

# EIR

Executive Intelligence Review

October 9, 2020 Vol. 47 No. 41 [www.larouchepub.com](http://www.larouchepub.com) \$10.00

## How the Top 1% of Americans Think





Founder: *Lyndon H. LaRouche, Jr. (1922–2019)*  
Editor-in-Chief: *Helga Zepp-LaRouche*  
Co-Editors: *Marcia Merry Baker, Paul Gallagher,*  
*Robert Ingraham, Tony Papert*  
Managing Editor: *Stephanie Ezrol*  
Editorial Staff: *David Cherry, Charles Notley*  
Technology: *Marsha Freeman*  
Transcriptions: *Katherine Notley*  
Ebooks: *Richard Burden*  
Graphics: *Alan Yue*  
Photos: *Stuart Lewis*  
Circulation Manager: *Stanley Ezrol*

#### INTELLIGENCE DIRECTORS

Asia: *Michael Billington*  
Economics: *Marcia Merry Baker, Paul Gallagher*  
History: *Anton Chaitkin*  
Ibero-America: *Dennis Small*  
United States: *Debra Freeman*

#### INTERNATIONAL BUREAUS

Berlin: *Elke Fimmen*  
Copenhagen: *Tom Gillesberg*  
Lima: *Sara Madueño*  
Melbourne: *Robert Barwick*  
Mexico City: *Gerardo Castilleja Chávez*  
New Delhi: *Ramtanu Maitra*  
Paris: *Christine Bierre*  
Stockholm: *Ulf Sandmark*  
United Nations, N.Y.C.: *Richard Black, Leni Rubinstein*  
Washington, D.C.: *William Jones*  
Wiesbaden: *Rainer Apel*

#### ON THE WEB

e-mail: [eirms@larouchepub.com](mailto:eirms@larouchepub.com)  
[www.larouchepub.com](http://www.larouchepub.com)  
[www.executiveintelligencecereview.com](http://www.executiveintelligencecereview.com)  
[www.larouchepub.com/eiw](http://www.larouchepub.com/eiw)  
Webmaster: *John Sigerson*  
Assistant Webmaster: *George Hollis*  
Editor, Arabic-language edition: *Hussein Askary*

---

EIR (ISSN 0273-6314) is published weekly  
(50 issues), by *EIR News Service, Inc.*,  
P.O. Box 17390, Washington, D.C. 20041-0390.  
(571) 293-0935

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

**Montreal, Canada:** 514-461-1557  
[eir@eircanada.ca](mailto:eir@eircanada.ca)

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

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

Copyright: ©2020 EIR News Service. All rights reserved. Reproduction in whole or in part without permission strictly prohibited.

Canada Post Publication Sales Agreement  
#40683579

**Postmaster:** Send all address changes to *EIR*, P.O. Box 17390, Washington, D.C. 20041-0390.

Signed articles in *EIR* represent the views of the authors, and not necessarily those of the Editorial Board.

# How the Top 1% of Americans Think

## EDITORIAL

STOP WORLD WAR III

# How the Top One Percent of American Citizens Think

by Lyndon H. LaRouche, Jr.

*What would Lyndon LaRouche be thinking about today's crises? In times when it seems that everyone would like to lose their heads, it is always useful to return to Lyndon LaRouche, who would urge profound calm and reflection as to where things stand in the world overall and staying our course: the President must win the election with LaRouche's ideas brought to the forefront by a population embracing its role in the republic as intelligent citizens. We present here [excerpts](#) from Mr. LaRouche's "How the Top One Percent of American Citizens Think."*

We in the United States, not merely because of the power of the United States, despite our wrecked condition today, but because of our tradition and heritage, have a unique responsibility, a moral responsibility on this planet. We're the only nation-state thus far which was formed and founded and dedicated to this principle, that every man and woman is made in the image of God, and that we must have a system of social relations, and law, which is based upon that as the fundamental governing principle of the nation-state. That is what the nation-state properly exists to enable.

Despite the fact that we have turned rotten at many times in our history; as we saw as the case with Lincoln's leadership during the middle of the last century, we see that, embedded in us, we have this heritage, this legacy, which we have found it possible to summon



White House/Tia Dufour

*President Donald Trump boarding Air Force One at Joint Base Andrews, September 18, 2020.*

forth from within us, in certain times of crisis. It was decades from the time the United States had a patriotic government, until Lincoln was elected. From the time of the end of the administration of John Quincy Adams, we had no patriotic government of the United States. The Presidency was occupied by fools and traitors: Jackson and Van Buren; the worst of them, of course, were Pierce and Buchanan, and, of course, our dear friend, who made the war with Mexico.

But, in Lincoln's time, decades after that, after all this evil that occurred, Lincoln was able to call forth the principles upon which the republic was founded, in a time of crisis, to rebuild the nation. Then we were corrupted again: We got Grover Cleveland. Grover Cleveland was a spawn of the Confederacy, a thor-

oughly evil man. And the fact that he could be elected, indicates that evil had taken over the country. Teddy Roosevelt was a spawn of the Confederacy. He was our first Jim Crow President, and he fully deserved that name. He was a filthy character, an evil man, who got his job by assassinating his predecessor, or having it done for him. Woodrow Wilson, who, while President of the United States in 1915, *refounded the Ku Klux Klan in the United States, personally, from the White House*. Calvin Coolidge, who was no better. Hoover wasn't so bad, he was just a Republican, and that wasn't too good.

Then you had Roosevelt, who, in a time of crisis, was able to call forth from those of my generation, that same dedication as from Lincoln's time. As a matter of fact, you recall: If you studied in the northern states, in particular, how many of you of my age, or approximately that, say, in the eighth grade, learned the Gettysburg Address? How many of you went to war with the image of Lincoln in your mind? How many of you in that time looked at what we saw overseas, in the world around us, through the eyes of memory of Lincoln? How many of us identified our patriotism with Lincoln? And that began to end in about 1963, with the assassination of Kennedy.

The civil rights movement was energized—why? By my generation coming into the White House, in the form of Jack Kennedy. And Jack Kennedy, with whatever else he was, represented a *revival* of our commitment during the war, to deal with evil as we saw it in the world, the evil which Truman had allied us with, and the evil which Mr. Eisenhower did not want to deal with, because he had two loyalties, the United States and the British, and he was always conflicted on those issues.

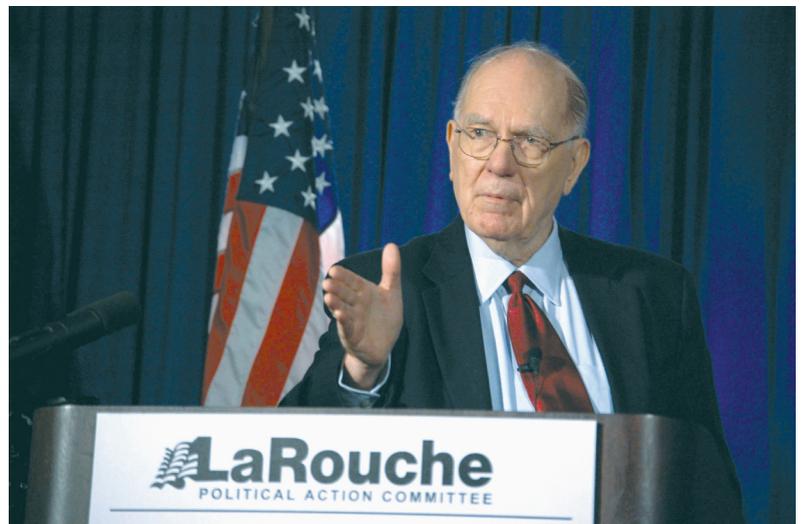
So, we have this within us still. And I would hope that those of you who sometimes feel weakened because you're in your seventies, or sometimes older, realize that you are extremely important, and you have a resource in the fact that you have embedded in you, the ability to call forth that legacy. ...

### The Issue of Leadership

There are some people who say we should submit, I should draft, or so forth, or we should submit to Wash-

ington a complicated plan, which tells the Clinton administration what they have to do on Day Minus Two, Day Minus One, Day Zero, Day One, Day Three, and so forth, in dealing with this monetary crisis. That obviously won't work; because, first of all, Clinton is not capable of doing that. And besides, situations are going to be much more complicated and much more fluid, so that you can't plan in that mechanistic way, in any case. ...

And you're not going to do it by submitting a secret plan to Bill Clinton. Because he's not capable of carrying it out, and if he were capable of carrying it out, it probably still wouldn't work, because the complexities of a human situation, the complexities of the planetary situation are such, that you can not work that way. You



EIRNS/Stuart Lewis

Lyndon LaRouche addresses a LaRouche PAC webcast event in Washington, D.C., January 22, 2009.

have to have a much more flexible approach, which is applying to economics and politics, the principle which is called the *mission tactic*, in terms of military command. ...

Mission tactics work, on the assumption in the military field, that your commanders, including down to the platoon sergeant level generally, and the corporal who's bucking for platoon sergeant, each understands and accepts a system of belief, which constitutes the axioms of military combat decisions, and logistical decisions. Therefore, if that is developed in that commander, that non-com or officer, then you can rely upon that non-com and officer, in that degree, to respond to an unusual situation, with an appropriate response. And it's to the degree that that system was introduced in Germany,

that the German platoon sergeant was considered the leading combat soldier of Europe. ...

But the key thing in this whole business, is not the romance and glory, and clash of arms. The key thing is: Have you introduced the proper axiomatic assumptions on which the people who are going to make the decisions, are going to operate? That's what I've dealt with today. I've dealt with, in a preliminary fashion, identification of the axiomatic assumptions about the nature of man, the nature of ideas, the nature of economy, which govern the way that anybody who is going to run an economy or deal with an economy, is going to react.

In other words, if I wanted to create an army of people, who were going to go out there and take this economy over, and run it for the people: You want people who are going to respond to a situation, to make decisions that conform to certain axioms, or axiomatic beliefs. And they're going to have to know how to change and improve those axiomatic beliefs.

### **Our Function**

But the trick here is, you have to have people who think in terms of not of formalisms, but in terms of mission tactics. In terms of: What is the nature of man?

Is man a creature made in the image of God, by virtue of the power of cognition? What does that mean? What do you do to ensure that that capacity of cognition is developed in all people? Education. What does that mean about family policy? What does that mean about wages policy? What does that mean about libraries? What does that mean about classroom size? What does that mean about the kind of employment you want in your community? What does that mean about what you're going to pay for, in terms of employment, or not?

Are you going to allow support groups infesting your schoolroom? You're not going to allow support groups anywhere near a schoolroom. You're going to keep child molesters and support groups away from schools; and people who pass out Ritalin, and things like that. Because you're going to think in terms of these values. You're going to think about *more*; you're going to think about increasing the productive powers of labor. You're going to try to think about how you get these funny people, who seem to have very strange behaviors, to see themselves as human, to shape society so the guy in the street, who's acting like an animal, if he can be rescued, can be rescued, to recognize himself as human.

# LaRouche and Trump: The Time for Reckoning Is Now

Oct. 5—On October 6, 1986, 34 years ago Tuesday, 400 federal and state law enforcement agents swept into Leesburg, Virginia, along with privately owned tanks marshalled by Middleburg, Virginia Hunt Country scion Magalen Ohrstrom Bryant, on standby. Ostensibly, the assault was in order to serve outrageously overbroad federal and state search warrants on entities associated with Lyndon LaRouche.

The original warrants did not target LaRouche personally, lacking even made-up pretexts to do so. Two members of LaRouche's security team were arrested along with a fundraiser for the LaRouche movement, based on an indictment issued under the auspices of Robert Mueller, then U.S. Attorney in Boston. This is the same Robert Mueller who conducted the baseless witch hunt against Donald Trump and those associated with the President.

The documents seized in the raids were taken to a military base, Henderson Hall at Ft. Myer, hardly the normal process for securing documents seized under search warrants. The pretext for doing so, that the LaRouche movement would somehow penetrate anything less than a fortified Marine base and steal the documents back, was laughable, and yet that is the reason which appears in federal documents about why this was done. Later it turned out, that the tanks controlled by Herb Bryant, Mrs. Bryant's son, were actually procured by Colonel Tom Harvey, a military aide to Vice-President George H.W. Bush.

FBI and Virginia State Police agents, including a heavy SWAT unit, surrounded the farm where Lyndon LaRouche and Helga Zepp-LaRouche were staying. Helicopters buzzed repeatedly overhead. The news media broadcast that soon there would be an armed entry into the farm. LaRouche sent a telegram to President Reagan urging his intervention and, suddenly, those surrounding the farm stood down.

Subsequent government documents and testimony revealed that a second search warrant had been sought for entry to the farm, but never materialized. Loudoun County Deputy Sheriff Donald Moore confessed years later, to an FBI informant, that the plan was to enter the farm and kill LaRouche in a provoked firefight. All of this was done against people former Attorney General Ramsey Clark aptly characterized as "book people." The ideas of Lyndon LaRouche had had a profound impact on the American people and his movement was expanding. The secret government had decided to stop him and his movement at whatever cost. A subsequent Freedom of Information Act (FOIA) document revealed that all of this was instigated on the basis of a demand from the British government.

This country has been facing a similar, completely extralegal assault against Donald Trump and his supporters for four years now. The efforts of the President and his Attorney General, William Barr, to stop what amounts to a cold coup against the Presidency of the United States have been stalled at every turn by an intelligence community seeking to cover up the crimes it committed in a headlong and reckless effort to prevent Trump's election, while fighting to continue the national security and economic policies which have destroyed the United States. John Brennan, Obama's CIA Director, testified to the Congress that the British, as early as 2015, were demanding an investigation of Trump. That demand was clearly based on the President's desire to work with Russia on terrorism and to end wars.

On Sunday, October 4, Congressman Devin Nunes, the ranking member of the House Intelligence Committee, said that he has seen what he calls evidence of bombshell criminality by the intelligence agencies working for Barack Obama. This evidence has been

## **EDITORIAL**

cued up for declassification by Director of National Intelligence John Ratcliffe. Other evidence of criminality, already seen by members of Congress, has been blocked from being shared with the public under the rubric of “classification.”

Nunes said that the intelligence community should be shut down if it continues to block the efforts of Ratcliffe and others to declassify evidence of crimes which have been committed, and defamatory myths which have been invented and peddled by a controlled news media, in the effort to defeat the Trump presidency. Extant executive orders and regulations prevent classification of documents based on potential embarrassment to agencies or to cover up crimes. Congressman Nunes is correct, and the games being played must stop. The American people need to know about this before they cast their votes for President.

According to the Congressional testimony of former CIA Director John Brennan, the jihad against Donald Trump was instigated by the British because Trump sought a rational relationship with Russia. Following the election, the implicated Obama Administration officials, fearing they would be caught, and determined to subvert the clear message of Trump’s election—stop the endless wars, end globalization, rebuild the United States—continued their military-grade information-warfare campaign to turn the population on the President. The head of the FBI, James Comey, set out to frame the President himself for obstruction of justice, and when Trump fired him, the dirty prosecutor, Robert Mueller, was brought in to continue the assault.

Nothing illustrates this better than the case of Lt. General Michael Flynn. Flynn was the most significant “scalp” procured by Robert Mueller when Flynn signed a plea deal in December of 2017. But, it now turns out, everything about this case was rigged from the start to frame a man who was innocent of the charges. Every

aspect of the evidence proving Flynn’s innocence was deliberately withheld from Flynn’s defense team.

