Bridge. **Medical services**. Hospital-centered medical services in the farm belt must be vastly expanded.

3. Extend Plentiful Credit throughout the system for useful activity. Specifically: Deploy preferential credit to young farmers to promote the "million new farms" goal, for high-tech, family-scale agriculture operations. Give the young farmer access to low-interest credit, at terms not dictated by Wall Street. The proposal involves special provisions concerning land use. Incentives can be extended to older landowners, who choose to join a program to set up a young farmer. The older farmer can rent his farm to the younger, on a 50/50 arrangement, not cash rent. This means that the older farmer will furnish the land and pay for one half of the input costs (seed, fertilizer, chemicals). The younger farmer will pay the other half, and furnish the labor and machinery. Thus, the young farmer does not have the debt burden of paying a high cash rent.

After harvest, they will each get to sell their respective half of the crop, at prices mandated to be full, or a percent of, parity. The parity price will be a big incentive for the older farmer to participate.

4. Conduct Crash Programs in exploring space, harnessing fusion power and other frontier sciences.

Kansas Cattlemen for Spirit of New Silk Road in Infrastructure, Foreign Policy

Jan. 28—The Kansas Cattlemen’s Association, at its 20th annual convention in November 2018, passed two policy resolutions indicative of the demand for action on Glass-Steagall, U.S. infrastructure, and a New Silk Road policy. Kansas is the third largest cattle producing state in the United States, with over 6 million head. The texts of the two resolutions follow.

Resolution: Re-enact Glass-Steagall Law for Sound Banking and Credit to Rebuild the Nation

WHEREAS, there is imminent danger of another financial blow-out, bigger than 2009, because nothing was done to fix the underlying dynamic of uncontrolled mega-bank speculation; our nation won’t survive more bail-outs and consolidation; and

WHEREAS, we need sound banking to extend credit to re-build infrastructure and productivity—modern rail systems, new water supplies, nuclear power, rural hospitals, upgraded waterways, etc. with millions of new jobs and a secure farm sector; and

WHEREAS, the 1933 Glass-Steagall Act worked for 66 years (until repeal in 1999) to keep separate useful community banking from speculative financial entities; therefore,

BE IT RESOLVED that the Kansas Cattlemen’s Association calls on the Kansas Congressional delegation and all of Congress, to re-enact the Glass-Steagall Act.

Resolution: Stop Low Prices and Speculation; Collaborate with the Silk Road for Win-Win Prosperity

WHEREAS, the North American farm sector is undergoing destructive pricing and trade policies, amidst decaying infrastructure—inadequate rail, waterways, rural hospitals, loss of nuclear power, lack of disaster-defenses, etc., and a plague of drugs and despair; and

WHEREAS, the New Silk Road policy of massive infrastructure-development is underway in nations all across Eurasia, and the U.S. has been invited by Chinese Pres. Xi Jinping to collaborate in this policy both abroad and here at home, for mutual, win-win economic benefit and ending poverty everywhere; therefore,

BE IT RESOLVED, the Kansas Cattlemen’s Association endorses the Spirit of the New Silk Road for economic betterment, as a win-win foreign policy for the United States.

In recent years in U.S. Farm Belt states, there have been significant discussions, and resolutions passed, on the necessity of reinstating the Glass-Steagall Act, and for taking measures to build infrastructure and productivity, including with partner nations. Glass-Steagall support has been ratified in national meetings of the National Farmers Union, the National Farmers Organization, in commodity associations, and by legislatures in Illinois, Minnesota, Iowa, Ohio, South Dakota, and elsewhere.

A leader in this national drive, Jim Benham, President of the Indiana Farmers Union, which has passed a Glass-Steagall endorsement, said in a public call in 2017:

We must return to economic policies which protect the nation’s ability to produce. Glass-Steagall will cut the speculators off the public trough, the first step to restoring a sound banking system and setting up a production-tied credit system. Pass Glass-Steagall, and we can get on to the business of rebuilding our nation. We will be able to pass farm and food supply legislation based on the principle of parity pricing for farmers and food security for Americans, and domestic production and reserves. We can finance urgently needed water projects, such as the North American Water and Power Project (NAWAPA). I, like most Americans, want to produce what our country and our people need. Give us the conditions in which we can do so . . . We have no idea of the wonderful advances ahead if we get on track with deliberate development policies, and get off the track of the lies that we are to “trust the market forces.”

Lebanon's President Aoun Proposes Arab Reconstruction and Development Bank

by Hussein Askary

Jan. 22—Echoing the Schiller Institute's continued calls in recent years, President Michel Aoun of Lebanon said, in his speech opening the Arab Economic Summit held in Beirut on January 20, that the creation of an Arab bank for reconstruction and development, and the reconstruction of the Arab countries that have been affected by war and terrorism in recent years, should become a priority. Aoun said he has "titled this summit 'prosperity is the name for peace'."

I hereby put forth my initiative aimed at adopting the strategy of reconstruction for development, calling to set up efficient mechanisms that live up to these challenges and to the requirements of reconstruction, at the top of which is the establishment of an Arab Bank for Reconstruction and Development.

According to a wire published by the Kuwait News Agency (KUNA), he also stressed the necessity of setting up efficient mechanisms that live up to the requirements of reconstruction and development in the Arab world: "Against this background, I call on all the Arab institutions and financing funds to meet in Beirut during the coming three months to discuss and finalize these mechanisms," he added.

As recently as November 2017, the Schiller Institute issued a call for the creation of a regional bank for reconstruction and development in the [Special Report, Extending the New Silk Road to West Asia and Africa](#). Chapter 4 of that report, "Financing Regional and National Infrastructure," outlined the credit mechanism by which such a bank could function in accordance with Alexander Hamilton's and Lyndon LaRouche's con-



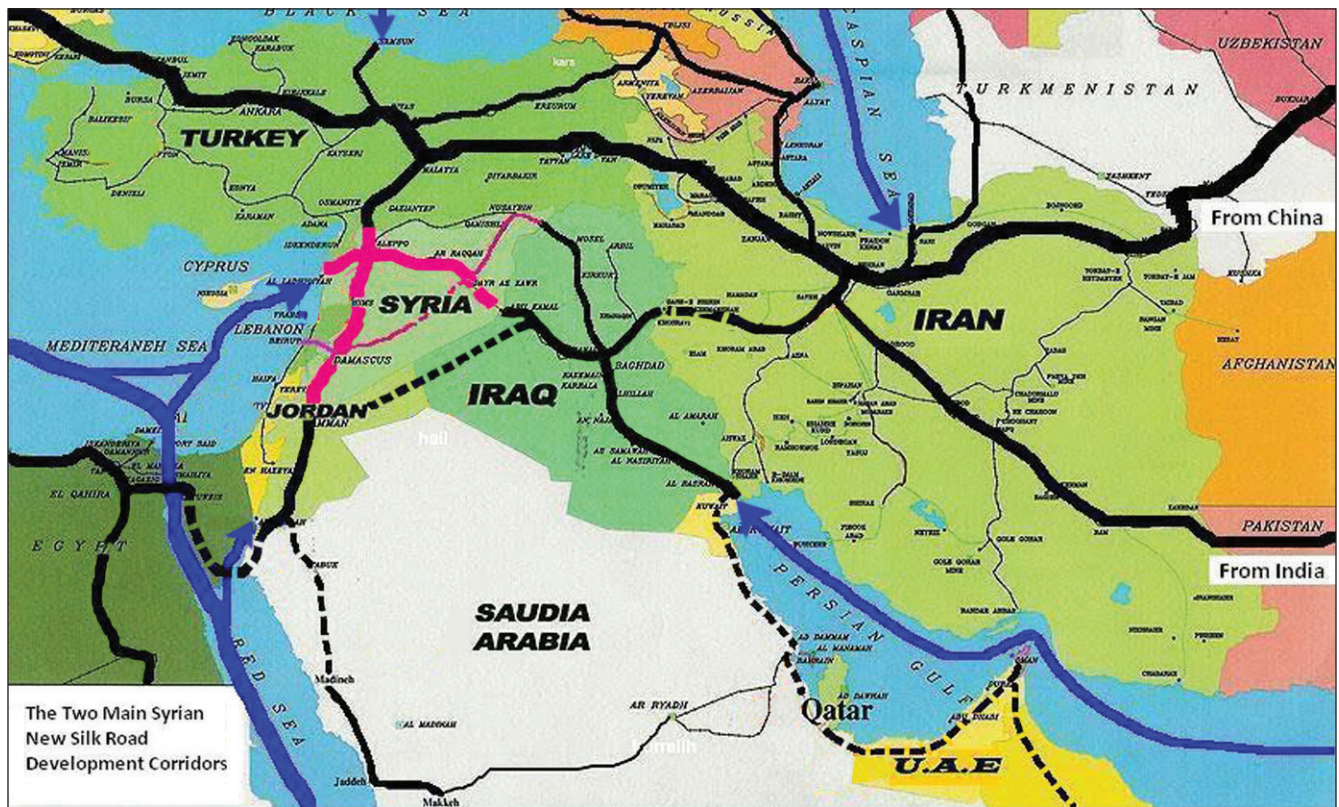
cheminade2017

Lebanese President Michel Aoun (left) and French presidential candidate Jacques Cheminade discuss "peace through development" for the entire region, at the Baabda presidential palace, the official residence of the President, near Beirut, Lebanon on April 7, 2017.

cepts of productive credits. The same call was published in Arabic translation in the *EIR Special Report, The New Silk Road Becomes the World Land-Bridge*, which was launched from Egypt at a special event hosted by the Egyptian Transport Minister in February 2016.

