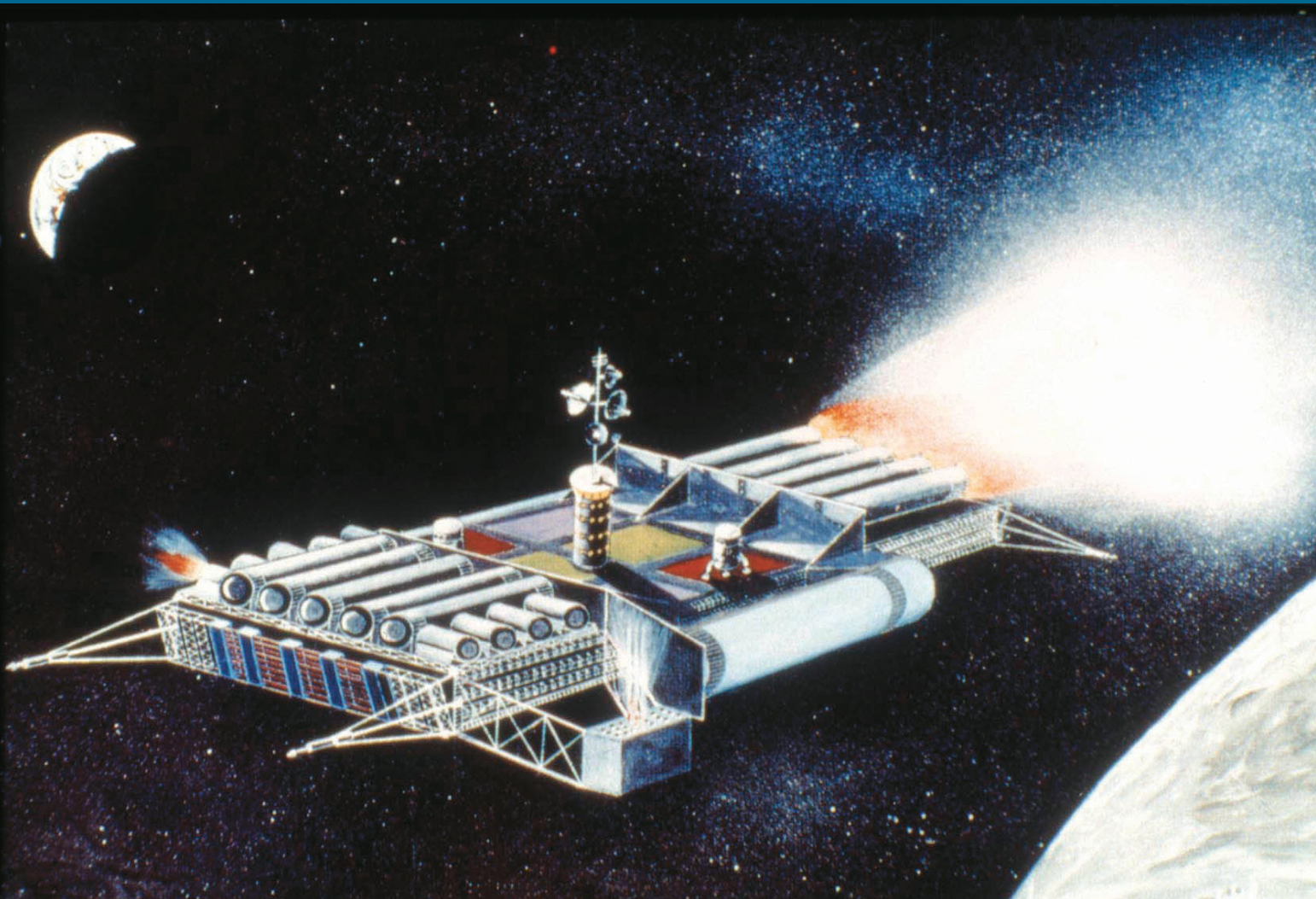


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The Silk Road in Space

IN COURT

Gen. Flynn Sets the Table for Full Reveal of British Role in Attempted U.S. Coup

by Barbara Boyd

Sept. 13—In a remarkable motion fittingly filed on September 11, Michael Flynn's attorney Sidney Powell produced a detailed request for documents that will substantially reveal parts of the story of the British campaign, initiated in 2014, to shape the 2016 U.S. election and destroy the potential of Donald Trump's presidency.