Obama dictated the prosecution of Michael Flynn personally, in an Oval Office meeting on January 5, 2017, after the FBI had cleared General Flynn. His reasons? Mike Flynn knew all about the secret government which has held this nation hostage. He had vowed to totally reorganize the intelligence community. He advocated working with Russia on areas of mutual concern, like terrorism. Like Smedley Butler who called out the Wall Street coup against Franklin Roosevelt, Lt. Gen. Michael Flynn, who was director of the Defense Intelligence Agency (2012-2014), had personally exposed Obama’s planned war crimes in Syria, supporting and arming the terrorist groups Al-Qaeda and Al-Nusra along with other Sunni extremists. He had accurately predicted the rise of ISIS from Obama’s Syria fixations, complaining so loudly and openly that Obama fired him. He could prove that the “deliberate decisions” of the Obama Administration caused the rise of ISIS and all the carnage which followed in its wake.

Now, Flynn still twists, after the Justice Department moved to dismiss the charges and refused any further prosecution. A federal judge, Emmet Sullivan, a close friend of Obama’s wingman, Eric Holder, is trying to prosecute the case himself, from the bench, violating the Constitution’s separation of powers, while the media cheers him on.

Congressman Nunes is right. The charade must end now. All of the materials identified by the House in its investigation, and by John Durham and John Ratcliffe in their subsequent investigations, as well as other documents detailing the cold coup against the President, must be declassified now, before the election. The American people must have the opportunity to absorb their meaning. Nothing less than the Constitution of the United States is at stake.

## Cover This Week

*Lyndon LaRouche speaks with members of the LaRouche Youth Movement during a webcast on July 20, 2006 in Washington D.C.*



EIRNS/Stuart Lewis

### **HOW THE TOP 1% OF AMERICANS THINK**

2 EDITORIAL

#### **How the Top One Percent of American Citizens Think**

by Lyndon H. LaRouche, Jr.  
January 17, 1998

5 EDITORIAL

#### **LaRouche and Trump: The Time for Reckoning Is Now**

### **I. Ending Obama's Era of Treason**

#### **8 Why Don't They Give Up on Flynn? Because It Leads Right to Obama/Biden**

by Barbara Boyd

#### **11 NASA: Creating \$11 Billion R&D Investment, \$65 Billion Economic Production Yearly**

by Paul Gallagher

### **II. Seizing Today's Historic Opportunity**

#### **13 How to Think in a Time Crisis—Take a Cue from Beethoven**

by Helga Zepp-LaRouche

### **III. Discovering Real Human Potential**

#### **21 SCHILLER INSTITUTE YOUTH CONFERENCE Creativity in the Age of Artificial Intelligence**

by Chérine Sultan

#### **25 SCHILLER INSTITUTE YOUTH CONFERENCE Hearing Great Beauty: Beethoven and Helen Keller**

by José Vega

#### **28 LAROCHE PAC DIALOGUE My Question Is: What is Truth?**

### **IV. Creativity in Chinese Culture**

#### **30 Only a Global Renaissance Can Prevent War and a New Dark Age**

by Michael Billington

#### **32 The Science and Technology that Ancient China Taught the West**

by Robert Trout and Michael Billington

---

# I. Ending Obama's Era of Treason

---

## Why Won't They Give Up on Flynn? Because It Leads Right to Obama/Biden

by Barbara Boyd



Gage Skidmore

*Lieutenant General Michael Flynn (USA ret.) at a campaign rally for Donald Trump at the Phoenix Convention Center, October 29, 2016.*

Oct. 4—There was a meeting at the White House, on January 5, 2017, involving Joe Biden, Sally Yates, Barack Obama, James Comey, and Susan Rice. Despite Comey's efforts, in testimony before the Senate Judiciary Committee on September 30, to blow off the significance of the notes of this meeting, it is clear from the notes and the now-disclosed chronology, that Barack Obama and Joe Biden were directly complicit in the decision to go ahead and frame Lt. General Michael Flynn. They proceeded despite knowing that an extensive FBI investigation had revealed that Flynn had committed no crimes whatsoever. That is why Susan Rice wrote a false exculpatory note to herself on Inauguration Day, 2017 about this very meeting, "for the file." In it she says three times that Barack Obama dictated that people "proceed by the book."

That is one track which tells you that the Flynn



CC/Kaveh Sardari

*Susan Rice, Obama's National Security Advisor, July 30, 2014.*



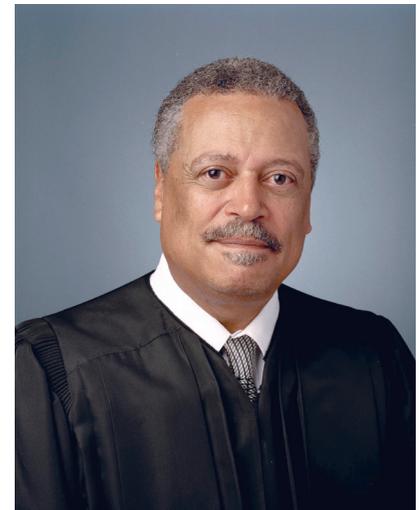
White House/Pete Souza

*President Barack Obama and Vice President Joe Biden, July 21, 2010.*



White House/Chuck Kennedy

*President Obama and his “wingman,” Attorney General Eric H. Holder Jr., September 25, 2014.*



U.S. District Court for D.C.

*United States District Court Judge Emmet G. Sullivan, in 2012.*

case goes so far to the top that it cannot be given up by Barack Obama, or his wingman, former Attorney General Eric Holder, the actual force sending Judge Emmet Sullivan into paroxysms of Trump Derangement Syndrome, abandoning any pretense of being an actual judge sitting in the U.S. District Court for the District of Columbia.

Another track involves the report this week, that CIA Director Gina Haspel is blocking the declassification of documents essential to uncovering the full scope of the operation against the Trump Campaign and the Trump presidency. These are documents which Director of National Intelligence John Ratcliffe has cued up for release. Haspel was the CIA Station Chief in London during the British/NATO/Obama spying operations against the Trump Campaign.

In appearances on Fox Sunday Morning Futures on October 4, ranking House Intelligence Committee member Devin Nunes suggested that the public demand that the intelligence agencies be shut down until these “smoking gun” documents are revealed.

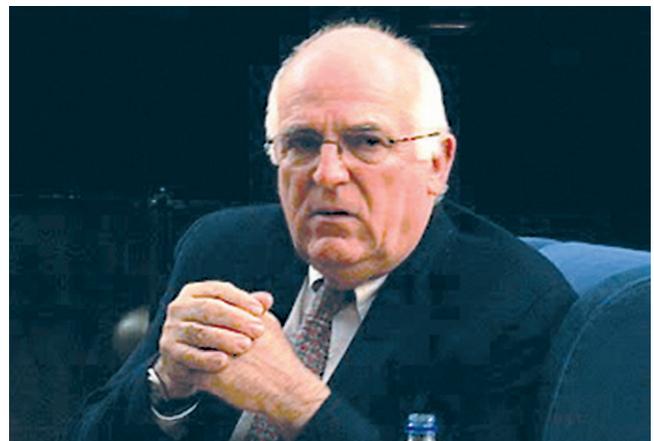
Operations against Lt. General Michael Flynn emanating from British and NATO intelligence began as early as a February 2014 dinner Flynn attended at the UK’s Cambridge Intelligence Seminar at the invitation of Sir Christopher Andrew, the official MI5 historian, and Sir Richard Dearlove, the former head of MI6. Dearlove and his nest of spies at the Jackson Society and Hakluyt & Co., are deeply implicated in operations against Trump and the all-out British attempt to swing the 2016 election to Hillary Clinton.

Following the dinner, Dearlove, Andrew, and FBI/



C-SPAN

*CIA Director Gina Haspel, January 29, 2019.*



Public domain

*Sir Richard Dearlove, KCMG, OBE, head of the British Secret Intelligence Service (MI6) from 1999 until May 6, 2004.*

MI6 spy Stefan Halper invented the deranged and outrageously false claim that a 20-minute conversation Flynn held at the dinner with Russian intelligence historian Svetlana Likhova constituted an affair and a compromise of Flynn by the Russian government. They spread this lie relentlessly throughout the Five Eyes intelligence community.

The reason Obama and his British controllers can't let Michael Flynn go, stems from his full exposure of their war crimes and thwarting of their plans for Southwest Asia, which would have effectively blown up the world. This refers to events that preceded the 2014 defamation operation set into motion at the Cambridge dinner. Flynn had been critical in the August 2013 intervention of then Joint Chiefs Chairman, General Martin Dempsey, that prevented Obama from carrying out a massive bombing campaign and genocide in Syria. Obama's planned obliteration of the country was based on a British-orchestrated, false-flag chemical weapons attack in Syria that Obama and the British blamed on Assad.

Flynn has always advocated joint operations with Russia against terrorism, a sound strategic position completely at odds with the British-stirred jihad for regime change against Putin, a full court press by NATO and London since at least 2011.

In a series of 2012 reports from his post as head of DIA, Flynn documented in excruciating detail how the Obama campaign to overthrow Assad in Syria, using Al-Qaeda and Al-Nusra terrorists and arming them from Col. Qaddafi's former Libyan arsenals, with both major Saudi and Turkish support, would result in the formation of ISIS and the formation of a caliphate involving both Syria and Iraq.

The terrorists Obama was hurling at Bashar Al-Assad were provided arms through a CIA operation that used the U.S. consulate at Benghazi as an arms depot. Having set Libya permanently aflame by assassinating Qaddafi, the White House and State Department armchair generals were on a course from which the destruction of Syria, the flight and deaths of tens of thousands of Syrian refugees, and the death of civilians there as well as the armed confrontation with Russia were the most predictable outcomes.

According to the [article](#), "Military to Military," by Seymour Hersh in the *London Review of Books*, in an extraordinary effort to prevent this, the U.S. Joint

Chiefs of Staff worked with third-nation intermediaries, to provide intelligence to the Syrians and the Russians so that they would be in position to fight the Obama/British sponsored terrorists.

After he was fired, Flynn served as a source for Hersh's devastating exposé of Obama's arming of the terrorist Al-Qaeda and Al-Nusra formations in Syria. See the [article](#), "The Red Line and the Rat Line."

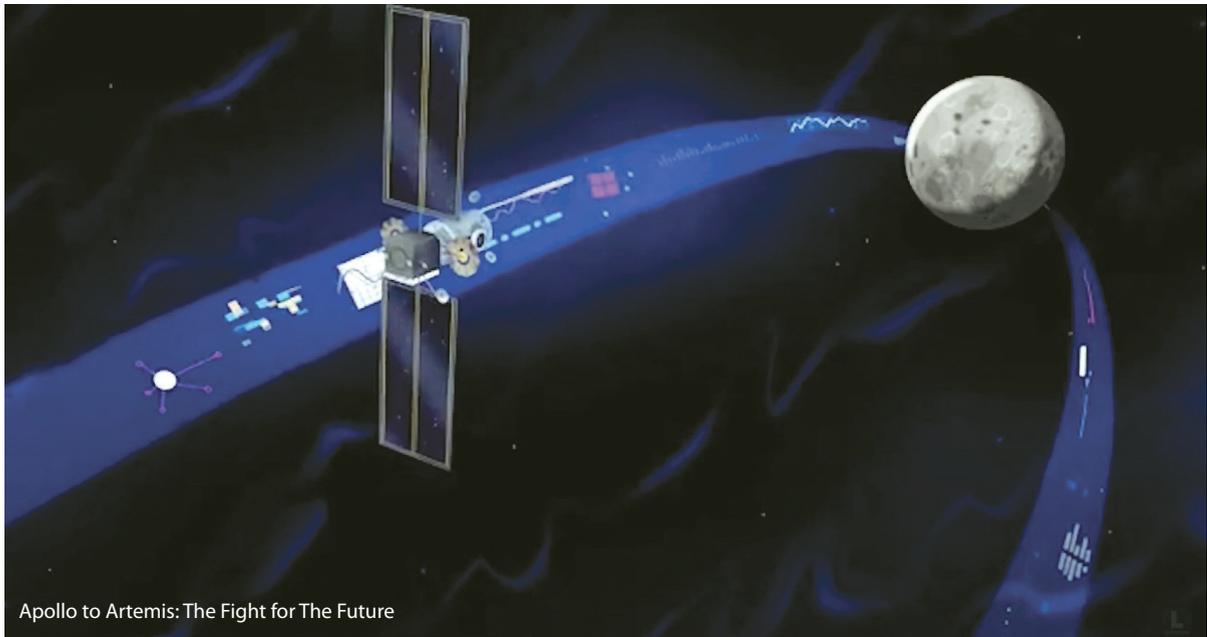
He, along with others, also told Hersh about the Joint Chiefs' extraordinary effort to neutralize Obama's buildup of the terrorists and path to war. Among the other extraordinary disclosures made by Hersh was that Al-Nusra had developed facilities to produce sarin gas and other biological and chemical weapons, giving the lie to the endlessly repeatedly core British/Obama claim against Assad—that he was gassing his own people.



Anonymous Syrian video  
"Rebel" group Ansar al-Shariah pledges allegiance to Jabhat al-Nusra (al-Qaeda in Syria).

Flynn did not stop there—he kept talking about Obama's crimes to media throughout the world, including an interview with *Al-Jazeera* on July 31, 2015. In that interview he noted that only massive economic development could solve the problems of Southwest Asia. Flynn called for widespread nuclear power development in the area, under appropriate supervision. See the [article](#), "Gen. Michael Flynn, Benghazi, and Why Obama Must Be Removed," published in *EIR* in 2015.

It is this background which led Obama to direct personal involvement in the Flynn case, instead of delegating his criminal operations to others. It is in the reactions to Flynn's interventions, beginning in 2012, that the paper trail will be found to this and other major crimes. None of it should be considered beneath investigation and declassification, or be shielded from public knowledge.



LPAC video

# NASA Creating \$11 Billion R&D Investment, \$65 Billion Economic Production Yearly

by Paul Gallagher

Oct. 1—The scientific and space activities of NASA, in 2019, with the Artemis Moon-Mars mission only beginning development of many of its systems, were already generating \$65 billion in economic activity and supporting 312,000 skilled jobs in the U.S. economy, according to a study released Sept. 25 for NASA by the University of Illinois at Chicago and the Marshall Space Flight Center. Thus, NASA was creating

\$3 in economic and research activity for every dollar in its budget. The Artemis program alone generated \$14 billion in economic activity, 69,000 jobs and \$1.5 billion in federal taxes—that tax revenue alone equal to 30% of the Artemis budget for Fiscal Year 2019.

The study found that NASA’s Moon-Mars mission activity was generating more than one-fifth of the agen-



NASA

Technicians prepare the Mars 2020 Perseverance rover sample return mission.



LPAC video animation

NASA’s Space Launch System rocket ready to lift off from Earth.

Screenshots from the LPAC video illustrate this article.



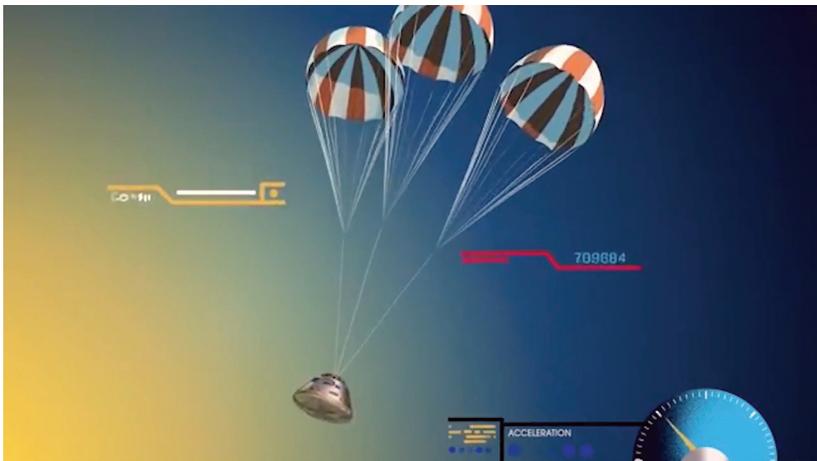
NASA

Artist's rendering of an Artemis lunar lander on the Moon's surface.