In April 2017, then French Presidential candidate Jacques Cheminade [met](#) with President Aoun in Beirut to discuss the prospects for peace and development in Syria and the wider region. Speaking in a press conference at the Lebanese Presidential Palace after meeting with President Aoun, Cheminade emphasized the importance of economic development as the basis for any durable peace in the region.

In July 2018, the President of China, Xi Jinping, pledged in his [speech](#) at the China-Arab States Cooperation Forum conference, to provide \$20 billion for a reconstruction fund targeting specifically Syria, Lebanon, Jordan and Yemen; President Xi addressed this



In 2004, Syrian President Bashir al-Assad announced his vision for a “Five Seas” 5-year plan, to include gas pipelines, roads and ports. Speaking in 2009, he announced: “Once the economic space between Syria, Turkey, Iraq and Iran becomes integrated, we would like the Mediterranean, Caspian, Black Sea and the [Persian] Gulf ... to become the unavoidable intersection of the whole world in investment, transport, and more.” Shown on the map are the transcontinental sea routes (blue arrows), the New Silk Road land routes (large black lines), and Syria’s domestic development corridors (red).

issue in the context of the Arab countries joining the Belt and Road Initiative. Later, officials from China and the Arab world met in Lebanon to discuss the mechanism of a joint reconstruction fund, incorporating the Chinese funds with Arab funds. Combining China’s financial backing with that of China-initiated financial institutions such as the Asian Infrastructure Investment Bank (AIIB) will be a key element in the success of this proposed bank, as will be explained below.

However, given the fact that the wealthiest Arab countries are controlled by City of London and Wall Street interests, and given the massive control the IMF and World Bank have had over the poorer Arab countries, this idea might be derailed from its real intention as expressed by President Aoun, President Xi and the Schiller Institute. This was made clear in the final communiqué of the Arab Economic Summit, in which there was no mention of this initiative. However, President Aoun’s courageous initiative has opened the door for a completely new discussion of credit and economy in the region. We will follow up this initiative closely.

The oil-rich Gulf Cooperation Council (GCC) countries (Saudi Arabia, United Arab Emirates, Bahrain, Qatar and Oman) have accumulated nearly \$3 trillion in their sovereign wealth funds. However, these funds are managed in collaboration with London and Wall Street financial, consultancy, and law firms that have been advising these funds to invest in financial paper, real estate speculation, and to a lesser degree, utilities and industries in Western Europe, the United States, and South-east Asia.

The GCC countries contributed massively to the bailout of British and American banks following the 2008 financial crisis. If a fraction of these funds, about \$80-100 billion, are invested in the bank proposed by the Schiller Institute, they can contribute greatly to the reconstruction and development of the Arab countries, especially in the badly needed infrastructure sector (transport, power and water) in addition to health care, education and scientific research. The needs of reconstruction in the devastated western Asian and North African countries of the Arab world (Iraq, Syria, Lebanon,

Jordan, Yemen, Libya and Tunisia especially) are much larger than this sum. However, if used in accordance with the productive credit generation methods of Hamilton and LaRouche, they can generate the resources needed.

The following, concluding part of this article is a passage from Chapter 4 of the Schiller Institute's [report](#), *Extending the New Silk Road to West Asia and Africa*, which deals with establishing a regional bank for infrastructure development. It is applicable not only to Arab nations, but to many others. The chapter was written by *Executive Intelligence Review*'s economics editor Paul Gallagher and edited by Hussein Askary.

A Southwest Asia/Africa Regional Infrastructure Bank

A number of financially stronger countries in the region, such as those in the Gulf Cooperation Council (Saudi Arabia, the United Arab Emirates, Kuwait, Bahrain, Qatar and Oman) along with other potentially large economies such as Egypt, Turkey, Ethiopia, Iraq, and Syria, should form a Southwest Asia Regional Infrastructure Bank ("Bank") to create credit to cooperate in new infrastructure projects with the new international development banks led by the Asian Infrastructure Investment Bank (AIIB). Political antagonisms may prevent the participation of either Iran or Israel as founding stockholders, but that may change in the future, and both those nations in the meanwhile should be permitted to buy bonds for specific projects issued by the Bank. All nations of the region should buy bonds and join this proposed bank, even if they have weaker financial capability.

Proposals were made by the United States more than 20 years ago for a \$100 billion regional development bank to be formed in Southwest Asia, and that can be taken as a baseline level for the Bank's equity and borrowed capital combined.

The Bank should be managed by a combination of bankers with experience in construction and engineering financing, business leaders from the productive sectors of the economies, and scientific and engineering experts of governments from the broad region. Their task will be to identify the new infrastructure platforms that are most important for the productivity and growth of the region, and to work out both financing and timetables for projects, as well as future growth in economic activity and revenue the new infrastructure platforms are likely to bring about.

The nations forming the regional development bank should provide a basic share of its equity capital, at least 20% of the total stock, in the form of new full-faith-and-credit bonds issued by their Treasuries, and back those bonds by dedicated future tax revenues which are to make the payments on the bonds to the Bank. The Bank will have other revenues directly and indirectly related to the infrastructure projects it invests in and the economic expansion around these projects; but the "sinking fund" for the Bank's stock dividend payments should be identified in advance and be independent of future expansion, to ensure the soundness of the Bank's liabilities.

The founding nations will offer stock in the Bank directly to their citizens and to their private banks in order to subscribe the other 80% of the equity capital. This will include banks or citizens who already hold bonds issued by their governments, subscribing those bonds to the Bank in exchange for its stock—which will increase the future payments of the governments to the Bank.

The Bank should be authorized to issue bonds to the public as well, including internationally, in order to reach its targeted capitalization with the help of borrowed capital. But the goal should be to meet the original capitalization entirely by stock subscriptions of the governments, citizens, and private banks of the countries forming the Bank. The Bank's stock should carry a dividend which is higher than the (currently extraordinarily low) interest rates on developed countries' sovereign debt and the bonds of large international corporations. It should be preferred stock with a relatively long term before redemption.

The Bank will issue loans exclusively to agencies assigned to carry out important infrastructure developments, whether those be local government agencies or agencies created for the purpose of the project. It will conduct discounting activities with private banks only as those banks make loans to contractors and service providers on the projects, and only as necessary for those loans to flow. It will also buy and/or syndicate infrastructure bonds issued by regional governments and local governments for approved projects.

Cooperation with International Development Banks

The recent important emergence of new international development banks for non-austerity-conditioned, infrastructure-specific lending—the BRICS

New Development Bank and the Asian Infrastructure Investment Bank (AIIB) initiated by China—open up potentials for credit agreements not seen since the 1944 Bretton Woods Conference. The critical great projects or “infrastructure platforms” proposed here require cooperation among several nations, including credit cooperation among the major economic powers providing the bulk of capital goods and industrial products for these projects—but not supranational direction.

Extending the New Silk Road to West Asia and Africa will require more credit for major projects than can be created by a single new development bank for the region. It requires international project lending as well. This is clearly true for the great reconstruction efforts needed in areas which have been subject to war, such as Syria and Iraq. It is also shown by the long-term, low-interest international credits recently extended for the nuclear power complex at El-Dabaa in Egypt, for example, or the new Kenya Standard Gauge Railway. A Southwest Asia/Africa Regional Infrastructure Bank will provide proportional matching funds for such major projects or assist national development banks in doing so; and it will facilitate the conversion of international project loan funds into national currencies (also essential to prevent capital flight and/or speculation).

A Southwest Asia/Africa Regional Infrastructure Bank will be able to develop credit agreements for major projects in cooperation, for example, with the Export-Import Bank of China at low, government-to-government interest rates, if that country’s companies are involved in providing capital goods and logistics; and could develop similar agreements with the AIIB, New Development Bank, or the Silk Road Fund. Such credit partnerships will minimize the need of the Bank to borrow capital by issuing bonds on international capital markets at higher rates.

Were the United States and Japan to join both the AIIB and the Belt and Road Initiative (which already suggests the connection of high-speed rail corridors across the Bering Strait and their development across North and South America), an international combination of powerful development banks would be capable of acting as an International Development Bank with capital in the trillions.

A Southwest Asia/Africa Regional Infrastructure Bank will be able to act as an arm of this combination of international development banks, and the mediator between them and national banks of the nations of Southwest Asia and Africa.

Agreements among the countries involved, on joint funds or agencies to carry out great projects, will require agreement on issuing credits over the long term and at low rates of interest. Moreover, the nations involved must remain sovereigns with their own national credit systems, so that the long-term credits are required in several currencies with relatively stable parities over the long term, together with currency-swap arrangements among central banks.

Over a period of now more than three decades, economist Lyndon LaRouche and his associates have proposed a return to a New Bretton Woods system of agreements which would return to the credit, currency, and banking arrangements among nations of the post-World War II period, as exemplified by the credit relationship between the United States with its Marshall Plan and Germany with its reconstruction re-financing institution, the Kreditanstalt für Wiederaufbau (KfW).