She will be getting the story through what appears to be a provable account of the targeting of General Flynn, beginning in 2014, by the highest echelons of Anglo-American intelligence, because he had called out their alliance with Al-Qaeda and similar terrorists in Syria and was seeking an alliance with Russia to fight Islamic terrorism in the region.

Powell is asking U.S. District Judge Emmett Sullivan to hold Robert Mueller's prosecutors in contempt for not producing documents that would exculpate Flynn or support his defenses at trial, documents which her very detailed motion indicates she knows, definitively, to exist. The Constitution, and Judge Sullivan in particular, through standing orders in his court, require prosecutors to produce all evidence in their possession which tends to exculpate defendants or support their defenses.

General Flynn pled guilty to lying to the FBI based on an FBI interview conducted at the White House on January 24, 2017, his second full day as Donald Trump's National Security Advisor. While FBI Director James Comey previously testified to Congress that the agents interviewing the General did not believe he deliberately lied to them in that interview, Special Counsel Robert Mueller and his henchman pursued Flynn, and his son, claiming that he lied in his White House interview, and claiming that he and his son were unregistered foreign agents of Turkey.



The Mueller knuckle draggers engaged in a relentless press campaign painting the decorated warrior as an out-and-out unhinged traitor, and an agent of Russia. By most accounts, Flynn fell on his sword and pled guilty to lying to the FBI on December 1, 2017, in order to protect his son, who was threatened with indictment, and to protect his family, whose finances were in ruins due to legal fees. Flynn is to be sentenced by Judge Sullivan, having fired his previous lawyers and replaced them with Sidney Powell and others. Powell is the author of *Licensed to Lie*, a detailed account of Justice Department perfidy in the Enron and Ted Stevens cases, particularly focused on Robert Mueller's chief attack dog, Andrew Weissmann.

Mueller's Collusion with the British

Powell's motion seeks the details of Flynn's targeting in 2014 by British intelligence, a provable plot with

events involving Sir Richard Dearlove, Christopher Steele, Stefan Halper, Joseph Mifsud, Sir Christopher Andrew, and others who appear over and over again in the concocted plot against President Donald Trump. She includes the first efforts to falsely paint Flynn as a Turkish agent through lies told by James Woolsey, Bill Clinton's CIA Director and the man who sponsored Ahmed Chalabi, the "asset" who laid the basis for the disastrous Iraq war.

As a result, Flynn was fired from his position as Director of the Defense Intelligence Agency (DIA), and subjected to counterintelligence investigations based on bogus British claims that he was way too close to Russian military intelligence (GRU) and had an affair with a Cambridge-based Russian historian. Flynn was one of four targets associated with the Trump Campaign when the Cross-Fire Hurricane investigation was "officially" opened by the FBI. Way back in 2015, John Brennan had convened a special FBI-CIA taskforce at the CIA aimed at destroying the Trump Campaign.

Powell is also seeking a letter from British intelligence disavowing Christopher Steele's reliability, sent to Susan Rice in the Obama White House and President Trump's transition team, which undermines much of the predication for the FBI's Cross-Fire Hurricane targeting of General Flynn.

Powell also outlines details of the now notorious ambush interview of Flynn at the White House, which was the basis of his guilty plea for lying to the FBI. She appears to claim that it was James Clapper who committed the felony of leaking classified conversations between Flynn and Russian Ambassador Sergey Kislyak to the *Washington Post's* David Ignatius, in the elaborate setup conducted against Flynn. Ignatius claimed in his January 12, 2017 *Washington Post* interview that Flynn's discussions with Ambassador Kislyak about the Obama Administration's Russian sanctions violated the Logan Act, a 200-year-old statute that had never been used. This article created the pretext for sending FBI agents to interview Flynn at the White House, assuring him, according to Powell's document requests, that there was no active investigation con-



USAF/Jonathan Lovelady

Left to right: Matthew Olsen, National Counterterrorism Center Director; James Comey, FBI Director; James Clapper, Director of National Intelligence; John Brennan, CIA Director; and Gen. Michael Flynn, Defense Intelligence Agency Director.