NASA

Artist's rendering of an Artemis astronaut setting up a science experiment on the lunar surface.



LPAC video animation

Parachutes deployed, the descent of the crew module is slowed, prior to splashdown back on Earth.

cy's total economic impact in 2019, and estimated it would generate 40% of that total generated economic production and research—while that total activity itself will rise rapidly—in FY 2021.

Our readers are encouraged to [watch](#) the new LaRouche PAC video, “The Key Weapon Trump Didn’t Use: Biden Will Kill Artemis and your Future,” which in 26 minutes, spans the history from Apollo to Artemis, “The Fight for the Future.”

Just a first glance at the [summary](#) of the just-released report shows that NASA’s work also created over \$11 billion in R&D investment, about 9% of total R&D spending in the entire economy in 2019—and that R&D is likely to have the greatest impact of anything it does. NASA research and development has been “spinning off” 40-50 new technologies each year, since 1975, into the U.S. and world economies. One such technology this year, referenced in the report, is the new ventilator designed at the NASA Jet Propulsion Lab for coronavirus patients, which was developed in just over a month. The blueprints were made available to manufacturers [for free](#).

Unfortunately, the “input-output” methodology of the study prohibits it from taking any such “technological spinoffs” into account in its dollar measures of increased economic activity reported above.

The Sept. 25 press release on the study (NASA Release 20-093) quoted Administrator James Bridenstine saying:

This study confirms, and puts numbers, to what we have long understood—that taxpayer investment in America’s space program yields tremendous returns that strengthen our nation on several fronts—a stronger economy, advances in science and technology, and improvements to humanity.

The full study is available [here](#).

---

## II. Seizing Today's Historic Opportunity

---

LAROCHE PAC TOWN HALL

# How to Think in a Time of Crisis— Take a Cue from Beethoven!

*This is the edited transcript of opening remarks by Helga Zepp-LaRouche to the LaRouche PAC Town Hall meeting on October 3, 2020. Mrs. Zepp-LaRouche is the founder and President of the Schiller Institute.*

Today is the 30th anniversary of German reunification; not the fall of the Wall, but the actual unification which occurred the following year. Looking back, that was the accomplishment. Were there mistakes done? We created a documentary about it called *The Lost Chance of 1989*. Since this is something that happened in Europe, and many young people probably were not yet born when this all occurred, I actually want to go into some detail of what happened leading up to that unification, what mistakes were made, and what lessons can be learned from it.

It was called by us and also others, “a stellar moment of humanity.” I don’t know if that works well in English, but in German it is *Sternstunde der Menschheit*. One of these extraordinary moments in history where it is the quality of the people on the stage at that point to use a chance and start a new era of mankind—or, if they don’t have the quality, or the objective circumstances are too powerful against which one cannot win, then it is a lost chance and things go awfully wrong.



*Demonstrators on top of the Wall near the Brandenburg Gate in divided Berlin, November 9, 1989.*

If the chance in 1989 had been used, we would not be where we are today. Because that was the moment when you could have initiated the kinds of changes which would have secured the world for the entire 21st century. I’m going to tell you about that in a second. But this opportunity was not used, and therefore, we have today an unbelievable combination of crises. We have a pandemic which is clearly out of control.

I’m not only talking about the United States. I’m talking especially about the developing countries, about which the mainstream media choose not to say so much every day. But the situation in countries like India, or continents like Africa, is actually much worse than in the so-called industrial countries. Not only do they have high infection rates, but for example, they are now in Africa hit by a famine, which the UN World Food Program head, David Beasley, has called a famine of biblical dimensions.

Then, you have the ongoing economic collapse; mass unemployment, forced short-time work. The threat of more bankruptcies to come in the coming period if government subsidies are not there, as in the case of the United States. Because the tension in the Congress did not allow Trump’s proposals to go through.

## The Chance of 1989

We are looking at an unprecedented crisis, and therefore, I think if you look back into what happened in 1989 and '90, and how that chance was not used, I think it is an urgent lesson which we can draw upon for how to deal with the crisis today.

I will go into this now in some detail. We need to think about it, because though it may have been 30 years ago, it has absolute relevance for the situation today. My late husband in 1984, as shown in video played earlier in this meeting, made the very clear prognosis that if the Soviet Union were to stay with its policies then, which meant building up heavy armaments, not paying attention to infrastructure, and rejecting the SDI proposal, it would collapse in five years. Then in 1988, he made this incredibly prophetic forecast that Germany would soon be unified, with Berlin as the capital. I can assure you, there was absolutely nobody who thought that the Soviet Union would disappear, that Germany would be unified. It was just not in people's minds.

On July 7, 1998, the German government published the official—up to that point, classified—documents about this period of the German unification. Normally these papers are classified for 30 years, but the Kohl government decided to publish them, for reasons not totally clear. In these documents—it's 1,400 pages, very worthwhile reading for people who have an historical interest—they said that in the spring of 1989, there was absolutely no indication that German unification would soon be center stage. Now remember, that was almost a year after Lyndon LaRouche



EIRNS/Dean Andromidas

*Lyndon LaRouche forecasts the collapse of the Soviet Union in a press conference at the Kempinski Hotel in West Berlin, October 22, 1988.*

had predicted German unification at the Kempinski Hotel.

In June of that year, Mikhail Gorbachev went to Bonn, which was still the capital of West Germany at that time. He was greeted with “Gorby! Gorby!” There was a complete “Gorby” mania. In the same month, German cabinet official Rudolf Seiters went to East Berlin and talked to government officials of the G.D.R. [East German] government. He immediately recognized that the G.D.R. was about to go bankrupt. That should have been the latest point at which the West German government started some contingency plans, but it did not.

The situation got worse. In June and July, it was clear that the shops in the G.D.R. were becoming empty; the supply was not there for food and other necessary products. Long lines were forming in front of the stores. Then, the refugee wave, with hundreds of people looking for shelter in the embassies of West Germany in East Berlin, in Warsaw, in Prague, in Budapest. You had hundreds of people sitting in these embassies, not being allowed to travel. The G.D.R. was preventing passports from being given to them. So the situation became completely tumultuous. In August, a secret meeting took place in Bonn, whereby the initial efforts were made, with German financing and Gorbachev's de facto agreement in the back-



Bundesarchiv/Hans Peter Lochmann

*Students from West Berlin encourage East Berliners as they cross the border, the day after the fall of the Berlin Wall.*

ground, for some of the people from the embassy in Budapest to travel via Austria into the West.

Then, some of you may remember, peaceful candlelight demonstrations started in September. They grew in October; they became bigger. Then on the 6th of October, the 40th anniversary of the G.D.R., Gorbachev met with Erich Honecker, the last head of state. Gorbachev had already introduced *perestroika* in the Soviet Union, and clearly saw that the Warsaw Pact and the Comecon countries had such incredible economic difficulties that he had to make some reforms, for which he was hated by people in the Soviet Union, but loved by people in the West.

Gorbachov recognized in the discussion with Honecker that Honecker was absolutely hopeless, that he wouldn't move. Honecker at that point made the very famous statement: "Socialism in its run will not be stopped by donkeys or oxen. Socialism will be here in a thousand years from now." It took less than two weeks before the Central Committee of the Communist Party of the G.D.R. kicked him out, because he was untenable. This was on the 18th of October.

On the 8th of November, I was in Paris at a conference. I called for a German-French initiative to appeal to the Soviet Union. Germany and France would give massive food aid and other necessary products to the Comecon countries if the Soviet Union would grant self-determination to East Germany in return. They all



Bundesarchiv/Rainer Mittelstädt

*Erich Honecker, General Secretary of the Central Committee of the Socialist Unity Party of (East) Germany (right), with Mikhail Gorbachev, General Secretary of the Central Committee of the Communist Party of the Soviet Union.*

would then cooperate in putting a new world economic order up for discussion, with debt relief for the developing countries and massive development projects for the developing sector.

One day later, Helmut Kohl, then the Chancellor of West Germany, went to Warsaw, and met with Lech Walesa, the President of Poland. The big demonstrations in Berlin and Leipzig were everybody's discussion, because they were becoming bigger—500,000, 700,000 people in the streets. In his discussion with Kohl at that point, Walesa said, "It will take only a week or two weeks until the Wall will come down." Kohl said, "Oh, no, this will not happen."

The evening of the same day, G.D.R. government member Günter Schabowski held a press conference, saying something like the borders are open. Not exactly, but he was understood like that, so everybody rushed to the border. This was an involuntary opening of the border, but once people were in motion by the thousands and tens of thousands, the borders got open.

Then you had these incredible scenes where people were dancing on the Berlin Wall, they were kissing and lying in each other's arms. These were families which had been separated for decades. So, it was an unbelievable moment.

We were the only people who knew what to do. As I said, these documents



Bundesarchiv/Wolfgang Thieme

*A massive demonstration for political reforms in front of the town hall in Plauen, East Germany, October 30, 1989.*

of the German government said there was no contingency plan, despite the fact that German unification was *the* most important question in the entire postwar period—supposedly. But when it actually happened, there was no plan on what to do. But we did, because of Lyn’s famous speech in the Kempinski Hotel, and subsequent discussions about the need for a crash program for the development of Poland, which was in deep economic trouble.

Our idea was that the unified Germany would use, among other things, the industrial capacities of the G.D.R., which was, after all, a heavily industrialized state, to help modernize all the countries of the Warsaw Pact. This was a plan which we had discussed, and I wrote a leaflet on the 15th of November, encouraging exactly that proposal.

Then, very quickly, it dawned on the West German government that something was really up. On the 21st of November, Cabinet advisor Horst Teltschik met with Portugalov, his Soviet counterpart. Suddenly in this discussion, Teltschik discovered that the Soviets were much more willing to discuss German unification than even the West German government. On the 28th of November, one week later, Helmut Kohl published his famous ten-point program, which was a plan for a confederation of the two German states, not yet the idea of German unification, but just to have a confederation.

### The First Assassination

Even that was too much for the powers that be, because Kohl had not consulted with the British, the Americans, the French, not even with his government coalition partner, the liberal Free Democratic Party. Three days later, the incredible assassination took place of Alfred Herrhausen, who was the chief of Deutsche Bank, the largest German bank, and a close advisor to Kohl.

Herrhausen had a completely different policy than Deutsche Bank does today. He talked about a Marshall Plan for Eastern Europe after the Wall came down. He talked about debt cancellation for the developing countries. He wanted to develop Poland on the model of the Kreditanstalt für Wiederaufbau [Credit Institute for Re-

construction], which was the credit institution based on [President Franklin Roosevelt’s] Reconstruction Finance Corporation, in the postwar period.

So Herrhausen was crucial and very close to what we were proposing. He was assassinated by the so-called Baader-Meinhof Gang, or the Red Army Fraction (RAF), a terrorist gang, although no one really knows if the so-called third generation of that terrorist group really existed. This was a signal to all members of the Western establishment to not dare go it on their own, to not have consultations and agreements with the Soviet Union, or you may be next. The parallel was



Bundesarchiv/Lothar Schaack



Deutsche Bank/Josef Heinrich Darchinger

*West German Chancellor Helmut Kohl’s (left) bold move to begin German reunification negotiations with the Soviets was met with assassinations of Alfred Herrhausen (Deutsche Bank) (right) and Detlev Rohwedder (Hoesch steel), the banking and industrial figures who could have made reunification work financially and economically.*

made that the Herrhausen assassination was for Germany what the assassination of John F. Kennedy was for the United States. It meant a paradigm shift. That parallel was not very wrong.

### U.S., France, Britain Impose Conditions on Unification

In the beginning, Kohl had no intention of giving up the German currency, the deutschmark (D-mark). He knew that you could not have a common currency without a political union. You could not start with an economic union and then have the euro, and then follow with a political union; he knew this would not function.

At a meeting with U.S. Secretary of State James Baker, Kohl said “I know I’m being asked to act against German interests on this D-mark question.” The Bush position—Bush, Sr. at that point—was against unification, but they were advised by some senior political advisors that if the United States stood against German unification in this moment, it would lose all influence.



EIRNS/Stuart Lewis



*With Herrhausen and Rohwedder dead, UK Prime Minister Margaret Thatcher and French President François Mitterrand ganged up on Kohl, so that in order to get reunification, he agreed to a European common currency (the euro) and otherwise to the British monetarist policies contained in the Maastricht treaty of 1992.*

UK Prime Minister Margaret Thatcher was on the record; she absolutely hated it. She said in an interview later that the British interest in 1990 was the same as the glory of the victorious powers in 1945. She said at a special EU summit in Strasbourg, “We defeated you twice, and now you are back here again.” She instructed her Transport Minister Nicholas Ridley to start a “Fourth Reich” campaign against Germany, which was really unbelievable. The Antifa was deployed against German unification; clearly the *cui bono* was the British. Thatcher also told Gorbachev that German unification was absolutely against British interests.

At the summit of the EU in Strasbourg in December, Kohl later called this the darkest hour of his political life, because everybody ganged up on him. Finally he capitulated; he agreed to the euro, to a European common currency—in that way, he submitted to the idea that Germany must be contained by integrating it into an EU which, from Maastricht on—this was a treaty in 1992—would be completely on the line of British monetarist policies. This led to a situation I will come to in a second.

### The LaRouche Productive Triangle Plan for Development

We kept organizing with our program. In discussions with Lyn, by tape in part, because he was in jail, we worked on a program to connect Paris, Berlin, and

Vienna, a territory the size of Japan, with the most industrial capacity of the world at that time, to beef that up through modern infrastructure. Maglev trains, other high-speed plans like the pebble-bed nuclear reactor. Beef up the entire region. Build infrastructure corridors connecting Berlin with Warsaw, with Kiev, with the Balkans. In that way, bring the infrastructure and modernization into Eastern Europe.

This proposal, if implemented would have meant, among other things, keeping the industrial power of East Germany and using it for the development of the rest of Eastern Europe. This was highly appreciated by German industry, but it ran into the fierce opposition of the British. French President François Mitterrand threatened war against Germany, according to some official documents. At that point, we wrote this proposal, this program, and we had it out in January 1990. This was a period

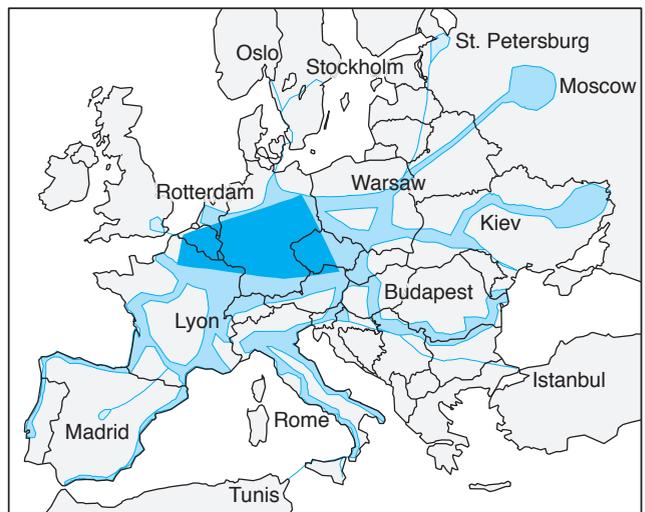
when people were really ready for profound ideas. It was a Shelley moment, so to speak.

At Christmas 1989, German TV performed two times Beethoven’s *Ninth Symphony*, and nobody complained to hear the same program twice, because people were elevated. They were ready to become better people during a very short period of time. It’s important to understand that such moments in history arise.

Then, we started to promote this Productive Trian-

### Development corridors of the Productive Triangle

EIR program of 1990



gle proposal. I wrote many letters to Kohl, to the ministers. We had hundreds of seminars in all cities; people were absolutely in favor of it, and in a certain sense, it was really a possibility that could have been implemented. We thought that if this program were to be realized, it would become the motor for the world economy to bring about the kinds of changes Lyn had been fighting for all his life.