The KfW example provides a clear illustration of the cooperation between a major international source of development credit, and a regional or national development bank. KfW was extraordinarily successful in the German “economic miracle” recovery from World War II because: it was formed as Germany’s illegitimate Nazi debts were written off in 1950; it was initially capitalized by the German government; and it acted as a re-lending vehicle for low-interest dollar loans from the U.S. Marshall Plan (the European Cooperation Agency acting as an international development bank).

The grant- and loan-aid of the Marshall Plan, while brief (1947-51) and small (roughly \$125 billion in current-dollar terms), had a relatively powerful impact on post-World War II European recovery and development. It provided low-interest dollar credits which, due to capital controls in European countries under the Bretton Woods System, were not re-exported to pay European countries’ war and other foreign debts. (The Marshall Plan encouraged the writing off of most of Germany’s crushing burden of illegitimate Nazi debt and the Versailles, World War I reparations debt through the London Debt Conference.) And it provided capital goods, eventually paid for in marks or other European national currencies. The European nations “paid for” the goods and loans by creating equivalent “matching” credit funds in their own currencies, the KfW being by far the most successful, high-impact, and long-lasting in this policy. There was no significant use of dollars except for trade purposes.

The KfW played the same internal development-

credit role in Germany, relative to credit initially generated from the United States, as Alexander Hamilton's "Bank of the United States" had played for U.S. development, relative to the European banks which heavily invested in Treasury Secretary Hamilton's national Bank in 1791.

The existence of a *national* credit institution for industrial development, such as the KfW, ensured that international loans were converted from dollars to national currencies for actual investment; that additional capital was raised domestically by bond issues in national currencies; and the Bretton Woods System's capital controls ensured that the borrowings did not turn into flight capital and/or speculation on securities markets. Today, controls on export of capital by borrowing nations are important to ensure that no international infrastructure credits are diverted to flight capital or "carry trade" securities investments, and that their use for development projects preempts any attempted use for repayment of other sovereign debts of countries receiving credits.

The private banks involved in financing the work on these projects cannot be allowed to speculate with credits involved; bank separation (from investment and merchant banking), on the Glass-Steagall Principle is necessary to prevent this.

Furthermore, it is necessary to the effectiveness of the credit issuance by the major new international development banks, that over-indebted nations with sovereign debts which have been imposed on them illegitimately, in whole or in part, be able to place the illegitimate debt in moratorium, replacing it with much longer-term debt if agreements cannot be made to write down, or write off, such debt.

The relationship of this process, to the generation of new credits from international development banks, is discussed in EIR's report, *The New Silk Road Becomes the World Land-Bridge*. (The relevant section of the report is reprinted below.)

Since trade will increase among the nations participating in the treaty agreements for the building of these great projects, both those issuing credit through international development banks and those receiving loans, the national banks of the participating nations will necessarily create currency swaps large enough for increasing trade payments in each other's currencies.

The responsibility and purpose of both the international development banks and a Southwest Asia/Africa

Regional Infrastructure Bank, is to guarantee that development credits issued by nations go exclusively into the development of the new infrastructure platforms and technological developments most important to increase the productivity of national economies and of the labor forces of the human species.

International Development Banks and National Indebtedness

The New Silk Road Becomes the World Land-Bridge (EIR, 2014) discusses international development banks in relation to national indebtedness in Part II, pages 33-34. The relevant paragraphs are as follows:

This International Development Bank (IDB) can be a means of debt reorganization for over-indebted nations or groups of nations requiring IDB credit for great infrastructure development platforms.

Many nations of the world labor under unpayable, and wholly or partially illegitimate debts resulting from (1) extremely unfavorable terms of trade imposed upon them, or corrupt spending of development loans, or both (the cases of Argentina and Mexico, for example, which dealt with the problem differently; or (2) the rapid loading of debts onto governments in order to bail out private banks' bad debt (the cases of Ireland and Greece, for example). In these cases, the over-indebted nations can, as of a date certain, issue low-interest and long-term sovereign bonds to the IDB *to replace (a) by agreement, their debts owed to major economic powers issuing credit to the IDB as described above; and (b) by agreement, their debts to international lending agencies such as the International Monetary Fund and the European Central Bank. The IDB can use these bonds as the basis for issuing credits to those nations' national development banks, in those nations' currencies.*

Where national and regional authorities receive loans from the IDB *in order to carry out the actual creation of great infrastructure projects and or scientific and technological developments, which will generate highly productive economic activity as well as revenues for them, they will "repay" these IDB credits in the same way: by creating national credit banks—on the model of the KfW in Germany for decades after World War II—both to generate additional internal develop-*

ment credit and to invest in the IDB themselves, using their own national currencies.

Lyndon LaRouche described this process, in his 1982 book-length *Operation Juárez* proposal to the nations of Ibero-America for debt reorganization and development, as being identical in its requirements both for debtor nations and for the (then-) creditor nation the United States:

“1. In no republic must any other issues of credit be permitted, . . . excepting (a) Deferred-payment credit between buyers and sellers of goods and services; (b) banking loans against combined lawful currency and bullion on deposit in a lawful manner; (c) loan of issues of credit created in form of issues of national currency—notes of the Treasury of the national government.

“2. Loan of government-created credit (currency notes) must be directed to those forms of investment which promote technological progress in realizing the fullest potentials for applying otherwise idled capital-goods, otherwise idled goods-producing capacities, and otherwise idled productive labor, to produce goods or to develop the basic economic infrastructure needed for maintenance and development of production and phys-

ical distribution of goods. . . .

“3. In each republic, there must be a state-owned national bank, which rejects in its lawfully permitted functions, those private-banking features of central banking associated with the Bank of England and the misguided practices of the U.S.A.’s Federal Reserve System. . . .

“4. No lending institution shall exist within the nation except as they are subject to standards of practice and auditing by the Treasury of the government and auditors of the national bank. No foreign financial institution shall be permitted to do business within the republic unless its international operations meet lawful requirements for standards of reserves and proper banking practices under the laws of the republic, as this shall be periodically determined by proper audit (‘transparency’ of foreign lending institutions).

“5. The Treasury and national bank, as a partnership, have continual authority to administer capital controls and exchange controls, and to assist this function by means of licensing of individual import licenses and export licenses, and to regulate negotiations of loans taken from foreign sources. . . .”

NEW RELEASE, **Volume II**

The New Silk Road Becomes the World Land-Bridge:

A Shared Future For Humanity

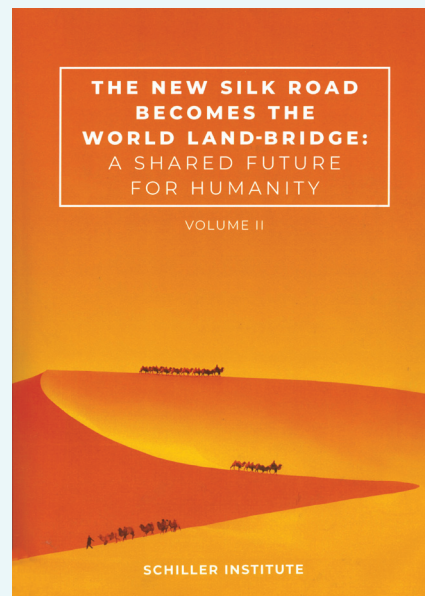
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III. Unpublished LaRouche Memo on Cusan Science

June 10, 1986

MEMORANDUM

To the International Caucus of Labor Committees (ICLC)

The Next Twelve Months' Work Must Consolidate and Systematize the Cosmological Ontological Standpoint of Cusa's Founding of Modern Science

by Lyndon H. LaRouche, Jr.

The editors of EIR are publishing here a memorandum by Mr. LaRouche addressed to members of the ICLC.¹ All of the footnotes have been added by the editors. This is the second of Mr. LaRouche's previously unpublished 1986 works that we have published this year. On October 6, 1986 a massive raid on EIR's office in Leesburg, Virginia was executed by the very same forces that are today involved in an ongoing coup attempt against President Trump. Mr. LaRouche was then targeted for elimination by the British Empire forces that had deemed intolerable LaRouche's collaboration with President Reagan on the Strategic Defense Initiative (SDI).

During the recent six months, senior physicists associated with the work of the Fusion Energy Foundation [FEF]² have begun to effect a reworking of areas of

mathematical physics from the standpoint of the Cusa-Leonardo-Kepler-Leibniz-Riemann definition of the Principle of Least Action. This addresses, variously directly or at least implicitly, the most profound of the lingering problems of twentieth-century physics. The particular lines of investigation being pursued in this way, will probably lead to discoveries of the broadest practical importance for today's scientific work.

The importance of the work of these physicists forces us to see more clearly than before, certain relevant omissions in our own elaboration of the principles of constructive physical geometry. During the period 1969-1973, I outlined certain directions of education and related exploration of the principles and implications of Bernhard Riemann's fundamental contributions to physics. This was launched initially, to provide graduates of my one-semester introductory course in economic science with the prerequisites for a more advanced education in that science. Despite the significant accomplishments which have been made under those auspices, during the recent fifteen years, the results of this progress have not yet been systematized in the needed fashion. Those FEF seminars convened on the subject of this

1. In a 1981 [article](#), LaRouche described the ICLC "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."

2. The Fusion Energy Foundation (FEF) was founded at the initiative of Lyndon LaRouche in 1974. It published the popular *Fusion* magazine and the technical *International Journal of Fusion Energy*. Soon after the October 6, 1986 raid on EIR's office, federal marshals seized the FEF's

offices and bank accounts, effectively closing the FEF and forcing the discontinuance of its publications.

freshly elaboration of the least-action principle, have recently demonstrated most clearly the practical difficulties caused by lack of such systematic elaboration of the principles of constructive physical geometry.

This report is principally occupied with addressing two aspects of this task of systematization:

1. More narrowly, we must identify and understand most clearly, the mutually exclusive, axiomatic differences between the two principal, contending ideas of physics and cosmogony, among professional physicists and mathematicians over the recent three centuries, since Francis Bacon and Rene Descartes. We must emphasize that the definition of substance, as provided by constructive geometry, is irreconcilable with the definition of substance associated with Euclidean deductive geometry, or, with mathematics based on the notions of an axiomatic arithmetic and formalist algebra.

2. More broadly, we must expose the influence of the Romantic fraud, which separates the idea of reason in the physical sciences from the domains of politics, morality, law, psychology, and the arts.

We must stress, that the ontological and methodological fallacies of the deductive-empiricist approach to physics, are coherent with [Friedrich Carl von] Savigny's irrationalist dogma of hermetic separation of *Geisteswissenschaft* from *Naturwissenschaft*.

The kind of systematization required, is illustrated in a simplified but useful way, by the following syllabus:

1. Professor Jacob Steiner's elementary course in synthetic geometry, through the scope of topics of the tenth through thirteen books of Euclid's *Elements*.

2. The introduction of the proof for the Bernoulli-Euler "isoperimetric theorem" as a self-reflexive correction in axiomatic assumptions of synthetic geometry. The examination of Nicholas of Cusa's "Maximum Minimum Principle" and Gottfried Leibniz's cohering Principle of Least Action, from this standpoint in synthetic geometry.

3. The leading work of Luca Pacioli and Leonardo da Vinci, especially on the distinction between living and nonliving processes, from this vantage-point in physical synthetic geometry.

4. The mastery of Johannes Kepler's founding of a comprehensive mathematical physics, on the basis of the crucial contributions to axiomatics of constructive-geometric physics by, chiefly, Cusa and Pacioli-Leonardo.

5. The retrospective view of Kepler's physics, by

Leibniz's elaboration of the Principle of Least Action, and Leibniz's fulfilling Kepler's specifications for the kind of differential calculus derived from a constructive approach to geometry.

6. The retrospective view of Kepler's physics, by [Carl Friedrich] Gauss et al. and the derivation, from this, of the geometrically constructed doctrine of functions of a complex domain.

7. The problem of continuous functions subsuming dense generation of mathematical discontinuities (the Dirichlet-Weierstrass problem), and the general solution contributed by Bernhard Riemann, all from the standpoint of a constructive physical geometry of the Gaussian complex domain.

8. The notion of the ontologically transfinite: Georg Cantor's 1871-1883 contributions viewed from the vantage-point of a Riemann-Surface function: the hierarchical ordering of ontological (and mathematical) transfiniteness, inherent to a complex domain defined in terms of multiply connected conic self-similar-spiral forms of hyperspherical functions.

9. The distinction between "physical space-time," as an indivisible unit of conception, and Cartesian or neo-Cartesian notions of distinctions among abstractly distinct space, time, and matter. The ontological meaning of "substance," as oppositely defined in the two opposing views.

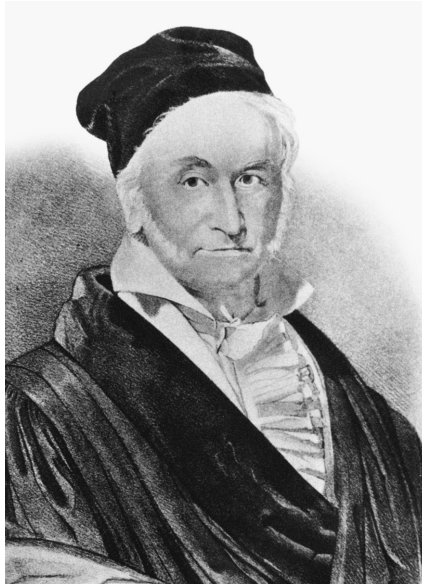
10. The elements of physics, especially hydrodynamics and electro-hydrodynamics, defined in this elaborated context. The case of well-tempered polyphony, as encompassing all of the essential notions of such a physics.

The education, and related professional conditioning of modern physicists, as well as laymen, has imbued most moderns with the wrong view on each of these ten points. As a result, the experimental physicist is crippled by the belief that no experimental design or result is professionally credible unless the explanation of every feature of design and result is consistent with the neo-Cartesian formalist method and axiomatic assumptions.

The last attempt to refute Kepler, Leibniz, Gauss, Riemann et al. from a Cartesian-Newtonian "classical" standpoint, was that of James Maxwell. Maxwell, who explicitly claimed that he was rejecting all in Gauss and Riemann not consistent with "our own" geometry, a neo-Cartesian one, made the notion of the "ether" the central feature of his work; this "ether," like the mythical 'quark' of today, was introduced to attempt to ex-

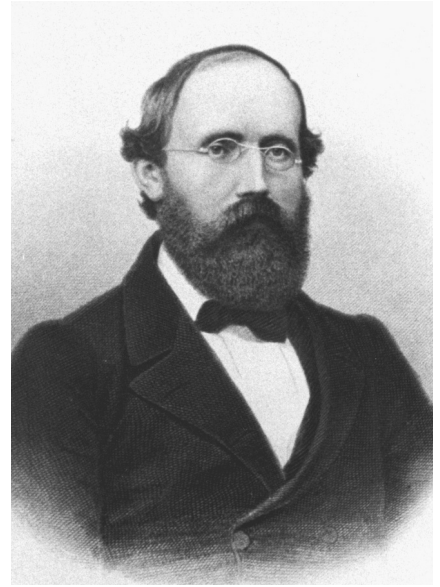


Gottfried Leibniz (1646-1716)



Portrait by Christian Albrecht Jensen

Carl Friedrich Gauss (1777-1855)



Bernhard Riemann (1826-1866)

plain away every phenomenon of electro-dynamics which otherwise required a Gauss-Riemann notion of a physical space-time most characterized by a specific geometry of such physical space-time. By purporting to fill Cartesian empty space with an “ether,” Maxwell purported to explain away all need for the kinds of geometrical conceptions he abhorred. With such experiments as that of Michelson-Morley, and the experimental proofs of the case for special relativity, the “ether” was tossed away, and, with it, “classical” Cartesian-Newtonian mechanics. With the influence of the work of Ludwig Boltzmann, neo-LaPlaceian statistical mechanics appeared as the replacement for “classical” mechanics.

Despite this crisis-ridden, paradoxical character of anti-Gaussian modern mathematical physics, the conditioned professional adheres stubbornly to the conceits of naive sense-certainty: chiefly, that matter is reducible to elementary point-masses, and that least action is action along a straight-line pathway between any two points.

In contrast, in real physics, action is perceived solely in the form of a local or larger transformation within continuous physical space-time. Matter is perceived only in the form of such finite transformations in physical space-time.

Although “straight line” (linear) action exists, it exists only conditionally, in the same sense that a straight line is constructed by multiply connected circular action in elementary synthetic geometry. Matter

exists only as transformations in physical space-time, and the primary form of action in physical space-time is either simply circular, or helical, or conic self-similar-spiral action. Action corresponding to this primary form, is called “least action.”

“Substance” is defined rigorously, therefore, as a finite transformation in physical space-time, by means of mathematical (geometric-trigonometric) statements “normalized” in terms of least action. All elementary laws of the universe must be stated in these, and only these terms of reference.