In spring 1990, Amelia Boynton Robinson and Rev. James Cokley came. They addressed the mass demonstrations in Halle, and in Berlin.

They gave many speeches to seminars in East German cities. In a certain sense, it was ready to go. Even in May 1990, there were still speeches given by the President of Germany, Richard von Weizsäcker, saying this is the outstanding historical chance of 1989. It would have been possible to implement this.

But then absolutely fierce opposition came from France, from Great Britain. In 1991—when we organized in Berlin a huge conference which had hundreds of top-level people from the Soviet Union, from Eastern Europe—it was on the edge of being a realistic option.

### A Second Assassination

On the 1st of April, a second major figure in Germany was assassinated—[Detlev] Rohwedder. He was the CEO of Hoesch, of one of the largest steel plants. He was an excellent economist, and he was put in charge of the transformation of the state-owned industries, privatizing them through the government agency known as the *Treuhand*. He had the idea of putting human beings first, to keep the jobs at all costs; privatize only if it's socially agreeable and if alternative



EIRNS  
U.S. civil rights leader Amelia Boynton Robinson sings We Shall Overcome with East German youth, April 1990.

jobs can be found. He was assassinated by the so-called third generation of the Baader-Meinhof Gang, which no one has ever seen, and which in all likelihood was some secret service intelligence operation.

The *Treuhand* then was put into the hands of Birgit Breuel, representing banking interests, who privatized like crazy. She did the same to Germany as was done by

Jeffrey Sachs to the Soviet Union and the entire Comecon. This was a form of genocide, causing utter devastation.

That is why on the 30th anniversary of German unification, there are many people in East Germany who think this was the worst thing which could have happened. There is no real German unity. Some people made it out of East Germany, and they are happier, but there is a large segment of people in East Germany who are completely unhappy.

We went to East Germany then. We went to Poland, to Hungary. We met wonderful people. I was invited by the organization of political prisoners from 1956 from the Hungarian uprising; many friendships developed. We organized many things.

The decision to go for the shock therapy, to completely



EIRNS/Conor Soules  
After reunification of Germany, under so-called “shock therapy” imposed by U.S. economist Jeffrey Sachs, the entire Comecon was reduced to a state of ruin and immiseration. Shown here, street vendors in St. Petersburg, Russia, November 1999.

dismantle the industries of Eastern Europe, was a wrong decision. It led to the horrible years of the Yeltsin period, which many people think was a decade of genocide against Russia.

All the promises made to Gorbachev to never expand NATO to the borders of Russia very quickly started to be broken, because [Vice President Dick] Cheney in 1992 decided that never would any country be allowed to surpass the United States in economic power or military might. They started the policy of regime change, color revolution, pushing the borders of NATO closer and closer to the Russian border, up to the point where we are now on the verge of World War III.

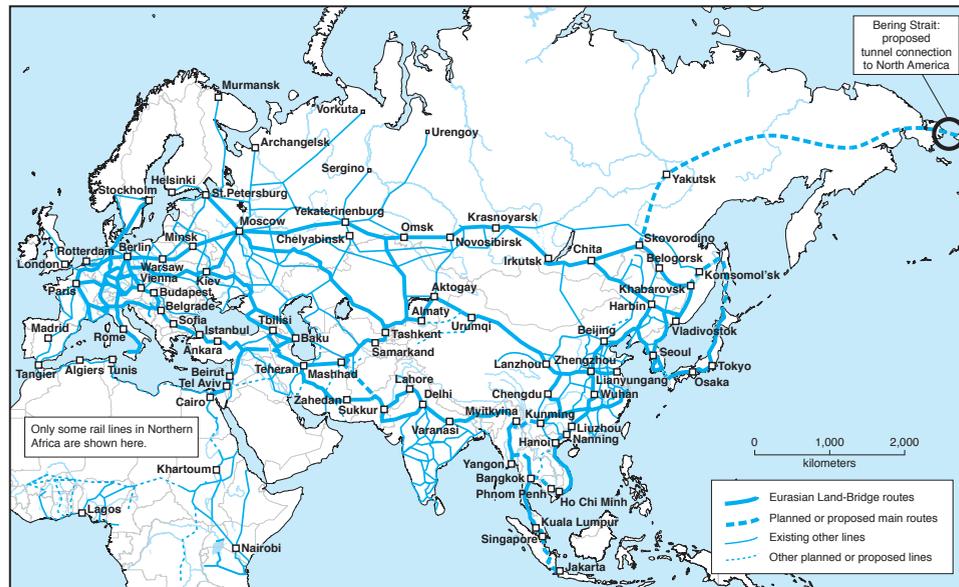
NATO is having maneuvers only 10 km from the Russian border. You have these incredible flight operations where B-52 bombers are almost penetrating Russian airspace, being then sent away by Russian jets. These are extremely dangerous maneuvers. The same thing is going on in respect to China.

Let me tell you about what Lyndon LaRouche had to say nine years after his speech in 1988 in a subsequent speech. He talked about his Kempinski Hotel speech and reviewed what happened given that the policy he had proposed was not implemented. He said that from his present position, he was warning—that the United States must succeed in entering the path of developing a Chinese-American partnership, or the entire civilization will collapse and go into a process of disintegration. This is the policy of the New Silk Road.

### The Productive Triangle Becomes the Eurasian Land-Bridge

After the Soviet Union collapsed in 1991, we extended this program of the Productive Triangle to become the Eurasian Land-Bridge, connecting the industrial and population centers of Europe with those of Asia, which then became the New Silk Road, which is now a reality in much of the world. Lyn endorsed that policy in 1998, and he says in that latter speech: If this

Main Routes and Secondary Routes of the Eurasian Land-Bridge



policy, as my wife and other collaborators were presenting it from 1991 on, were implemented, then the present spiral of collapse of a disintegrating world financial system would not have developed.

This policy is the only alternative to a collapse into a new dark age, as we have seen it with the collapse of the banking system in Europe in the middle of the 14th century. He asked, who would back up his prognosis to prevent the catastrophe which can be prevented, and of which he was warning. For a victory, it would be sufficient if only one patriot among 100 citizens were to do so, like in Gideon’s army, and take a leading role in the defense of this matter.

That is what I wanted to tell you: What Lyn would say if he were with us today, though we are in a very difficult situation.

Hopefully, President Trump will recover, and everything will resume its normal course. The election campaign, his winning the election, which I think is very important in light of the policies of his opponents. But I think his getting sick reminds us that we have to absolutely get a citizenry which is educated, which thinks like statesmen. Each of you must learn how to think like a President or a Secretary for a certain department; in other words, develop the expertise. And the expertise is very clearly what Lyndon LaRouche has developed, who, throughout his life, proposed always the same policy: The SDI policy, the policy of the Eurasian Land-Bridge, the policy of the International Development

Bank; these were always an expression of the same idea—that we have to undo the underdevelopment of the developing countries.

This was his policy when he made the prognosis in 1973 that if you do not alleviate poverty in the developing countries, pandemics would be the result. That's why he denounced the conditionality policy of the IMF, as leading to pandemics. The pandemic was not caused by the coronavirus; it was caused by the underdevelopment of many countries. That is why we are calling for a modern world health system in every single country to protect not only against COVID-19, but against all other pandemics and other diseases which will come. That is simply the way the biological universe is organized.

### **I'm Counting on You!**

So, what should we do? I think what we have to do is we have to support the call for the summit which President Putin has initiated since January, which I called for since January also, in a slightly different form. But it should be clear that with the combination of problems which we have today—an out-of-control pandemic, an economic collapse worse than anything since the Second World War, the danger of a financial crash worse than 2008, the danger of a geopolitical confrontation going out of control in respect to Russia and China—we have to change course. That is why such a summit, called for by President Putin, is the only realistic option right now on the table.

The permanent five members of the UN Security

Council must meet and address these questions. We need to have a new world financial system, a new credit system, a new Bretton Woods system. This system is bankrupt. We need credit for development. We can finance all of these things in the tradition of the initial intention of Franklin D. Roosevelt and his idea of the Bretton Woods system.

We then move forward with LaRouche's Four Laws. We end the casino economy, implement Glass-Steagall in the form of a separation of the banks, and protect commercial banks. No more bailouts for bankrupt speculators. Create a national bank, not only in one country, but in all countries on the planet. And then, establish a credit system that cooperates for long-term investment for the reconstruction of the world economy. Go to a crash program for fusion technology, which is really making incredible progress, as we heard in a recent Schiller Institute conference. And go for international cooperation in space exploration, as President Trump has said the Artemis program will be.

If all this is agreed among the United States, Russia, and China at a minimum, and then other industrial powers that have the capacity to reconstruct the world are added, then we can solve our problems. What is required is that many patriots—at least one in every hundred in cities all over the United States and in many other countries—really start to take responsibility for the outcome of this period. I think nothing else will work. I really think it can be done. I am counting on you.



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

[Watch](#) **The LaRouche Case** video

[Watch](#) **the LaRouche Memorial** video

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

---

## III. Discovering Real Human Potential

---

### Schiller Institute International Youth Conference

## The World Has a Choice: Extinction, or Era of LaRouche

---

September 26, 2020

PANEL 2

### The Science, Culture, and Great Projects of A Global Renaissance

*We present here edited transcripts of two of the speakers at the second of two panels of the Schiller Institute conference. A report on the conference, and edited transcripts of the keynote by Helga Zepp-LaRouche and two other speakers on the first panel, “The World Needs the Exoneration of Lyndon LaRouche,” was published in our last issue. The videos of the conference are available [here](#).*

Chérine Sultan

### Creativity in the Age of Artificial Intelligence

*The following has been adapted from a speech delivered at the Schiller Institute’s International Youth Conference, September 26, 2020. Ms. Sultan is a youth organizer in France with the LaRouche movement there.*

What is next-generation addiction?

Neuroscience experts have succeeded in removing our “stop button”: our ability to stop ourselves and change what we’re doing—to combine our *will* with our *action*. For example, young people spend hours on TikTok watching videos that are less than a minute long! There’s an irony here: after inventing the application, we had to add an option to block it after 45 minutes of use.

People are able to spend whole days (and nights) in



Schiller Institute

Chérine Sultan

front of the television watching TV series that don’t provide any satisfaction. “It sucks, but I’m going to watch the next one”—how many times have you heard that? We fall into the trap because the script and the editing do everything possible to put salt on our tongues and create the desire to see what’s next. The definition of an addiction is to continue to practice an activity or consume a product to the point where, though we no longer feel pleasure when we consume it, we suffer when we cease to consume it.

The feeling of *cultural* suffering comes from our inability to regain control over ourselves. It is expressed by the victims of digital technology who recognize very well that they can no longer restrain themselves from giving in to the temptation to connect to a screen: “We

know it's not good for us. We know, but we do it anyway.”

We are less creative when we fall into this addiction, and that's exactly the intention of the oligarchy. Here we'll examine how consistent the digital giants are in using an anti-creative means for an anti-creative purpose. That, however, was not invented with the digital world and screens; the ancient theater already used this weakness to distract and entertain the Romans, which is the origin of the expression “bread and circuses.”

### Reactivating the ‘Stop Button’

How can we break out of this? Moralizing is, in itself, useless, because the “stop button” is no longer controlled by our will, that inner moral sense which says, “I *know* it is not good.” The external moral pressure of a friend who compassionately advises us to “turn off the screen” will therefore also fail to be effective.

However, sometimes, to love one's neighbor is to give him or her a friendly kick in the ass. Do you know the story of Alypius, Saint Augustine's friend? He always refused to go to see gladiatorial fights—until one day a group of friends dragged him, almost by force, to the colosseum. His hands, which were hiding his eyes in the hope of sparing him from this horror, were not enough to protect his soul. Once he looked upon this terrible spectacle, he joined in with the bloodthirsty crowd. Afterwards, his mind was incessantly brought back to recollection of this circus, making it difficult to focus on his studies with Saint Augustine. Having given up all hope of changing Alypius, Saint Augustine mocked the spectators by comparing them to slaves—and the young man's stop button started working again.

In the case of Alypius, reason eventually regained the upper hand because he had previously had access to something other than the circus. Therefore, for children—beings whose emotions are on a roller coaster and for whom a relaxation valve is needed—their level of autonomy and intellectual experience requires that their parents offer them activities and leisure time which are enriching and regulate the duration of their entertainment.

After a certain age, the solution is different; it is more demanding and difficult to implement. The emotions of young adults may still be on a roller coaster, but their intellect begins to exceed the limits it had in childhood. The intellect no longer asks to be relaxed—it asks, more and more, to be developed and challenged. That is why the duration and type of entertainment that satisfies a child no longer satisfies an adult: We want our entertainment to feed us intellectually as well. For example, many people love Netflix because it offers enriching stories.

The issue of popular culture among both young adults and adults today is in line with what many recognize as the harmful effects of consumer society: the desire to enrich oneself personally while doing nothing for others. In the realm of culture, however, it is much clearer that we will not enrich others by reducing our own consumption. Therefore, we must re-examine and rethink the *production* of entertainment culture.

Indeed, what seem to be the more intellectual parts of our culture are also traps, capturing many of those who claim to think outside the box because they read “alternative” authors and watch “dissident” channels. They do not question the way of thinking that is induced by both of these cultures, popular culture and dissident culture. Namely, pessimism. We will come back to this, but we can already say that the alternative to “addiction 2.0,” to restore this “stop button,” is *engagement*.



Painting by Benozzo Gozzoli

The Conversion of Augustine of Hippo shows him reading the Letter of St. Paul to the Romans. The figure at right is probably Alypius.

### Activating the Mind

Do you know how much of the world's electricity consumption is used by the digital sector? Ten percent! In terms of greenhouse gases that is equivalent to the aviation sector. Therefore, when I hear people say that the pandemic lockdown is a godsend for the planet, I laugh, because all of people's activities have now been transferred to their screens—both for work and for leisure. Many young people have even told me, “You know, Netflix has been very useful to us during quarantine.”

How is all of this electricity used? Primarily for data transfer and storage on servers.

A few figures to illustrate my point:

• Online videos, across all platforms, account for 75% of internet traffic (estimated to become 82% in two years).

• Netflix is 13%, YouTube 9%, Facebook 3%.

• A 10-hour HD video (a 1- or 2-day conference) requires as much data as the entire English-language Wikipedia.

• In France, four companies account for half of the data flow, including Netflix, which accounts for as much as the 3 others—Google, Facebook, and Akamai Technologies, which hosts many websites.

How is all of the data sent by these platforms, used? Their profits come from advertising. Advertising targets the individual user, which means advertisers need to know the user's tastes. So, the more videos viewed, the more data on the digital preferences of users is analyzed, and the more power there is to display relevant advertising. This leads to more views, which leads to greater need for advertising funding. It's a dog chasing its own tail!

Reed Hastings, the founder of Netflix, admits: "We are competing with sleep." Their street campaign, "Metro-Work-Netflix," was well thought out. This expression replaces the refrain, "Metro-Work-Sleep," that dulls the worker. This is not about to stop, since the traffic increases by 25% per year—that is to say it doubles in three years and triples in five. We have entered the era of Dataism.

### **Social Control: 'To Govern'**

Advertising, however, is not enough. How do digital platforms work to get you hooked? Do you know the names of the weapons that destroyed your "stop button"? There are two techniques, which work together:

The infinite: The infinite thread that runs along your wall on Facebook, as well as the auto-play function in YouTube or Google that automatically launches the next video.

Similarity: Notifications and recommendations of similar content that lock you into what you already know and like, although by calling them "suggestions," they make you think you are going to discover something new.

*Similar*, this last word, is important. It was taken from the anti-creative principles of John Locke's ideas

of "contact, similarity, and cause and effect." Similarity, combined with infinity, is the key to the success of cybernetics.