The implications of the “Dirichlet Principle” determine the characteristic geometrical features of real physical space-time in general. That is, continuous functions based upon multiply connected conic-spiral action, define an ordered density of mathematical discontinuities within that continuous function. These are termed “discontinuities,” because, in the least degree of distinction, they admit of no linear interpretation of the continuous function; more profoundly, because they involve transfinite orderings, as the Riemann Surface function defines this. In physics, they are called “singularities,” and include such phenomena as electrons, “plasmoids,” and so forth. Winston Bostick’s treatment of the electron, is an example of viewing an “elementary particle” as a singularity which is brought into existence, or dissolved, by a nonlinear continuous function. What we imagine, ordinarily, as “matter,” is a discrete form of singularity in a nonlinear continuous function. However, it is clear from this, that the notion

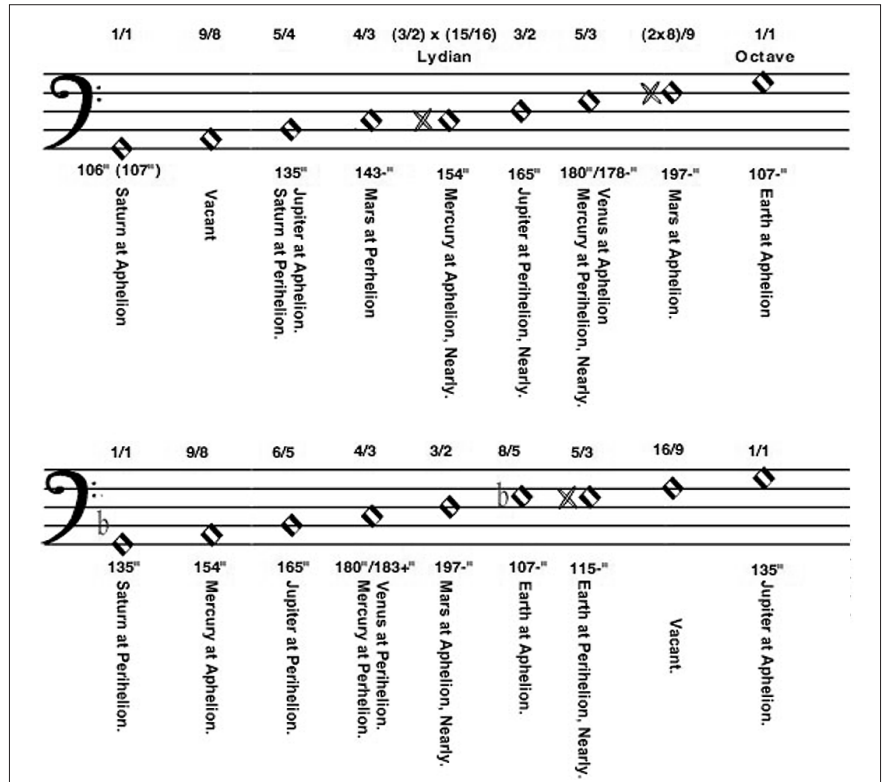


Johannes Kepler (1571-1630)

of “substantiality” must be a more general one. The objects we call “matter” are but a special case of a more general, underlying substantiality, physical space-time as a whole. This substantiality is expressed for human perception as any least action form of finite transformation within physical space-time as a whole.

Since the late nineteenth century, it has been a classical classroom exercise, to show that what is associated with so-called Newtonian universal gravitation, is nothing but a deductive manipulation of Kepler’s three laws of motion. Kepler already defined gravitation, before Galileo and Newton, and this classroom exercise proves that Galileo and Newton discovered nothing at all that was either useful or original; in fact, Newton led his dupes a giant step backwards.

The relevant point to be stressed in this connection, is that Kepler’s laws are independent of any specification of the masses of the planetary bodies. The construction of Kepler’s laws depended upon nothing but the elaboration of the harmonic metrical characteristics of universal physical space-time, without yet considering the masses of the bodies. The central assumptions in Kepler’s astrophysical hypothesis, were two. First, directly, explicitly, Kepler based his work on the demonstrations of Pacioli and Leonardo: Pacioli’s *De Divina Proportione*, and the Pacioli-Leonardo demonstration that the highest-order processes in the universe had harmonic orderings coherent with the Golden Section.



The musical scales shown here are adapted from Kepler’s *Harmony*, and show the “tonalities” of the harmonic orbits of the planets. Above is the major scale; below is the minor scale. Gauss predicted the next sighting of the asteroid Pallas on the basis of Kepler’s harmonic values for the exploded planet which must once have existed in an orbit between those of Mars and Jupiter. That is the space marked vacant above.

Secondly, as Kepler references Cusa explicitly, Kepler’s physics depends entirely upon the “hereditary” implications of Cusa’s “Maximum Minimum Principle” (Least Action).

Since the work of Gauss and Riemann, most notably, we know that any process of such metrical characteristics, is a subsumed reflection of the kind of complex hyperspace ordered in terms of conic, multiply connected, self-similar-spiral action. In other words, Kepler already showed that our physical universe is Riemannian: that universal physical space-time has a “shaping,” and that the fundamental laws of the universe are, either of the form of apparently “dimensionless constants,” or of a form ontologically akin to such constants: the finite, limiting speed of electrodynamic propagation, universal gravitation, the quantum constant, and the so-called fine structure constant. Each and all of these “constants” are functionally interdependent, and are more accurately stated in the relatively “dimensionless” terms of a “pure” synthetic geometry of Gauss-Riemann physical space-time.

Once we introduce “mass” to physical functions, these “dimensionless constants,” can be restated in terms of “dimensional” formulations of classical mechanics; however, the fact that we usually employ most of these in that derived form, does not prove that they are of such “dimensional” form in their proper, most elementary statement.

For example: the attribution of a quantum factor to a photon, depends upon interaction of that beam of electromagnetic radiation with some target. For reasons of physical geometry, that interaction must be defined in the most elementary terms, as a function of wavelength (frequency). Looking at this matter more closely, we find a reciprocal relationship between the speed of light and the quantum: the two express the same underlying universal principle of physical space-time. Gravitation, similarly, and the relationship between gravitation and the “fine structure constant.”

The method involved, is essentially socratic method.

We are conditioned, these days, to justify certain axiomatic assumptions of mathematical physics, on the grounds of the apparent practical advantages of such assumptions. We are conditioned, not to subject those assumptions to a rigorous sort of socratic criticism, epistemological criticism. The traditional defense against such criticism, is for the affronted defender of such axiomatic traditions to list some of the physics discoveries which are credited with depending upon such axioms. The affronted defender refuses to consider the criticism itself, on the pragmatic grounds that existing assumptions appear to work quite well.

What actually works, unquestionably works, at least up to some limit. The pragmatic view has two obvious flaws. First, a more rigorous set of assumptions, in place of conventionally taught ones, would not impair any practical result, but could only supply a more coherent, better insight into the “why” of what appears to work. Second, since all such pragmatic axiomatic assumptions place limits on the scope of efficient practice; by adhering to provably flawed such assumptions, as socratic epistemology can prove this flaw to exist, we halt the possibility of practical scientific progress to that degree.

There is a deeper psychological problem involved in the pragmatist’s viewpoint. On the surface, it might appear, that the pragmatist is conditioned to certain principles, which have appeared to serve him well, and is disinclined to go through the rigors of a re-education. He has a certain personal investment in the prestige gained by aid of assimilating and defending those assumptions. On the deeper level, many of these assump-

tions are provable irrational ones, which he learned mostly by means of years of classroom and related kinds of conditioning. He was never convinced, by reason, that these were necessary principles, but only that his professional standing and competence appeared to depend upon accepting their authority. Hence, this lack of rational resolution for such assumptions signifies that they have, for him, the kind of efficiency a superstitious fellow might attribute to tricks of symbolic magic, or astrology. He has the resulting anxiety, that to give up such assumptions, is of the form: to lose some of his own “magical” powers.

This irrationalist element stands in contrast to the physicists’ usually well-deserved reputation for greater rationality than most. This spoiling, irrationalist streak, clearly arises from two kinds of sources. First, the physicist is a person in society, and is subject to the prevailing philosophical irrationalism of contemporary cultural paradigms in society generally; this general influence tends to spill over into areas of his professional work, and especially into the domain of heteronomic relations with fellow-professionals. The “personal” element so defined, tends to color his factional position on scientific issues. Second, more narrowly, as is shown most efficiently by rigorous analysis of the work of Immanuel Kant, the mechanistic, linear world-outlook in physics, is in itself an axiomatic root of a tendency for irrationalism within physics practice. This notion of universal physical lawfulness implicitly defines a universe in which life could not have developed. This, Cartesian or Newtonian tradition, is in specific contrast to the standpoint of Leonardo and Kepler, for example. The physics of the latter, is consistent with the necessary existence of life in the universe. Hence, we have the spectacle of the otherwise rational physicist or chemist, asserting the authority of his existence before the lecture hall, and yet asserting a mathematical method which appears to prove that the lecturer does not exist.

In terms of physics as such, the mechanistic method insists that the universe is characteristically entropic, and that the elementary laws of cause and effect in that universe are linear in form. This admission was already made by Isaac Newton, and admission on which Leibniz focussed attention later, in the Leibniz-Newton-Clarke correspondence. Any scheme which assumes, that matter is composed of self-evidently existent discrete particles, acting in straight-line relations in empty, Cartesian space, already assumes that the universe is running down in the fashion of a mechanical time-piece.

In contrast, Kepler assumed, and demonstrated, that

the universe is characteristically negentropic.

We have referenced the proof for Kepler's laws on a number of occasions earlier. It is important, for rigorous clarity, to identify that point again here. The most crucial experimental proof was supplied by Gauss, when Gauss predicted the next sighting of the asteroid Pallas on the basis of Kepler's harmonic values for the exploded planet which must once have existed in an orbit between those of Mars and Jupiter. The fact that the former existence, and explosion of this missing planet, was integral to the entire construction of Kepler's laws, signified that the existing of an asteroid with such harmonic orbital values was conclusive proof of the relative validity of Kepler's hypothesis, relative to all those who opposed Kepler from a Cartesian-Newtonian mechanistic standpoint.