Have you ever heard the term cybernetics? It comes from the team of Norbert Wiener, the character to whom LaRouche gave his first fundamental refutation. I encourage you to study this story, which raises the question of human creativity with great scientific rigor.

Simply put, Wiener sought to create a program that could predict human behavior in situations he called "non-linear." By non-linear he meant that unlike repetitive mechanical systems, humans make decisions according to their free will. So far, so good.

In the case of free will, by definition, a choice must be made. In terms of communication, this new choice corresponds to a lack of information. It must be translated into information in order to be able to make a prediction, and must be verified by feedback.

To demonstrate his case, Wiener uses the argument of statistical gas theory, which leads to entropy. Entropy is equated with disorder, i.e., a lack of information.

I'm sure I have lost you because these notions are a bit abstract and complicated. Perhaps you are content to stick with what you understand—namely, the notion of free will, a concept that was challenged in the middle of the 20th century when

our friend Wiener was writing. So, you are satisfied, because we have a program that recognizes free will and takes it into account in its predictions, and this program was created by very high-level researchers, at that. This is the pinnacle of democracy and progress!

But wait a second. I would like to make a point about free will. In cybernetics, free will is actually limited by the programmer, who integrates limited and pre-existing types of decisions into his analysis. How could it be otherwise? Eventually, you have to create a program with what you know.

The program's output is then made by the theory of probability and statistics. Which decision is more likely to be chosen over the other? In order to have ever more accurate results, the machine must integrate an increasing amount of data. If there is an error, the programmer will conclude that the data is insufficient. Once again, the dog is chasing its own tail. A type of sub-employ-



Public domain

*Norbert Wiener, who sought in vain for a computer program that could predict human behavior.*

ment has been created for this: the clickers, who have to correct the machine to help it learn better (in what is called “deep learning”). There are plenty of other digitally related under-jobs like picking up someone else’s takeout order, or delivery people, which are depicted in movies like Ken Loach’s *Sorry We Missed You*—and the irony is that you can stream it, or order it on Amazon.<sup>1</sup>

In your opinion, what are the goals of cybernetics? Cybernetics comes from the Greek word *Kubernetes*, which means to govern.

We’ve already discussed the commercial motivation: selling products is nothing new.

However, another admitted aim of Netflix has a political effect: putting people to sleep, diverting their attention. Yet another aspect is social control. This includes surveillance, which doesn’t worry everyone. Some think, “Yes, but I have nothing to hide. Watch me, watch what I do. I attend protests, you must know that.” I sympathize with this state of mind, but beware—social control means more than surveillance; it means also orientation, the act of inducing people to think a certain way.

In advertising, they don’t just want to monitor your tastes to sell you what you already like, but they also predict what you *will* like before you know it yourself. Likewise, with pop culture, they don’t just want to know which TV series will keep you glued to the screen and distract you from resistance and political action; they’re also going to convince you to have certain opinions, even before you formulate them—giving you no opportunity to understand how you will have arrived at that sort of conclusion.

### The Spirit of Creative Hypothesis

What is the oligarchy’s favorite target for inducing us to think a certain way? Destroying optimism! It is your vision of the world that determines whether or not you are driven to take action. More fundamentally, at

1. By way of an aside on the problem of data and quantity, one can imagine a reason why the Trump administration wants to ban TikTok and WeChat: Beyond the fear of espionage and interference, there is, above all, the fear of giving China access to an ocean of data that could allow it to make breakthroughs in artificial intelligence.

what level will we intervene: on the level of causes, or their effects? Yes, the consequences of the pandemic are catastrophic. Yes, man destroys and does harm. Yes, the *effects* are bad, and we must act on the consequences to reduce the negative effects.

But is this the level at which we can act *sustainably*? Act, if you have the physical and moral energy to do so, in the humanitarian and social fields—yes! But can you imagine that one day you will feel frustrated, because your actions, even if they are multiplied tenfold by the commitment of several people, will never be enough

to stop the machine of destruction, and your energy will no longer be enough? To really change things, you must focus on the *causes*—and don’t give up. This is the mission Lyndon LaRouche gave us. Act on this level—three thousand times, yes!

The true role of science is to understand the causes of the phenomena of our universe. From this point of view, because of Norbert Wiener, the neurosciences are anti-scientific because they seek to interpret human phenomena by observing them electrically and translating them into digital language. Is this how creativity works?

The astronomer Johannes Kepler (1571–1630) did something unimaginable in his time: He proved that planetary motion is not in a circular orbit—despite the circle being the perfect shape, and the popular belief that the heavens must be perfect because they were created by God. Kepler revolutionized science, and he did this using a very small number of measurements. Three points give a circle, and any set of three points gives a unique circle. It took Kepler only a fourth measurement from a different circle to prove that the motion produced by the planet can absolutely not be a circle—the alternative being that the planet’s orbit would be constantly changing circles!

Kepler’s contemporary, the prominent astronomer Tycho Brahe, knew that his data, his observations of the planets, could not be reduced into one or another system among the existing orbital hypotheses. Brahe was forced to tinker to hide the apparent anomalies in the data. However, the “anomalies” were not really anoma-



*Johannes Kepler proved that the orbits of the planets are not circular.*

lies: Rather, it was the way of thinking that was an anomaly! Once the true path of the planet was understood, the “anomalies” became very coherent.

It is the spirit of hypothesis that allows every human being to have an approach, an intention, in gathering data and sorting through existing measurements. This allows us to save calculation time and to compose a crucial demonstration of a principle. A computer is devoid of this capacity. It may have an immeasurable computing capacity compared to humans, but its method of calculation will never unlock a demonstration of principle.

In fact, it is futile to try to prove anything with a computer, since the very principle of demonstration is the search for truth. Do you think that a computer has the slightest idea of what truth is? Does it have the idea of an idea? What is a circle? Is a circle a set of points? No, because between two points there will always be a space, whereas a circle is an unbroken line. It is a motion, something that has no meaning in the world of the computer. For such a system of calculation, even a circle doesn't mean anything; all that makes sense are points defined by coordinates.

By extension, the human mind will never be understandable by a machine. This is the strategy to flank the digital giants—Apple, Amazon, Google, Microsoft, and Facebook—whose aim is to divert us from creativity. Creativity is incompatible with statistical and probabilistic systems. This is how LaRouche refuted Wiener.

In the period 1948-52, while studying mathematical biophysics, LaRouche noted paradoxes in models of living processes.

I quote LaRouche from his [autobiography](#), *The Power of Reason: 1988*:

The living process continues to function beyond the point at which ordinary mathematical analysis ceases to be able to follow development. Thus, I reasoned, there must be a higher order of function, in which ordinary mathematical functions are special cases.

From his work, LaRouche concluded the following:

The fact that I understood Wiener's error is the key to my discoveries in economics and consequently to everything that has made me influential internationally.

The joke in all of this occurs when a principle is discovered even before having observed the data corresponding to it. This is what Albert Einstein did with general relativity: He hypothesized a phenomenon that could only be observed a century later, with gravitational waves. A machine could never have achieved this. Here is the other joke: Do you know who imagined the first calculating machine? Johannes Kepler and his friends.

José Vega

BEYOND THE SENSES

## Hearing Great Beauty: Beethoven and Helen Keller

*This is the edited transcript of the presentation by youth leader José Vega to Panel 2, “The Science, Culture, and Great Projects of a Global Renaissance” of the Schiller Institute Youth Conference, “The World has a Choice: Extinction, or Era of LaRouche,” September 26, 2020. To watch the entire conference, click [here](#).*

Let me begin my presentation on Beethoven without musical examples, due to copyright problems.



José Vega

Schiller Institute

But that's OK. I think it might even work in my favor because I'm going to prove something interesting to you. Beethoven, in 1799, starts realizing that there's something going on with his hearing. It's looking like he might be going deaf. So, in 1799-1800, he's trying to figure this whole thing out. Then in 1802, he writes that he has come to terms with the fact that he may never be cured; he holds out hope that he might be cured someday, somehow. But ultimately, he says, it is what it is.

Then 12 years later, in 1814, Beethoven is completely deaf. Beethoven continues to live another 13 years until 1827, but he's completely deaf. So, from the age of 44 to the age of 57, he's deaf; can't hear a thing. Can't hear a lick of anything; let alone his own music. But, what does that mean, exactly? Because, between the period of 1814 to 1827, Beethoven wrote six piano sonatas—Nos. 27-32. He wrote two cello sonatas—Nos. 4 and 5. He wrote Symphony No. 8, and his most famous symphony, No. 9. It's the one with the Ode to Joy chorale in it. He wrote the Late String Quartets—the Op. 127, 130, 133, and the 135, which includes the *Grosse Fuga*, or in English, the Great Fugue. If you haven't heard it, you should; it's amazing. There's a double fugue there—what does that mean—well, you should listen and then you will figure that out. But ultimately, it's amazing. And of course, the *Missa Solemnis*, which is a mass, a vocal work. People call it the most difficult choral piece to perform today.

But, how did he do it? He wrote so much more than just those things. So how was he able to do it without hearing anything that he wrote after 1814? What was going on? Beethoven used to remark that music is not about what you hear. What does that mean? Mozart, and probably Bach, would have said the same thing; that music is not about what you hear. Although, in Beethoven's case, it's kind of different, because Beethoven actually couldn't hear in the last period of his life. And yet, the last period of his life is when many people say he produced his greatest compositions. I happen to think they're all great, though some are better than others. My personal favorites are the Late String Quartets. But how did he do it? What is happening there that you can compose such great pieces of art and music, and you can't hear anything?

Maybe it's not what you hear. Take Helen Keller, for example. Helen Keller, in 1924, writes a letter to the New York Symphony Orchestra. Here's what the letter said:



Michael Katzaroff, 1938

Ludwig van Beethoven

Dear Friends,

I have the joy of being able to tell you that, though deaf and blind, I spent a glorious hour last night listening over the radio to Beethoven's 9th Symphony. I do not mean to say that I heard the music in the sense that other people heard it. And I do not know whether I can make you understand how it was possible for me to derive pleasure from the symphony. It was a great surprise to myself. I had been reading in my magazine for the blind of the happiness that the radio was bringing to the sightless everywhere. I was delighted to know that the blind had

gained a new source of enjoyment, but I did not dream that I could have any part in their joy.

Last night, when the family was listening to your wonderful rendition of the immortal symphony, someone suggested that I put my hand on the receiver and see if I could get any of the vibrations. He unscrewed the cap, and I lightly touched the sensitive diaphragm. What was my amazement to discover, that I could feel not only the vibration, but also the impassioned rhythm, the throb, and the urge of the music. The intertwined and intermingling vibrations from different instruments enchanted me. I could actually distinguish the cornets, the roil of the drums, the deep-toned violas, and violins singing in exquisite unison. How the lovely speech of the violin flowed and plowed over the deepest tones of the other instruments. When the human voices leaped up, thrilling from the surge of harmony, I recognized them instantly as voices more ecstatic, up-curving, swift, and flame-like, until my heart almost stood still. The women's voices seemed an embodiment of all the angelic voices rushing in a harmonious flood of beautiful and inspiring sound. The great chorus throbbed against my fingers with poignant pause and flow. All the instruments and voices together burst forth—an ocean of heavenly vibration—and



Grinberg/Paramount/Pathé Newsreels, 1921

*By lightly touching the peg box of his violin with her fingers, Helen Keller is able to “listen” to the music of Jascha Heifetz.*

died away like winds when the atom is spent, ending in a delicate shower of sweet notes.

Of course, this was not hearing, but I do know that the tones and harmonies conveyed to me moved a great beauty and majesty. I also sensed, or thought I did, the tender sounds of nature that sing into my hand—swaying reeds and winds and the murmur of streams. I have never been so enraptured before by a multitude of tone vibrations.

As I listened with darkness and melody, shadow and sound filling all the room, I could not help remembering that the great composer who poured forth such a flood of sweetness into the world was deaf like myself. I marveled at the power of his quenchless spirit by which out of his pain, he brought such joy for others—and there I sat, feeling with my hand the magnificent symphony, which broke like a sea upon the silent shores of his soul and mine.

Now, why was she able to hear Beethoven’s 9th Symphony, despite the fact that she’s deaf, and blind, too? Yet, she was able to envision something. She says herself, she was able to distinguish between two tones. I believe she herself says in her own letter, she says, “How the lovely speech of the violin flowed and plowed over the deepest tones of the other instruments.” Clearly she could recognize higher and lower tones. She can even recognize human voices. This is someone who has

no idea what a human voice, let alone a singing human voice, would even sound like. Yet, she was able to distinguish what a human voice sounds like, versus what an instrumental voice sounds like. So, what does that say about the human voice? And what does that say about instruments? And what does that say about listening? The senses actually prevent us, or withhold us from really understanding what it is that Beethoven is getting at through his 9th Symphony and his other compositions. What is that “getting at” that Beethoven is trying to get to? What is Beethoven really trying to convey?

Beethoven said, “Music is a higher revelation than all wisdom and philosophy.” And he also said, “Don’t only practice your art. Force your way into its secrets, for it and knowledge can raise men to the divine.” What secrets was Beethoven able to unlock through his music, and why is it in what you can’t hear? Maybe there is

something behind the notes; something un-nameable. An un-nameable world that exists between the notes, above the notes, below the notes. This is something that Helen Keller understood, because in the beginning of her letter, she says, “I do not mean to say that I heard the music in the sense that other people heard it. And I do not know whether I can make you understand how it was possible for me to derive pleasure from the symphony.” Because she can hear things and see things in ways that we can’t, because our own senses betray us.



Atlanta History Photograph Collection

*Her eyes wet with tears of joy, by placing her fingers on tenor Enrico Caruso’s throat, mouth, and nose, she “heard” him sing “The Lament of Samson” from Saint-Saëns’s opera, Samson et Dalila, April 24, 1916.*

# My Question Is: What Is Truth?

*The following is the edited transcription of an interchange that took place between Anastasia Battle, a youth organizer, and a caller during the LaRouche Weekly Fireside Chat of October 1, 2020. The full webcast is available [here](#).*

**Question:** My name is Jack. I am a recent 2020 graduate, and I hate to say it, but I check *both* boxes: I am both stupid and incredibly disillusioned with the American system. It seems my disillusionment grows each day. My earliest memory was 9/11; that was my first memory. There's been war my entire life. And, at first, I thought that war was fundamentally true, until I got old enough to learn about it and learned about World Trade Center Seven. But going further, I thought Christopher Columbus was a hero. I thought he was a patriot, until I learned that he left America in chains, and he was stripped of all of his noble titles when he got back to Spain.

I thought America was cool and definitively capitalist, until I learned about Woodrow Wilson "eminently domaining" everybody's gold supply and creating Fort Knox and then raising the price of gold. That's not a very free market. I thought America had a two-party system until I saw both parties clamp down on Trump when he tried to pull us out of wars and such. And I even believed that Donald Trump was chosen by the military to drain the swamp, and arrest the pedophiles, until none of that happened. The last straw for me was the debate [between Trump and Biden].

I want to be happy in life; I'm sure you all want to be happy. Neither of those men want to be happy; they want to be President. They don't want us to be happy, they want us to vote for them. And they'll do whatever it takes to get us to vote for them.

So, I guess I'm coming from a place of, I seek truth. I am disillusioned because I feel that many people my

age don't seek truth. And I don't blame them for that, because the truth is ugly; the truth is terrible.

I guess my question is, what is truth? And how do we tell those who are not college-educated?

**Anastasia Battle:** I can give kind of an anecdote, which might be the best way I can describe it. When I was in high school, my AP Government class teacher asked the class—which is actually kind of ironic—"If there were a global pandemic, should the government take away a patent for a vaccine from a pharmaceutical company so they can get it out cheaply? Or, should they



*Incumbent Donald Trump and former Vice President Joe Biden, in the first 2020 Presidential Campaign debate, hosted by Case Western Reserve University and Cleveland Clinic, September 19, 2020.*

allow the pharmaceutical company to keep it, so they can sell it for a lot of money?"