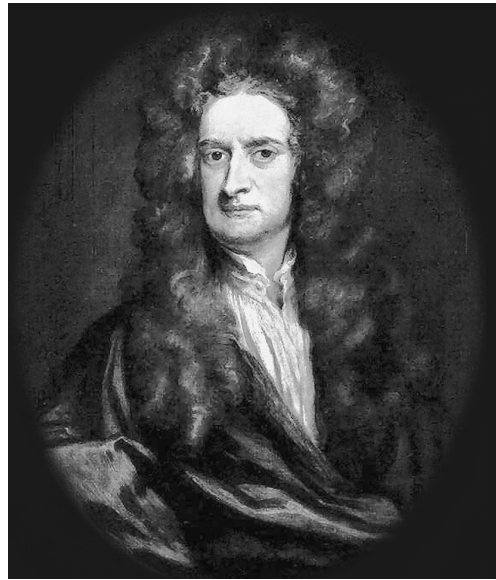
This proof suffices to demonstrate that the universe is characteristically negentropic, not entropic. For reasons clear from the Dirichlet-Weierstrass-Riemann treatment of the problem of discontinuity in continuous complex functions, the fundamental laws of physics are not linear in form, but are nonlinear. All linear formulations of such laws are, at best, a crude approximation, and, fundamentally, absurd.

The irrationalist element within "classical" mechanics and deductive, formal algebra, is thus located.

1. No system of thought, however "rational" deductively, can account for the full range of cause-and-effect relations within the experimental domain of physics, chemistry, and biology.

2. Within the range of phenomena for which mechanistic or formal-deductive approaches do produce some useful results, the system as a whole depends upon included rule of thumb terms which have no rigorous basis within the terms of the system as a whole, but which are included as plausible terms merely because they appear to work in many cases.

On the first account, physical reality is "nonlinear," to the effect that any attempts to measure cause-effect in terms of linearly stated laws, are merely crude approximations, approximations which break down entirely for



Isaac Newton

non-linear cases. On the second account, we have paradoxes such as the three-body problem, and the general incoherence of efforts to account for rotational principles within the axiomatic system of mechanics. That is, it can not be shown that the rotational terms are derived consistently, constructively, from a linear set of axioms; these terms appear to have no rational necessity corresponding to their experimental relevance, and are therefore introduced to the deductive system as rather arbitrary added postulates. This is the general case for hydrodynamic and analogous electrodynamic phenomena. The

first class of paradox is most clearly shown in the case of negentropic or related sorts of non-linear processes. The second class is most commonly shown within the range of hydrodynamic and related phenomena which appear to belong to the domain of mechanics, rather than negentropic processes. This is approximately, the essential division of types of anomalies distinguishing the two classes of paradoxes.

On these two accounts, the mind perceives a gap in the process of reasoning, from the generally consistent basis of a deductive-axiomatic mechanics, to the terms of description for the "anomalous" classes of phenomena. The existence of this gap in the reasoning process, compared with the greater or lesser practical efficiency of the arbitrary element, appears to the mind as like "magic." Why it appears to work, is, at bottom, a mystery; things which work, but are premised upon mysterious principles, are deemed by the mind to be "magical."

It is most advantageous, to view this sort of problem from the standpoint of the two central, celebrated fallacies in Kant's Critique of Judgment: Kant's epistemologically interdependent assumptions, that there is no knowable, rational basis for human scientific (or other) creative discoveries, and that there is, on the same premises, nothing but an arbitrary basis for assessing the qualities of truth and beauty in works of art. We have shown for the case of music, if only so far in an elementary way, that Kant's judgment is not only an absurd one, but a wicked one. We have also shown, that what is demonstrated for the case of music, applies in a general way

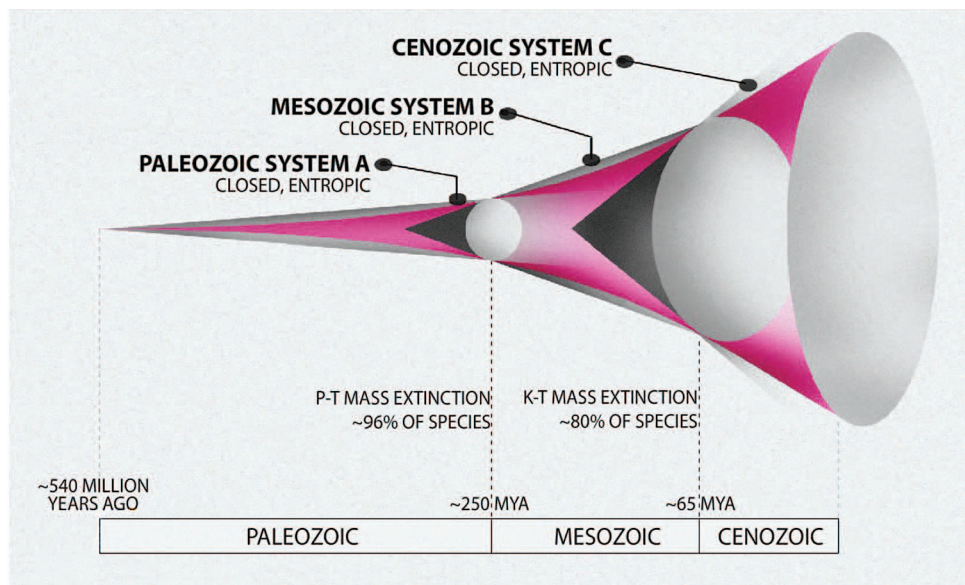
to all creative work, scientific discovery included.

Essentially, Least Action and negentropy are cohering notions. As the case of Kepler's work implies, Least Action is metrically characteristic of the physical space-time manifold generated by multiply connected, conic, self-similar spiral action. Such multiply connected functions form, intrinsically, a class of complex functions which are efficiently continuous, and yet densely populated with self-generated discontinuities. The best measure of negentropy, is the rate of increasing density of such discontinuities within a function which otherwise conforms to Least Action in such

a manifold. This requires a mathematical universe, in which the elementary laws are stated, elementarily, as "nonlinear" functions, and in which the normalized, elementary form of statement of any event, measures the transformation so measured in terms of reference to negentropy as the metrical characteristic of the universe.

The practical content of this is most usefully demonstrated, by reference to the elements of economic science.

As we have shown, the fundamental metrical feature of economic processes is stated in terms of a variable rate of increase of the potential population-density. In economic processes, there never exists the kind of von Neumann "equilibrium" defined in terms of solutions to simultaneous linear inequalities. The minimal condition for the sustainable existence of the human species, is some positive rate of increase of potential population-density. This minimal condition is represented by a "nonlinear," negentropic function, which describes what may be called a "world-line." This function is continuous, if "function" is defined as a Riemann Surface function. In other words, by application of Dirichlet's principle of topology, the current state of the continuous function is situated in that transfinite ordering which provides perfect connectivity for a domain including all of the singularities subsumed. Since the continuous function so described is becoming ever-



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The anti-entropic development of the universe is characterized by two related non-linear constants: a minimal rate of expansion of development, which if not met, results in extinction; and the requirement to purge obsolete closed systems in order for the system to grow. Depicted here are two such examples of this governing principle—the P-T Mass Extinction and the K-T Mass Extinction—in which certain species are required to be superseded for the emergence of new species of higher energy flux metabolisms.

richer in singularities, the corresponding type of Riemann Surface function is required for the general case represented by the "world-line."

Values greater, or lesser than that of this "world-line," are similarly defined. All such Riemann Surface functions, by definition, are purely negentropic functions. "Entropic" functions, are defined as negative "negentropic" functions: a Riemann Surface "backwards," so to speak, but for the qualification, that "backwards" is not merely a reverse of "forwards," but a different pathway analytically.

Similarly, the "world-line" is not a fixed one. Every increase of the rate of economic growth, redefines the required minimal value of "world-line" from that point onwards. By increasing the potential population-density above that required by previously established "world-line" values, we "upshift" the "world-line" function from that point onwards.

For economic processes, we have stated the following general restrictions:

1. All positive values of the function require an increase of the relative content of properly defined per-capita market-baskets of human consumption. This has the significance of an increase of the density of singularities.
2. The per-capita throughput of usable energy, must

be increased, per-capita and per-hectare. This is restated, as increase of energy-throughput per-capita unit of actual and potential population-density, respectively (energy-intensity, in the first degree).

3. The energy-density cross-section of generated and applied energy must increase historically (energy-intensity, in the second degree).

4. The ratio of employment in rural production must decrease, subject to a per-capita increase of output of such goods for the population as a whole (capital-intensity, in the first degree).

5. The ratio of employment in production of capital goods, to employment in production of consumer goods, must increase (capital-intensity, in the second degree).

6. The technology-intensity of modes of production and existence must be increased, in a manner consistent with Leibniz's elementary definition of "technology."

These are features of a "nonlinear" function, the "world-line" and related functions. Every transformation in "economic space," is measured in terms of that function. The generalized notion of that function is:

1. The variable form of the "world-line" function at each point in the process.

2. The rate of increase of potential population-density, relative to that momentary value of the "world-line" function.

That is the most elementary of all the statements which can be made in "economic space."

The point to be stressed in this location, is that this elementary function in "economic space," is exemplary of all proper physical functions bearing upon fundamentals in the universe.