Everybody in the room went one way or the other, and me in my happy little Greenie self, raised my hand and said, "Well, I don't think that we should have the vaccine at all." Everybody oohed and asked why. I said, "Well, I think the world is overpopulated, and that diseases were created to help with depopulation."

My heart just sank when I said that, but nobody challenged me on that. I knew that it sounded terrible, and it was wrong; but nobody challenged me on that idea. I secretly told myself, "Well, I don't want to say

anything *that* extreme, but I'll still be a Greenie."

So, I went on through life, going to college, and then I ran into a LaRouche table. As I started coming around and talking with members of the LaRouche organization, people were challenging me on different parts of the science, and of course I had studied up on how to combat all those things, the science of it. And it wasn't until somebody told me that "Look, the environmentalist movement has nothing to do with saving the environment. It has to do with killing people." And I remembered what I had said.

The point of me bringing this up, is that I don't think that people honestly don't believe there's any truth. I don't know if you read that story, *The Emperor's New Clothes* by Hans Christian Anderson. But all it takes is just one person to point out something. It's usually ironic and helps you to reorganize what you're thinking.

Just from talking with a lot of young people, when you take them through an idea like that, explicitly on the Greenie stuff, that's always pretty fun. Some of them get pretty heated. But when you actually see somebody make that connection, you can see the idea spark in their eyes, and they say, "Oh, so you're saying that I don't have to take a position that's given to me. I can think of something completely different of what

this issue actually is."

I think that that's how we can approach this problem that we're having in the United States with this party stuff, or the people who attack Trump. When I say they attack Trump, they're just outright insane. Or the people who are just going to support Trump, no matter what. I'm not saying it's not OK to be a Trump supporter, but we have to actually think about what policies we need for the nation, and to change the dynamic so those things can happen.

Does that get at something that you're—

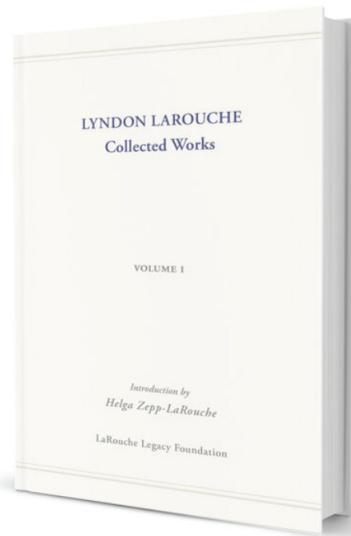
Jack: It really does. I think this simple—it's kind of what you mentioned. It feels to me that every single issue for the past four years has been this dichotomous binary. Are you *for* a wall, or *against*? Or everything. But I like that you don't have to pick a side. I think that alone is enough for me. I appreciate that response.

And also, what you said kind of addressed a feeling of intuition, where you said nobody challenged you when you said something that you felt. I guess what I was getting at was, young people feel disillusioned; we just don't know where to take it, so we vote for Kanye or something. But I like that you don't have to pick a binary, because it's all wrong.

Battle: Exactly.

## LYNDON LAROUCHE Collected Works, Volume I

This first volume of the Lyndon LaRouche Collected Works contains four of LaRouche's most important and influential works on the subject of physical economy:



- *So, You Wish to Learn All About Economics?*
- *There Are No Limits to Growth*
- *The Science of Christian Economy*
- *The Dialogue of Eurasian Civilizations: Earth's Next Fifty Years*

**So, You Wish to Learn All About Economics?** was first published in 1984 and has become the single most translated of LaRouche's books.

**There Are No Limits to Growth** first appeared in 1983 as a direct response to the Club of Rome's *The Limits to Growth*, thoroughly refuting the latter's unscientific Malthusian argument, which underlies the "green" environmentalist movement today.

**The Science of Christian Economy** (1991) is a groundbreaking study written by Mr. LaRouche during the five-year period he was unjustly incarcerated as a political prisoner in significant measure for the arguments he sets forth in this book.

**The Dialogue of Eurasian Civilizations: Earth's Next Fifty Years** (2004) follows in the footsteps of Cardinal Nicholas of Cusa to establish the scientific, cultural, and theological basis for a true dialogue of civilizations, in order to successfully address the existential crises facing humanity today.

**\$50**

\* At this time we are only able to ship to locations in the United States via our online store. Please contact us directly for inquiries about international orders: [info@larouchelegacyfoundation.org](mailto:info@larouchelegacyfoundation.org).

---

## IV. Creativity in Chinese Culture

---

# Only a Global Renaissance Can Prevent War and a New Dark Age

by Michael Billington

*This is the edited transcription of opening remarks by Michael Billington to Panel 4, “Building Trust in International Relations: The Role of Classical Culture and Combatting World Famine,” of the Schiller Institute Conference, “War Drive Toward Armageddon, or a New Paradigm Among Sovereign Nations United by the Common Aims of Mankind?” on September 6, 2020. Mr. Billington is a former U.S. political prisoner and is currently Asia Editor for EIR. The full video of the conference is available [here](#).*

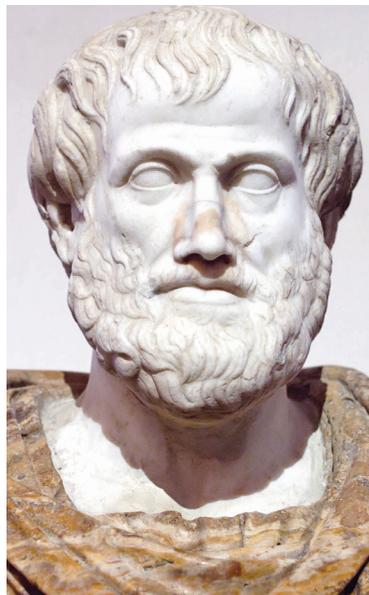


Schiller Institute

Michael Billington

I want to address the cultural side of global relations, especially those between the U.S. and China. Every great culture throughout history has gone through periods of great developments, scientific and cultural, but also periods of decline and even degeneracy. In European culture, we look to Socrates and Plato unleashing the creative powers of Europeans, and also, later, the creative powers of the Arab and Persian Islamic scholars of the Abbasid Caliphate in Baghdad in the 8th Century, who then reintroduced Plato and Greek thought in Europe, where it had been largely lost during the Middle Ages.

But there was also the total collapse of Europe in the 14th Century, when cultural and economic decay led to the Great Famine in 1315 and to the Black Death in 1346, killing as much as half of the population across Europe, reducing life expectancy from about 35 to about 17 years. There was also during that time a state of “permanent warfare,”



Aristotle

known as the 100 Years War, like that which President Trump has committed to ending today.

In terms of philosophy, it is easily demonstrated that the periods of creative development corresponded to the hegemony of Platonic thinking. Plato understood that the creative powers of the human mind corresponded to the creative process of the Universe itself, and that the mind is thus uniquely capable of discovering those laws and principles of the Universe and applying them to the betterment and advancement of Mankind as a whole.

It is also no coincidence that oligarchs of all ages prefer Aristotle, who believed that man was simply an animal with a mind no better than a computer database, gathering up sense perceptions and using computer logic—Aristotelian logic—to derive new theorems, but discovering nothing fundamentally new, since real creativity requires the discovery of not just new theorems, but of new *principles*, new axioms of thought, as was achieved by Platonists like Kepler and Einstein.

Not accidentally, such a view of Man led Aristotle to assert that people are born either as masters or as slaves, and that they could not escape their biological identity—most convenient for oligarchs and imperialists.

So let’s look at China in this light.

The age of Confucius and Mencius, essentially parallel to Plato, has served as the driving force for every era of

progress in science and the arts in China. They believed that Man's nature was characterized by that of *ren*, which is very much like the Greek *agapē*, a love of Mankind and of Truth. They believed that Man was born good, because of these creative characteristics of the human mind.

But in China there were also schools of thought like that of Aristotle, known as Legalists and Daoists, much preferred by oligarchs, who argued that Man's nature is that of an animal who will do as much evil as it is capable of doing in order to satisfy its sensual appetites, and thus men must be controlled the same way you control animals—by punishments and rewards. Under the Legalists, Confucian scholars were literally buried alive and Confucian texts burned, leaving some, but many lost forever to posterity.

The Daoists even argued that science itself was use-

and artistic progress—developing movable type, spreading books throughout the country 400 years before printed books appeared in Europe; discovering the compass derived from an understanding of the magnetic fields of the Earth, gunpowder and more.

But China also had its dark ages, most recently in the 19th Century, brought on by the British invasion and the two Opium Wars, forcing opium down China's throat, destroying its economy and culture temporarily. In the 20th Century the Great Leap Forward and the Great Proletarian Cultural Revolution in the 1950s and '60s, the first creating a famine which killed possibly 30 million people, the latter, glorifying the Legalists and denouncing Confucius, leaving society shattered and millions more dead. Like the famine and chaos of 14th Century Europe, nothing less than a true Renaissance could end the carnage—no half measures would do—only a full scientific and cultural renaissance.

And this is what we must consider today.

The anti-China hysteria being driven by British intelligence and their assets in American intelligence, such as U.S. Secretary of State Michael Pompeo, can only be rejected by getting the Americans and Europeans to rise above the information warfare coming from our politicians and the media.

Look around—there are signs of a descending Dark Age in the West everywhere. Anarchy on the streets, legalized drugs, pornography and violence glorified in our so-called entertainment, the collapse of physically productive enterprises in favor of speculation and, of course, the perpetual warfare.

President Trump has committed to combatting most of this, but half measures have not worked and will not work—a full renaissance is required.

And here is the crucial reality: China is experiencing the greatest Confucian Renaissance in its history, one of the greatest renaissances in all history. Totally eliminating poverty—unprecedented, never before achieved anywhere in history; massive technological and scientific advances; and now taking those advances and the “secret” of infrastructure to the rest of the world through the New Silk Road, the Belt and Road Initiative, an idea generated by Lyndon and Helga LaRouche. We must make this a global Renaissance, to end imperial geopolitics once and for all.



Confucius



Mencius

less, interfering with the communion between the peasants and nature, pretty much like today's Greenies.

But Confucianism generally held sway in China over the next 2,000 years. Machine tools for agriculture, and the use of iron and steel in the making of those tools were very much in use during the Han dynasty, tools not “discovered” or implemented in Europe for 1,500 or more years. Productivity of grain: production per hectare in China was multiples of anything seen in Europe until the European Renaissance, not due to concentrated labor, but to labor *power* enhanced by these advanced technologies, making possible a population living at a higher standard of living, far beyond anything in Europe until after the European Renaissance.

In the Song Dynasty of the 11th and 12th Centuries, there was a Confucian Renaissance, which advanced Confucian concepts, which drove a burst of scientific

# The Science and Technology that Ancient China Taught the West

by Robert Trout and Michael Billington

Sept. 24—The incredible pace of development in China since the reversal of the self-destructive era of the Great Proletarian Cultural Revolution (1966-76), and the subsequent launching of “Reform and Opening Up” under Deng Xiaoping, is unprecedented in history. Not only did the GDP per capita increase from \$300 in 1980 to almost \$11,000 in 2019, but China has created an infrastructure boom which surpasses even the transformation of the United States under Franklin Roosevelt’s New Deal. Over these decades the Chinese government has lifted approximately 800 million people out of poverty, and intends to eliminate abject poverty altogether by the end of this year.

Many in the West are shocked by the massive productive power of a nation so long enmired in deep poverty. But most are unaware that China, for nearly two thousand years, was far more developed than the West. In this article we will examine the Confucian culture that created the basis for the Chinese to make a series of remarkable inventions during the period from the 5th Century B.C. to the 13th Century A.D., especially in agricultural science and technology, which were not to be “discovered” in Europe for hundreds or even more than a thousand years. These inventions are the “secret” behind the fact that the Chinese enjoyed a far higher standard of living, a far greater relative population density, and a higher literacy rate than Europeans until the 15th Century European Renaissance.

## China’s Confucian Tradition

Now when food meant for human beings is so plentiful as to be thrown to dogs and pigs, you fail to realize that it is time for garnering, and when men drop dead from starvation by the wayside, you fail to realize that it is time for distribution.

When people die, you simply say, “It is none of my doing. It is the fault of the Harvest.” In what way is that different from killing a man by running him through, while saying all the time, “It is none of my doing. It is the fault of the weapon.” Stop putting the blame on the harvest and the people of the whole Empire will come to you.

—Mencius,  
Book 1, Part A, 3



*Portrait of the teaching Confucius, by Wu Daozi, ca. 685-758 A.D.*

The successes of ancient China in economic development were the result of the influence of the Confucian philosophical school, led by Confucius himself (551-476 B.C.) and his follower, Mencius (372-289 B.C.). Their school of thought, parallel to that of Socrates and Plato in Europe, has served as the driving force for every era of progress in science and the arts in China—including the current one—much as the Pla-

tonic tradition (as opposed to that of Aristotle) has been the driving force for progress in the West.

The crucial difference lies in the concept of the human mind of the different schools of thought. Platonists, like Confucianists, identify the creative power of the mind as that which distinguishes man from the beast, and recognize that the creative power is separate

from and superior to the senses. Only the human mind can break free of the axioms of any given state of knowledge regarding the laws of the universe, to discover entirely new principles of science and culture, and create a new set of axioms.

Mencius expressed this same fundamental concept as follows:

Those who follow their greater part become great. Those who follow their petty part become petty. The senses of hearing and seeing do not think, they are misled by things. Things interact with things and lead them astray. It is to the mind (heart) that is given the office of thinking. It is through thinking that man achieves virtue (truthfulness). If he does not think, he will fail to do so. This (the mind and the senses) are what Heaven has given us. If one stands fast on what is greater (the mind), then what is lesser (the senses) will not be able to take it from him.

—*Mencius*, Book 6, Part A, 15

Confucius taught that society must be governed by the Chinese concept of *ren* (仁) which is very similar to the Platonic and Christian concept of *agapē*—a love of truth and of mankind as a whole. Confucius proclaimed what the West would later call the Golden Rule: “Is there one word which may serve as a rule of practice for all one’s life?” The Master said, “Is not ‘reciprocity’ such a word? What you do not want done to yourself, do not do to others.” (*Analects of Confucius*, 15:24)

Moreover, some 2,200 years before the Preamble to U.S. Constitution was adopted, Confucius and Mencius established the responsibility of government to promote the General Welfare. The Emperor, as well as local rulers, were required to ensure the livelihood of the people, or risk losing the “Mandate of Heaven” and being removed from power. As Mencius stated, “Heaven sees with the eyes of its people. Heaven hears with the ears of its people.” (*Mencius* Book 5, Part A, 5)

But there were also schools of thought at that time, such as the Legalists and the Daoists, that argued that Man’s nature is essentially that of an animal who will do as much evil as possible to satisfy sensual appetites, and thus must be controlled through “punishments and rewards”—i.e., animal training. Under the short Legalist regime of Qin Shi Huang, the “First Emperor” of China from 221-210 B.C., the Confucian scholars were buried alive and the Confucian texts burned, many lost

to posterity.

The Daoists even argued that science was useless, interfering with the peasantry’s “communion with nature,” like today’s Greenies. Lao Zi’s *Dao De Jing* from the 6th Century B.C. urged rulers to “keep the people innocent of knowledge and desires, and to keep the knowing ones from meddling.” A poem credited to Lao Zi reads:

Banish wisdom, discard knowledge,  
And the people will be benefited a hundredfold.  
Banish benevolence, discard righteousness,  
And the people will be dutiful and compassionate.  
Banish skill, discard profit,  
And thieves and robbers will disappear.  
Banish learning,  
And there will be no more grieving.

But Confucianism generally held sway in China over the next 2,000 years, and until the European Renaissance and the foundation of the European nation-state in the 15th Century, the Chinese economy achieved a level of productivity that far exceeded that of Europe.

### **Government That Promotes the General Welfare**

Chinese governments in antiquity carried out numerous initiatives to develop agriculture, which was by far the largest sector of the economy at that time. *The Lu shi chun qiu*, or *Master Lu’s Spring and Autumn Annals*, written around 250-225 B.C., states:

The ruler shall order the work of the fields to begin. He shall order the inspectors of the fields to reside in the lands having an eastern exposure, to repair the borders and boundaries of the fields, to inspect the paths and irrigation ditches, to examine closely the mounts and hills, the slopes and heights and the plains and valleys to determine what lands are good and where the five grains should be sown, and they shall instruct and direct the people. This they must do in person. When the work of the fields had been well begun, with the irrigation ditches traced out correctly before-hand, there will be no confusion later.

Governments actively promoted the development of new technologies in agriculture, and often took initiatives to ensure their use by the peasants.

This is evidenced by the fact that over 500 tracts were produced, many of them by government officials, dating back over 2,000 years, developing the science of agriculture. These tracts covered a wide range of crops, and the entire range of techniques and technologies necessary to develop productivity, such as plowing, sowing, irrigation and cultivation.

Chinese writings on agriculture were vastly superior to those produced in Europe, until as late as the 18th Century. Roman works on farming remained the main writings used throughout the Middle Ages. These Roman tracts dealt with the management of slave estates to produce wine and olive oil, with little concerning other crops. We must also note that the Arabs had introduced many new techniques into Europe before the Renaissance.

Confucianism—not unlike Alexander Hamilton’s “American System of National Economy”—rejected “free trade,” and promoted government intervention to ensure the General Welfare. The *Han shu shi huo zhi* (Han Book on Food and Money), the first known economic history of China, published in the 1st Century A.D., discussed actions of the government to control speculators, who enriched themselves through actions that impoverished or starved the people. For example, the Han dynasty practiced a policy akin to parity-pricing for agriculture, with its “ever-level price granaries,” or “ever-normal granaries.” The government purchased grain during times of surplus, and sold it during times of shortage, in order to maintain a stable price. The price of many commodities was regulated to reflect the cost of production.

Free trade or “laissez-faire” economics, popularized by British East India Company agent Adam Smith, and adopted by the 18th-Century French Physiocrats, was based on a “hedonistic principle,” which Confucianism rejected.

François Quesnay, one of the creators of the Physiocratic doctrine, stated: “To secure the greatest amount of pleasure with the least possible outlay should be the aim of all economic effort.” The Physiocrats would later falsely claim that the success of the Chinese economy was due to their belief that only agriculture was truly productive—which was the Physiocratic doctrine.

However, to understand agriculture, or any sector of an economy, it is necessary to examine the processes that determine the economy as a whole. Contrary to the assertions of the French Physiocrats, the success of Chinese agriculture was based on technological break-

throughs which gave the Chinese a superior tool-making industry. Indeed, this is illustrated by the *Han shu*, which states, “Iron may be called a fundamental in farming.”

## The Science of Economics

The science of economics was founded by Leibniz and further developed by Lyndon LaRouche. We will discuss some of the basic concepts expressed in LaRouche’s [text](#), *So, You Wish to Learn About Economics*.

Gottfried Leibniz (1646-1716), who carefully studied the Jesuit missionaries’ translations of the Confucian scholars and promoted them across Europe, and also founded the science of Economics, focused on the application of heat-powered machinery to increase the power of the worker. As LaRouche states, “The increase of man’s power over nature is most easily measured as a decrease of the habitable land area required to sustain an average person.” A more accurate measurement is not simply the existing population density, but the potential level of population that a given technology can support: the “potential relative population-density.”

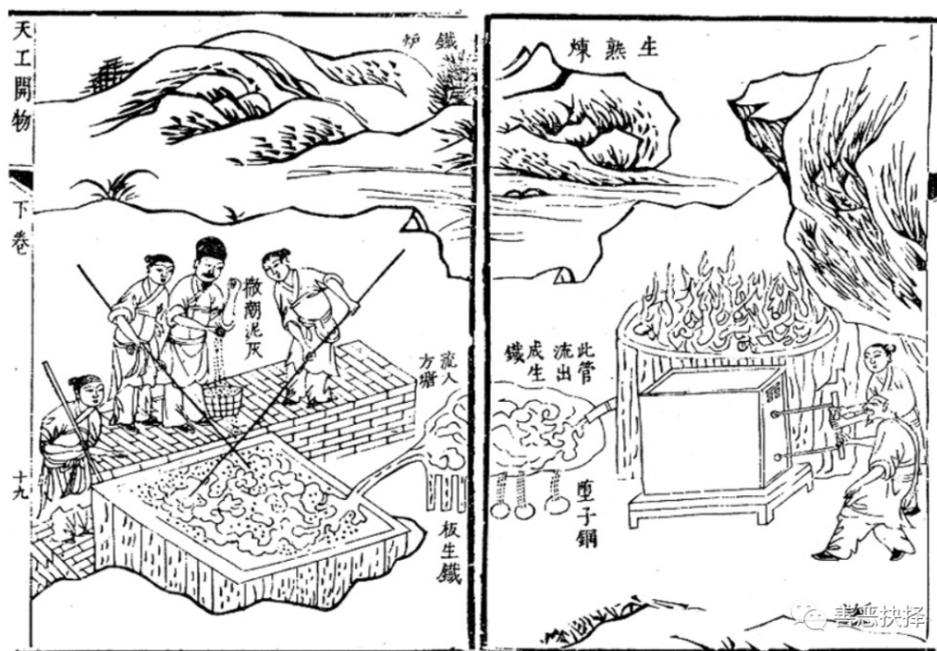
No economy can remain in a fixed level of technology. If a society does not advance to a higher level of technology, it will run into limits, as it exhausts the resources that are available at that level of technology. As LaRouche states, “Only societies whose cultures commit them to successful technological progress, as a policy of practice, are qualified to survive and to prosper.”

A successful economy must meet a number of conditions. The living standard of the population must rise. However, even as the living standards of the population rise, investment in capital goods must rise even more rapidly, causing the capital intensity of the economy to increase. A successful economy must increase the surplus that it invests in the development of new technology even more rapidly. It must also make necessary investments in basic infrastructure such as transportation, water supplies, health care and education.

We will see how China’s technological breakthroughs led to increases in the potential relative population-density.

## Chinese Metallurgy: The Basis for Superior Tools

The Iron Age is generally considered to have begun around 1200-1100 B.C. The introduction of iron allowed mankind to develop tools that were stronger and



Tiangong Kaiwu encyclopedia, printed 1637

Chinese iron workers smelting iron ore to make pig iron and wrought iron in 16th century. The left side shows a fining process, while the right shows men operating a blast furnace.

superior to stone or bronze. These improved tools increased productivity.

The manufacture of iron requires two processes: First, the iron, which naturally occurs in the form of an ore of iron oxide, must be separated from the oxygen and other impurities, in a high-temperature process, which is called reducing or smelting. The oxygen is removed by combining it with carbon, to form carbon dioxide. This leaves behind the iron in metallic form. The other impurities form a slag, which is then separated. Second, the raw iron must be manufactured into useful articles.

The earliest smelting of iron ore was done at temperatures below the melting point of iron, which is higher than that of copper and bronze. Iron, produced by this method, forms a spongy solid when it is removed from the furnace. Furnaces that reduced iron ore to its metallic form, while operating below the melting point of iron, were called bloom furnaces.

Once the reduction of iron ore to its metallic form has been accomplished, it must be shaped into a useful article. Transforming the spongy raw iron into a useful article was a slow and very inefficient process, which only allowed the production of utensils of simple shape, such as swords.

However, by no later than the end of what the Chinese call the “Spring and Autumn Period,” (770-476 B.C.), the Chinese developed the technology of the

blast furnace. This allowed them to heat the ore above its melting point and produce cast iron. Among the inventions that made this possible, was the double-action bellows. The manufacture of iron, using a blast furnace to produce a molten metal, greatly expanded production: The process could be continuous, as the molten metal flowing from the reducing furnace was poured into molds, and made into a large variety of products.

The blast furnace was introduced into Europe on a wide scale only in the late 14th Century, almost 2,000 years later. Henry VII constructed the first blast furnaces in England in the 15th Century, increasing

productivity in the English iron industry fifteen-fold.

The Chinese capacity to manufacture superior tools with the blast furnace led to a substantial advance in productivity throughout the entire economy. As early as the 3rd Century B.C., the state of Qin appointed government officials to supervise the iron industry and penalize manufacturers who produced substandard products. The Han Dynasty nationalized all cast-iron manufacture in 119 B.C. Around that time, there were 46 imperial Iron Casting Bureaus throughout the country, with government officials ensuring that cast-iron tools were widely available. This included cast-iron plowshares, iron hoes, iron knives, axes, chisels, saws and awls, cast-iron pots, and even toys.

The Chinese also developed methods for the manufacture of steel that were only matched in the West in the recent period. The characteristics of iron alloys are related to the carbon content. Cast iron generally has a high carbon content, which makes it strong, but brittle. Steel, which is an alloy of iron with a low carbon content, is strong and more durable. The use of steel in agricultural implements was introduced, on a wide scale, during the Tang Dynasty (A.D. 618-907). This led to a further improvement in productivity.

In the 2nd Century B.C., the Chinese developed what became known in the West as the Bessemer process. They developed a method for converting cast iron

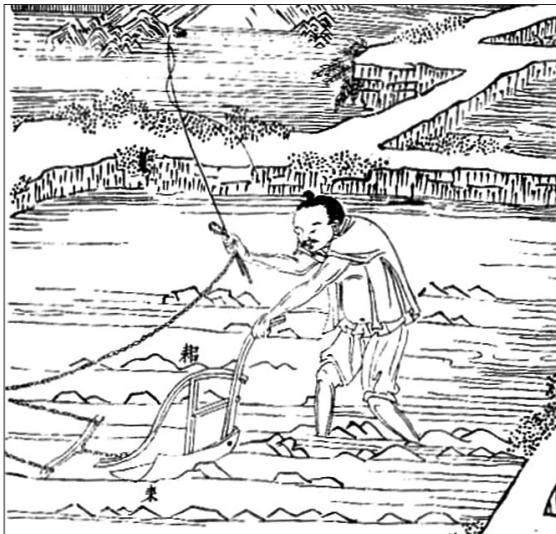
into steel, by blowing air on the molten metal, which reduced the carbon content. In 1845, William Kelly brought four Chinese steel experts to Kentucky, and learned this method from them, for which he received an American patent. However, he went bankrupt, and his claims were made over to the German, Bessemer, who had also developed a similar process.

### The Song Dynasty Confucian Renaissance

As early as the 4th Century A.D., coal was used in China in place of charcoal, as fuel to heat iron and to rework the raw iron into finished products. The rapid expansion of iron production that occurred under the Song Dynasty (A.D. 960-1279) would not have been possible without the extensive introduction of coal as an energy source in the production of iron. The use of wood to make charcoal was causing deforestation, which threatened to limit the production of iron. Indeed, the development of the capability to use coal in iron manufacture is an example of how a new technology allows mankind to overcome limits imposed by existing levels of technology.

Under the Song Dynasty, which experienced a Renaissance in Confucian thought under the “School of Principle” associated with the 12th-Century genius Zhu Xi (1130-1200), science and technology also blossomed. The iron and steel industry reached a level that was spectacular compared to that in Europe. Between 850 and 1050, iron production increased twelve-fold. By 1078, North China was producing more than 114,000 tons of pig iron a year. In 1788, seven hundred years later, England’s production of pig iron was around 50,000 tons.

The scientific genius of the Song Dynasty, Shen Guo (A.D. 1031–1095), introduced advanced water control methods to reduce flooding and recover swampland for agricultural use, vastly expanding grain output for the nation as a whole.



Wikimedia

*The Chinese cast-iron mouldboard plow, turned up the soil behind the draft animal efficiently as it walked along, allowing more land to be plowed in less time. Hitched to a breast-strap harness, rather than a neck-strap harness, a draft animal could pull heavier loads for longer periods of time without being choked in the process.*

### Chinese Agricultural Productivity: The Result of Superior Technology

*Master Lu’s Spring and Autumn Annals* describes how each spring, the Emperor and his chief ministers initiated the growing season with a ceremony in which each took turns plowing the ground. The plows they used were dramatically superior to the plows that were used in Europe until the 18th Century. Writer Robert Temple has observed that,

Nothing underlines the backwardness of the West more than the fact that for thousands of years, millions of human beings plowed the earth in a

manner which was so inefficient, so wasteful of effort, and so utterly exhausting, that this deficiency of sensible plowing may rank as mankind’s single greatest waste of time and energy.

Plows prepare the ground for planting, by using an iron share to cut into the ground, and a mould-board to turn it, burying the weeds and loosening the soil. In 1784, the Scottish agricultural scientist, James Small, enunciated the following principles of scientific plow design: “The back of the sock [share] and mould-board shall make one continued fair surface without any interruption or sudden change.” Chinese plows, from the 3rd Century B.C., already met these requirements. They had a cast-iron mould-board, which was a curved device that shifted the soil with the minimum of drag. The European plow simply had a wooden board coming off to the side which turned the soil that had been cut.

Lyndon LaRouche, in *So, You Wish to Learn All About Economics?* wrote:

Generally speaking, the power applied to the work by a machine is not the same power supplied to the machine as a whole. A very simple machine, a simple knife blade, illustrates the point: the pressure applied by the sharpened



Detail of Landscape with the Fall of Icarus, ca. 1558, by Peter Bruegel the Elder, showing a man plowing with an inefficient European plow.

edge of the blade is vastly greater than the pressure exerted upon the handle of the knife. The power is more concentrated. We measure such concentration of power as increase of energy-flux density.

The Chinese plow concentrated the force much more efficiently on the sharp blade of the plow, with the mould-board designed to turn the soil with a minimum of drag. With the European plow, the entire straight wooden mould-board pushed against the soil. Therefore, the Chinese plow achieved a far higher energy-flux density, and accomplished far more work with far less effort. Chinese plows were so efficient, that they required only one or two animals to pull them. Four, six, or even eight draft animals were often needed to pull the inefficient European plow. The Chinese plow was vastly more efficient than the European plow, both per worker and per unit of

energy used. As LaRouche states, “This difference is Leibniz’s definition of the subject matter of technology.”

### Row Agriculture and Weeding

The method used in Europe to plant seeds, as late as the 18th Century, was extremely wasteful and inefficient. The painting, **Figure 1**, by the Limbourg Brothers for the Duke of Berry, as part of *Les Tres Riches Heures du Duc de Berry* (ca. 1415), to illustrate the month of October, demonstrates the inefficiency of the methods for planting that were used in Europe until the 18th Century. In the lower right corner, a peasant tosses seeds from a sack he carries, onto the ground. Behind him, another peasant is riding a horse that is pulling a rake, intended to cover the seeds with soil—a very unreliable method, that left many seeds exposed. Appropriately, pictured in the lower left, is a flock of birds, who are busily eating the seeds.

This method was so inefficient that most of the seeds never germinated to produce a crop. The plants also grew up in a disorganized mess. Weeding the fields was impossible, so the plants were left to compete with the weeds until harvesting season, considerably reducing the crop. In Europe, it was often necessary to save one-half of the harvest to use as seeds in the next year.

FIGURE 1



The wasteful and inefficient European planting method, as shown in Paul de Limbourg’s illustration for the month of October in the Duke of Berry’s book of hours, *Très Riches Heures du Duc de Berry*, c. 1415.



The Chinese seed drill improved agricultural yield by planting seeds in a row at a uniform depth and covering them immediately.