Mankind knows the universe, only from the standpoint of the criteria of successful human practice. "Successful human practice," can be defined as nothing less than increase of the potential population-density, as we have specified that summarily here. This statement is complete, on the condition that we recognize that technological progress represents the generation and efficient assimilation of notions developed by means of self-improvement of that divine spark of potential for creative reasoning which distinguishes mankind from the beasts. Labor in a technologically progressive, energy-intensive, capital-intensive mode, is rightly called "the human form of labor," to distinguish a human form of existence from a bestialized condition of mankind.

The question of human knowledge, is a question of knowledgeable human practice. Universal knowledge,

is therefore the form of knowledge related to the most universal feature of human practice: increase of the potential population-density, by means of the practice of a human form of labor.

This does not define human knowledge as intrinsically pragmatic. Human knowledge is absolute knowledge of the universe, relative to the degree of its perfection as knowledge pertaining to the most universal feature of human practice. However, it is absolute knowledge of the universe stated in the language of the most characteristic terms of universal human practice.

Thus, economic science, properly defined, is the same thing as a universal physics. It is the ultimate standpoint from which we can discover which assumptions of physics are valid or not. Both, economic science in particular, and general physics in particular, must be caused to converge upon one another, to become one. That standpoint is our standpoint as a philosophical association. This is understood as our standpoint, on condition that we emphasize that economic science treats performance relative to the human form of labor, as we have indicated here: the elaboration of the development of the divine spark of potential for creative reason peculiar to the human individual.

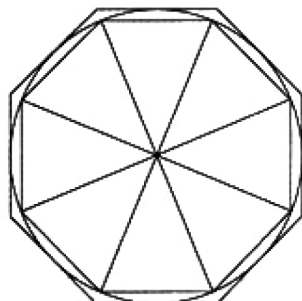
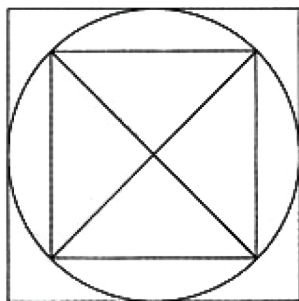
Statements made in this form are the only truly rational statements about the physical universe. The following points, relative to that, are leading:

1. All such statements are derived from the consistent elaboration of a constructive geometry, from the unique starting-point of a Principle of Least Action (Cusa's "Maximum Minimum Principle"). No arbitrary element is ever introduced to this process of construction.

2. Negentropy, while reflected in harmonic orderings congruent with the Golden Section, can be explicitly defined only in the Gauss-Riemann complex domain, a specific form of extended elaboration of such synthetic geometry.

3. Every theorem stated in such terms, is implicitly reduced, by a socratic method of back-tracing the hereditary principle of construction, to the unique root-principle of Least Action.

4. No rational algebraic statement of a function can be made, which is not better restated as a trigonometric function, and thus shown to be a description of a locus generated by a Gauss-Riemann constructive geometry of the complex domain. Implicitly, any seemingly arbitrary algebraic function, which corresponds to actual processes, can be made rationally knowable as a continuous function by such methods.



"The intellect is to truth, as an inscribed polygon is to the inscribing circle. The more angles the inscribed polygon has, the more similar it is to the circle. However, even if the number of angles is increased ad infinitum, the polygon never becomes equal to the circle."



Nicholas of Cusa (1401-1464)

direct bearing on this ongoing work.

Over the interval 1948-1952, my own intellectual ferment was chiefly energized by a sense that

the Wiener-Shannon³ "information theory" dogma was so evil in its practical implications, that I must devote my life, if need be, to refuting it.

My approach was informed chiefly, by the influence of Leibniz upon me during my early adolescence. To refute Wiener, I chose as a practical context, the role of the human mind in generating and assimilating improved technologies. I assumed that the measure of "human intelligence" was that aspect of ideas which contributed in some demonstrable way to an increase of the negentropy of society's existence, and that a general definition of both "information" and "negentropy" must be supplied from this standpoint.

My concern, was to reduce a statement of economic processes to the form of thermodynamic functions, and to measure an increase of per-capita power achieved through technological progress as the implicit measure of the negentropy of human practice. The ideas which mediated this transformation, must then be correlated with such result, and analyzed, in correlation with the result, to define "information" negentropically. That was the first step, the "LaRouche" component, of what was later termed "the LaRouche-Riemann method."

Through study of the work of Georg Cantor, I was led to a correct appreciation of Riemann's work, most

5. No phenomenon which can be comprehended in mathematical-physical terms of a continuous function, is rightly knowable rationally, in any terms but these constructive terms.

6. The inclusion of negentropic processes in this class, an inherent feature of such a constructive geometry of the complex domain, signifies that living processes and analogous nonlinear processes, are rationally knowable in these terms of reference.

7. Creative discovery, is the (constructive geometrical) form of activity of the human mind which is in one-for-one correspondence with a living process's characteristic features.

Thus, the creative faculties of the human mind, are rigorously comprehensible in the same terms as a competent mathematical physics, on condition that the right such physics is employed.

Such comprehensibility does not exist within the scope of a formal, axiomatic-deductive sort of linear system. Hence, Kant was conditionally correct, that creativity and the notion of beauty were unknowable in his system of thought.

The History of Our Approach, Briefly

Certain aspects of the internal history of our international philosophical association [the ICLC], and of my own relevant points of contribution to that history, have

3. Norbert Wiener (1894-1964) and Claude Shannon (1916-2001).

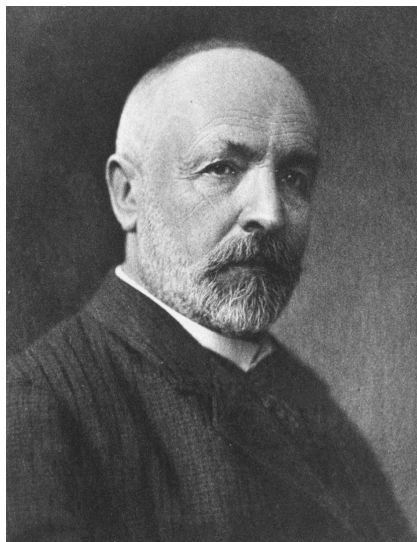
emphatically of the general thesis given preliminary summary in his “On the Hypotheses Which Underlie Geometry.” In that dissertation, I found Riemann’s correct definition of “negentropy.” It was clear that the geometrical method congruent with this dissertation, supplied the approach, both to measure technological progress as negentropy, thermodynamically, and to examine that aspect of the structure of human creative thinking which enabled the mind to produce and assimilate technological advances.

That, in kernel, was the beginning of the “LaRouche-Riemann method.”

The philosophical and related scientific work of our association originated in my concern to assemble the basis for a second course in economics, to be supplied by those who had completed the one-semester introductory course. As part of this, Uwe Parpart contracted to produce a report on the essential features of Riemann’s and Cantor’s contributions. Later, in a March 1973 paper presented as a guidance memorandum to the “science project,” I outlined the case for a Riemannian integration of economic science and biology, and the need to base the entire work of the “science project” on this point of methodological reference.

In early December 1978, we launched the project for producing computer-based analyses of the turns in the U.S. economy, with both fortunate and dismal results. The dismal result was Dr. Steven Bardwell’s organization of a calculus curriculum, which centered itself on a Cauchy approach to the elements of differential calculus, an intrinsically incompetent, but academically popular approach, explicitly contrary, axiomatically, to my own and Riemann’s method. Although the attendance at the course rapidly collapsed, the general effect was that persons influenced by the course, or by its reputation, knew significantly less about economic science than before the course was begun.

This was the state of affairs prevailing at the time of a series of seminars near Wiesbaden, during the spring of 1981. During those seminars, I proposed a new tactic for focussing students’ attention on the crucial issues of the LaRouche-Riemann method: the construction of the principles of well-tempered polyphony from the



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Georg Cantor (1845-1918)

starting-point of a conic self-similar spiral. This construction was undertaken by Jonathan Tennenbaum and Ralf Schauerhammer, who presented the results at an international conference later than year, and presented amplified results at a later international conference. Broadly, the tactic succeeded. Serious attention to the principles of synthetic geometry spread, the understanding of the ABCs of the LaRouche-Riemann method was significantly improved, and there were significant benefits in terms of better understanding of the function of technology in economic processes.

The elaboration of that tactic remains far from complete, even with respect to the principles of well-tempered polyphony itself. The musical elaboration is of more than incidental importance for economic and science and physics.

It is more readily obvious, that the “art for art’s sake,” and kindred cultish irrationalisms dominating the music profession today, are crippling the musical work and pleasure of both performers and audiences. The damage done to music, by cutting it off from that rigorous rationalism which dominated the work of Bach, Mozart, and Beethoven, is more readily recognized than the effects of this separation upon physical science. Yet, on reflection, it should be clear that nothing is more wickedly subversive of the physical sciences than to degrade physical science into a compartmentalized, mechanistic occupation divorced from the wholeness of the mental life and experience, of the scientist and student.

The physicist urgently requires that the methods proper to the physical sciences be experienced as the essential feature of some aspect of classical art. Once the student of physics, for example, has discovered that the principles of Beethoven’s method of composition are in correspondence with nothing less than the principles of a Riemann Surface, that student must sense the richness and universality of those principles. This sort of experience is indispensable to making professional work in physical science sensed as an occupation of the whole person. It is also indispensable to true rigor in the physical sciences, to the effect that all that is relevant to the existence of mankind, and of mankind’s

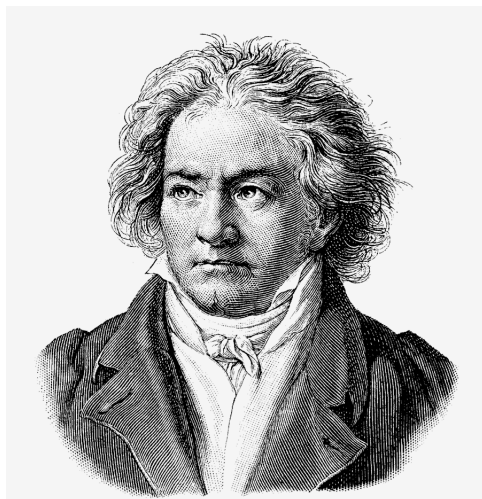
development must be brought to bear on the practice of the physical sciences.

It is the universal applicability of rigorous methods of reason, to every aspect of the universe, which impels us to perfect those methods in a manner consistent with that universality. This universality, which characterizes the work of a Cusa, a Leonardo, a Kepler, a Leibniz, is the spirit of true scientific inquiry, the spirit of universality which must be recaptured and practiced today, the spirit of rigorous method and universality which characterizes the leaders of every true renaissance in human history.

The advantages of concentrating upon the principles of well-tempered polyphony, from this vantage-point, are broadly obvious ones. What need be demonstrated in this connection, is that the agapic experience of beauty, as classical polyphony affords this, is not a mysterious quality, but something which can be comprehended rationally. The unity of reasoning-powers and the higher (agapic) faculties of emotion, demonstrated and experienced in such an approach to music, is an experience which illuminates, transforms, and uplifts the entire personality. In the scientist, such an experience feeds that fire of impassioned creativity, which is the essence of all true scientific progress,

More broadly, the present bottleneck is the lack of the ten-point systematic program in the foundations of physical geometry, as we described that in outline, above.

The quality of the properly educated person, is the developed capacity to reconstruct every conception, solely by rigorous reasoning, without reliance upon citations by “authorities.” Nothing is authoritative, no matter who or how many have said it, unless one is able to reconstruct the proof of that idea oneself, as if no authority but oneself had ever existed. This reconstruction must meet the specifications of socratic method, as a rigorous synthetic geometry does. That is, in synthetic geometry, we start with nothing but the isoperimetric principle. We construct a straight line and a point by means of doubly connected circular action, and derive the entirety of mathematics, including Riemannian physics, by nothing but that “hereditary” principle. Thus, socratically, all theo-



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Ludwig van Beethoven

rems are traced back, rigorously, to the isoperimetric principle.

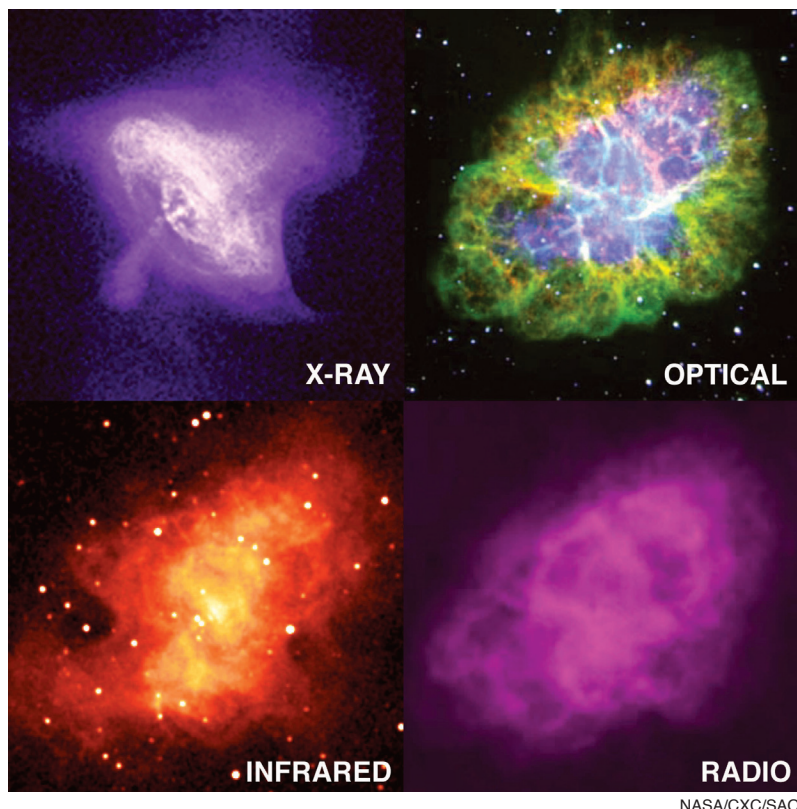
Can you stand before a class, assuming that they know nothing but the course in elementary synthetic geometry which precedes the introduction of the isoperimetric theorem, and construct the entirety of Gauss-Riemann mathematics’ essentials from that starting-point, using nothing but the hereditary principle of synthetic geometry? Until you can do just that, at least in principle, you really do not know any advanced theorem in physics. Without that, at many points of your argument,

you must invoke the mystical blessing of some putative “authority.” You do not really know; you merely place your faith on crucial points, in the assertions of a man in whose authority you have placed your faith.

It is therefore most difficult, to discuss the ontological implications of the Principle of Least Action, until you and your conversational partner share a grounding in the kind of basic program we have outlined. You must know that program, and if your partner in the conversation does not, you must be able to refer his or her attention to such a program. If he or she does not understand the conception, for want of familiarity with such a program, you might, if time allows, summarize the crucial points of the program, and then restate the proposition in those terms of reference. Or, if time does not allow, you can refer his or her attention to the program, and indicate where the theorem in question lies in the setting of that program.

This program represents the next pedagogical step which must be completed, if we are to effect orderly progress in the direction we have been working these past years. This is needed, as the best way to present the methodological standpoint from which our approach to the ontological implications of Least Action can be comprehended in a thoroughly rigorous way, to provide the grounding context in which the issues posed can be discussed.

Also, I say without fear of exaggeration, that many among us do not yet understand what the Principle of Least Action signifies ontologically. This deficiency is not likely to be corrected, until the indicated outline is worked through by them.



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"The foundation of competent physical science and Classical artistic composition," LaRouche writes, "is commonly located only in the principle of insight: insight as distinguished from sense-perception." The Crab Nebula presents a useful demonstration of the Platonic principle that the world is apprehended by the creative mind, not by sense perception. These images, captured using different instruments, are all quite different in visual appearance; it is the contradiction among them that can lead the mind to a conception of how this perplexing nebula actually functions. Shown here are images of the Crab Nebula, a supernova remnant in the constellation Taurus, at four different wavelengths.

The Proposition in View

There are three principal areas of experimental inquiry, upon which our attention to Least Action is presently focussed, or at least chiefly so: astrophysics, microphysics, and optical biophysics. These are the three facets of the universal, in which the experimental results are presented most immediately in terms of Least Action, and in the most elementary way. To prove a principle of nature, it is our primary concern to prove the principle equally efficient in each and all of these three areas. To the degree we succeed in that, the principle is conditionally true, and is absolutely true relative to contrary views today.

In astrophysics and microphysics, our leading concern now is simply to demonstrate that the Least Action harmonic ordering is consistently determined by certain, provably equivalent "dimensionless constants" (as we have supplied a qualified definition of "dimensionless

constants" above). In other words, that the "shaping" of physical space-time in the astrophysical and microphysical domains, is determined in the same lawful way. We are also concerned to situate the same kinds of phenomena in terms of the scales of Ångström units and microns, in the domain of optical biophysics.

We wish to proceed from such explorations, to the goal of redefining physics as electrohydrodynamics, proceeding from the elementary phenomena of astrophysics and microphysics, into the hydrodynamics of electromagnetic processes, by the methods associated with constructive geometry.

For example, we have also settled upon crucial evidence which demonstrates that acoustic air waves are defined by electromagnetic radiation, rather than percussive interaction: in terms of self-induced transparency of the medium for potential rates of propagation. We are also concerned with the direct role of the helical-rotational aspect of coherent radiation in terms of the physics of refraction, and the bearing of this on the phenomena of least action in such matters. So, the list goes on.

The prudence of bold leaps in physical science, is in direct proportion to the depth and scope of the rigor one has achieved in mastery of the elementary. Prudent boldness depends upon this principle: Since all theorems in physical (constructive) geometry are

rooted in the hereditary principle of construction, two things follow:

1. Nothing is formally true, if it is implicitly, hereditarily, a violation of the underlying principles.
2. As Leonardo da Vinci insisted upon this point, the features of an hypothesis demanded by hereditary implications of underlying principles, are almost certainly true, even if there is so far a lack of experimental evidence to substantiate this particular feature.

Without a rigorous grounding in fundamentals of physical geometry, one dare not trust one's judgment to such bolder enterprises. Without the kind of mastery of constructive physical geometry which is profoundly consistent with socratic method, the rule should be great self-doubt, and great cautiousness.

The price to be paid to reach the empyreal delights of effective boldness, is ruthless and exhaustive rigor in mastery of fundamentals.

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