Wikipedia

By no later than the 6th Century B.C., the Chinese adopted the practice of growing crops in evenly spaced rows, and using a hoe to remove the weeds. *Master Lu's Spring and Autumn Annals* states "If the crops are grown in rows they will mature rapidly because they will not interfere with each other's growth."

At first, the seeds were placed by hand in furrows, in a ridge-and-furrow pattern. Around the 2nd Century B.C., the Chinese introduced the seed drill, which became almost universally used in northern China. This device consisted of small plows that cut small furrows in the ground, a mechanism that released the seeds evenly spaced into these furrows, and a brush or roller that covered the seeds with soil. The seed drill could be adjusted for different types of soil and seeds. This method of planting could achieve an efficiency 10 or even 30 times greater than sowing the seed by scattering it.

It should be easy to see that the difference in productivity between Chinese and European agriculture was dramatic. The area of land that could be brought under cultivation in Europe was constricted by inferior technology, and by the need to leave more land as pasture to feed the extra draft animals. Obviously, we are comparing two large areas, over a long period of time. However, Chinese yields have been estimated at two, five, or even ten times higher than yields in Europe, at various times. China's higher yields allowed for an increased population density, and also for an increased division of labor, as we will see below.

Eventually these technologies were transmitted to Europe, largely through the Jesuit missionaries who had arrived in China in the late 16th Century, which led to a large increase in agricultural production. The Chinese plow and seed drill were introduced into Europe during the 17th Century, and gradually adopted throughout Europe. Growing crops in rows was championed by British agricultural reformer Jethro Tull, who printed a treatise in 1731 to persuade farmers to adopt what he called "horse-hoeing husbandry." Tull published arguments similar to those used 2,000 years earlier in China. Tull also devel-



*A scale model of one of Admiral Zheng He's enormous treasure ships in the 1405-1433 voyages, compared to the Santa Maria, one of the three ships of Christopher Columbus in the 1492 voyage to America.*

CC/Lars Ploughmann

oped one of the first successful European seed drills.

## Transportation and Infrastructure

The development of inland water transport, which is far less costly than overland transport for bulk commodities, was essential for the growth of a large-scale iron industry, and for transporting the large quantities of grain needed by China's cities. Even into modern times, the length of China's transportation canals has exceeded those of Europe.

The Jesuit missionary-scholar, Matteo Ricci, who first established a presence in China for the European missionaries who brought the scientific discoveries of the European Renaissance to China, wrote in 1615: "This country is so thoroughly covered by an intersecting network of rivers and canals that it is possible to travel almost anywhere by water." He also estimated that there were as many boats in China as in all of the rest of the world. And from 1405 to 1433, huge Chinese fleets under Admiral Zheng He carried out seven expeditions in ships far larger than any existing in the West, reaching as far as Africa and the Red Sea. The first fleet consisted of 317 ships and 26,800 men.

Around 215 B.C., the first contour canal was built in China, which linked the Chang Jiang (Yangtze) and the

FIGURE 2



Photo by Zhao, 1974

*The Anji (Zhaozhou) Bridge in Hebei Province was built by the architect Li Chun from 595 to 605 AD, during the Chinese Sui Dynasty. It is the world's oldest fully stone, open-spandrel, segmental arch bridge.*

Zhu Jiang (Pearl) river systems. During the Sui Dynasty (A.D. 581-618), the Grand Canal was constructed, connecting the Chang Jiang to Beijing, extending 1,250 miles, the longest and largest of all navigation canals in the world. During the Tang Dynasty (A.D. 618-907), over 2 million tons of grain were shipped, yearly, north on the canal. This increased to 7 million tons during the Song Dynasty.

### Roads and Horse Harnesses

The Chinese also developed an extensive network of roads. An old Chinese proverb, often quoted today in the context of President Xi Jinping's Belt and Road Project, says: "If you wish to prosper, first build a road." By 210 B.C., 4,000 miles of imperial highways, equal to the distance built by the Romans, had been constructed in China.

The Chinese made major innovations in bridge construction. A number of bridges were so well designed, that they are still in use over 1,000 years later. The Anji bridge in Hebei, **Figure 2**, built in A.D. 610 during the Sui Dynasty, still survives after 1,400 years. The bridge bears the inscription to its designer, Li Ch'un: "Such a masterwork could never have been

achieved, if this man had not applied his genius to the building of a work which would last for centuries to come."

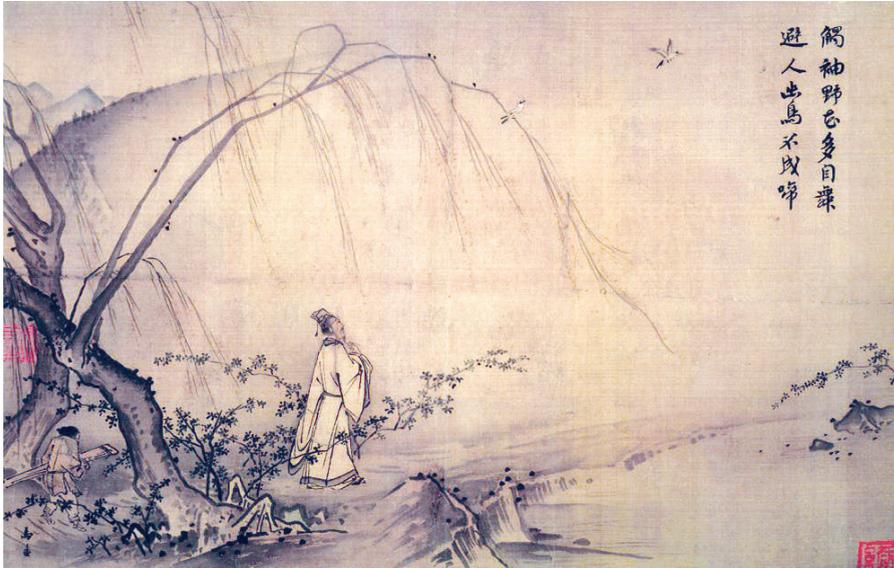
Under the Roman Empire, even the horses had an inferior existence to those living in China. The Romans used a throat-and-girth harness that went around the horse's neck. This choked the poor horse with the least exertion. In the 4th and 3rd centuries B.C., the Chinese made two improvements in horse harnesses, which placed the force of the load on the horse's chest bones, rather than its throat. Studies have shown that the Chinese harnesses allowed a horse to pull a load six times greater than that of a horse in a throat-and-girth harness. These Chinese harnesses were brought to Europe through Central Asia, thereby liberating Europe's horses from choking harnesses, and improving Europe's ability to transport goods. This same path was followed by the stirrup, another Chinese invention, which greatly improved man's ability to ride a horse for long distances with less exertion.

### Ancient China's Remarkable Cities

The superior Chinese technology made possible a much higher productivity in agriculture, both per-person and per-hectare, which in turn allowed the Chinese economy to support a larger proportion of its population in non-agricultural employment, and allowed the development of a level of urbanization that was unprecedented in Europe until after the 15th-Century Renaissance.

The largest city of the Warring States Period (475-221 B.C.), Linzi, the capital of the state of Chi, reached a population of approximately 300,000. In 300 B.C., at least nine cities, containing more than 100,000 people each, can be identified. Approximately 4.3 million people, or approximately 14% of the population, lived in urban centers (defined as 2,000 or more persons).

During the 2nd Century B.C., Xi'an was the largest city in the world with about 1 million inhabitants. Luoyang, the capital of the Eastern Han Dynasty, reached a population of 500,000 during the 1st Century A.D. It had an imperial observatory, where Zhang Heng cre-



Walking on a Mountain Path in Spring, by Ma Yuan, 13th Century, Southern Song Dynasty.

products of all the hundred crafts. If everyone must make everything he uses, the Empire will be led along the path of incessant toil.

—Mencius,  
Book 3, Part A, 4

The urbanization also facilitated advanced scientific research facilities, education and culture, which is expressed historically by the extraordinary output of art, music and poetry in the Tang and Song Dynasties, from the 7th to the 13th centuries.

The Chinese were also the first to develop printing—woodblock printing in the 2nd Century A.D.,

and movable type in 1040, during the Song Dynasty, centuries before the Gutenberg printing press in 1450. Books circulated widely across China during the Song, many of them on agriculture and related scientific topics.

### Scientific Discovery Is Necessary for Survival

In the 13th Century, China was hit the catastrophe of the Mongol invasion. The level of genocide is illustrated by the drop in the population from approximately 120 million in 1200 to half that level 125 years later.

With the overthrow of the Mongols in 1368, the Ming Dynasty returned to the Confucian teachings of Zhu Xi, launched the great maritime explorations of Admiral Zheng He, and restored population growth and urbanization—but never reached the levels of the Song Dynasty. Near the end of the Ming, and well into the Qing Dynasty which followed after 1644, the Jesuit missionaries arrived in China, were warmly received, and the scientific and cultural cooperation between Confucian China and Christian Europe flourished.

However, that cooperation was sabotaged, not by the Chinese, but by Venetian intrigue against the cooperation between Confucianism and Christianity, leading to a papal decree demanding that Christians in China must denounce Confucianism. Since government positions in China were achieved through demonstrating excellence in the moral and cultural teachings of the Confucian texts, the Papal Decree constituted a

ated his seismograph, and advanced his theory that the Earth was spherical. Luoyang had an Academy attended by 30,000 students, and a granary for times when food relief was needed.

Under the Song Dynasties (960-1279), China's cities reached their height of development. Lin-an (Hangzhou), the capital of the Southern Song, reached 2.5 million by 1200. In addition, there were two other cities of 350,000 each, and others had more than 100,000 each. By contrast, in 1200, the largest cities in Western Europe were Florence and Venice with about 90,000 each, and Milan with 75,000. The largest European cities during the Middle Ages were Constantinople and Cordoba. Constantinople, in today's Turkey, reached around 600,000-800,000 in 1100. Cordoba, in Muslim Spain, reached 400,000-500,000, but then declined.

The level of urbanization in China has been estimated at around 20% in 1200. France and England did not reach a 20% level of urbanization until the 18th Century.

### Successful Economic Development

The development of a large urban population allowed the Chinese economy to achieve a higher division of labor, which was the basis for further increases in productivity. Mencius described the importance of a large division of labor:

Moreover, it is necessary for each man to use the

direct attack on the government, forcing the banning of the Jesuits from China in 1721. The loss of this critical historic connection between East and West led to the second catastrophe for China—the arrival of the British gunboats and two genocidal Opium Wars in the mid-19th Century.

China ended the era of monarchical power in the Republican revolution of 1911, under the leadership of the American System advocate Sun Yat-sen. But the 20th Century was a century of colonial and global wars, preventing any dramatic development until the “Reform and Opening Up” under Deng Xiaoping in the 1980s, which included a return to the Confucian traditions with a focus on science and technology. Deng asserted:

We often say that man is the most active productive force. “Man” here refers to people who possess a certain amount of scientific knowledge, experience in production and skill in the use of tools to create material wealth. There were vast differences between the instruments of production man used, his mastery of scientific knowledge, and his production experience and skills in

the Stone, Bronze and Iron Ages, and in the 17th, 18th, and 19th centuries. Today, the rapid progress of science and technology is speeding up the introduction of new production equipment and new technological processes.

The phenomenal transformation of China during these past 40 years, and the launching of the Belt and Road Initiative in 2013 by Xi Jinping, taking the Chinese miracle to the rest of the world, has brought China again to a position of world leadership in a growing number of scientific and technological areas of development.

As the world is now experiencing the greatest crisis of modern history, a truly global crisis—with the COVID-19 pandemic, economic collapse in many parts of the world simultaneously, a financial bubble unprecedented in history, and the cultural decay of drugs, anarchy and perversity infecting especially the trans-Atlantic region—Americans would do well to study the 5,000-year history of China, examine the ideas which lay behind the current Chinese Renaissance, and help the LaRouche movement to bring the great historic cultures of the world together to meet this crisis.

## The New Silk Road Becomes the World Land-Bridge

**The BRICS countries have a strategy to prevent war and economic catastrophe. It's time for the rest of the world to join!**

This 374-page report is a road-map to the New World Economic Order that Lyndon and Helga LaRouche have championed for over 20 years.

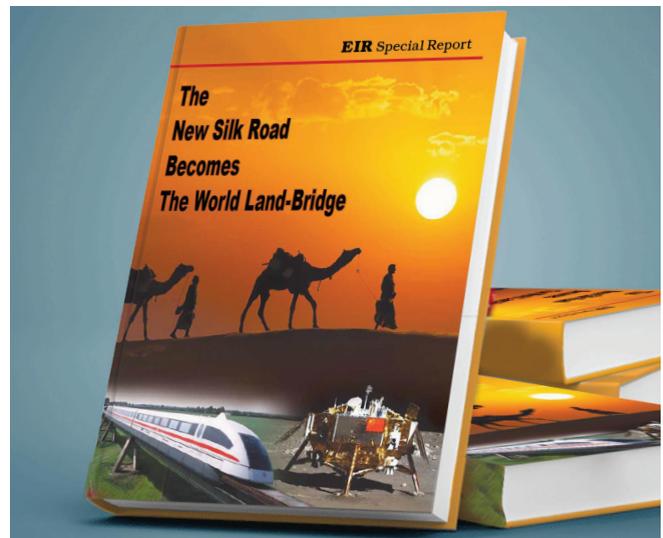
**Includes:**

**Introduction** by Helga Zepp-LaRouche, "The New Silk Road Leads to the Future of Mankind!"

**The metrics of progress**, with emphasis on the scientific principles required for survival of mankind: nuclear power and desalination; the fusion power economy; solving the water crisis.

**The three keystone nations:** China, the core nation of the New Silk Road; Russia's mission in North Central Eurasia and the Arctic; India prepares to take on its legacy of leadership.

**Other regions:** The potential contributions of Southwest, Central, and Southeast Asia, Australia, Europe, and Africa.



The report is available in PDF **\$35**  
and in hard copy **\$50** (softcover) **\$75** (hardcover)  
plus shipping and handling.

Order from <http://store.larouchepub.com>

SUBSCRIBE TO

# EIR Executive Intelligence Review EIR Online



**EIR Online** gives subscribers one of the most valuable publications for policymakers—the weekly journal that has established Lyndon LaRouche as the most authoritative economic forecaster in the world today. Through this publication and the sharp interventions of the LaRouche Movement, we are changing politics worldwide, day by day.

EIR Online includes the entire magazine in PDF form, plus up-to-the-minute world news.

## EIR DAILY ALERT SERVICE

EIR's new Daily Alert Service provides critical news updates and analysis, based on EIR's 40-year unparalleled track record in covering global developments.



SUBSCRIBE (e-mail address must be provided.)

### EIR Online

- \$ 360 for one year
- \$ 180 for six months
- \$ 120 for four months
- \$ 90 for three months
- \$ 60 for two months

### EIR DAILY ALERT SERVICE

- \$50 one month (introductory)
- \$150 three months
- \$300 six months
- \$600 one year (includes EIR Online)

For mobile users, EIR and EIR Daily Alert Service are available in html

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ Country \_\_\_\_\_

Phone ( \_\_\_\_\_ ) \_\_\_\_\_

E-mail \_\_\_\_\_

I enclose \$ \_\_\_\_\_ check or money order

Make checks payable to

EIR News Service Inc.

P.O. Box 17390, Washington, D.C. 20041-0390

Please charge my  MasterCard  Visa  
 Discover  Am Ex

Card Number \_\_\_\_\_

Signature \_\_\_\_\_

Expiration Date \_\_\_\_\_

EIR can be reached at: [www.larouche.com/eiw](http://www.larouche.com/eiw)  
e-mail: [fulfillment@larouche.com](mailto:fulfillment@larouche.com) Call 1-800-278-3135 (toll-free)