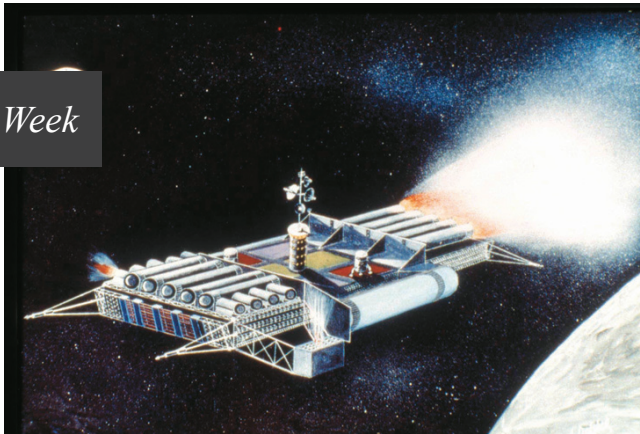
cerning him and that he did not need a lawyer.

Andrew McCabe conducted this setup, proudly presided over by James Comey, sending the now infamous Peter Strzok to conduct the interview and record what Flynn allegedly said. Powell details that there are multiple 302s of this interview, a highly irregular situation in the FBI. Based on Powell's document requests, Strzok and McCabe then met with Vice President Pence to ensure that Flynn was fired. On January 30, 2017, a document was circulated in the Department of Justice and never produced to Flynn's defense team stating that he was neither an agent of Turkey, nor of Russia. McCabe in particular is singled out during this phase of the operations against Flynn, having declared, in an FBI conference call, "First we'll f— Flynn, then we'll f— Trump."

Peter Strzok and McCabe's FBI counsel, Lisa Page, famously engaged in an extramarital romance and exchanged numerous text messages detailing their bias against Donald Trump and their decision to "stop" his ascent to the White House. Powell is seeking all of the text messages between these illicit lovers, including those destroyed by Robert Mueller's staff, for the period when the two were part of Mueller's team. In addition, Powell has asked in detail about the campaign to destroy General Flynn's reputation by Mueller's team as they investigated him. These requests hold promise of delineating the exact relationships between various intelligence community scribes in the news media and Mueller's henchmen.

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A nuclear freighter as conceived by space visionary Krafft Ehrlicke.



Krafft Ehrlicke

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I. The New Paradigm and Its Opponents

How to Help the West to Better Understand the Belt & Road Initiative

by Helga Zepp-LaRouche

Presented at the 2019 Euro-Asia Economic Forum, which took place in historic Xi'an, China, bringing together over 1,000 people, representing more than 58 nations from Europe and Asia, for two days of presentations and discussion. Helga Zepp-LaRouche gave this speech as the keynote presentation to the Forum's "Think-Tank Meeting" on Sept. 11.

For most Chinese, it is very difficult to understand why so many institutions in the West are reacting so negatively to the Belt and Road Initiative (BRI, or New Silk Road), and why an anti-Chinese mood has been stirred up recently; why in the USA, for example, Chinese scientists and 450,000 students are suspected of being spies, which is reminiscent of the worst days of the McCarthy period, while in Europe, some security authorities are making similar allegations. It is difficult to understand, because the Chinese people experience the reality of the BRI from a completely different perspective.

For the people of China, the experience of the last 40 years of reform and opening-up policy since Deng Xiaoping is an incredible success story. From a relatively poor developing country—as I myself experienced it in 1971, when I was in China for the first time—China has developed into the second, and in some categories even the first national economy in the world. Eight hundred million people have been freed from poverty; a wealthy middle class of 300 million and soon 600 million people with a good standard of living has developed. The pace



EIRNS/Pat Holzer

Helga Zepp-LaRouche addresses the 2019 Euro-Asia Economic Forum Think-Tank Meeting in Xi'an, China, on September 11, 2019.

of modernization is unparalleled in the world, as is demonstrated, for example, by the expansion of a 30,000-kilometer high-speed railway system that will soon connect all the major cities.

Since President Xi Jinping put the New Silk Road on the agenda in Kazakhstan, in September 2013, China has also made cooperation with the Chinese



Zepp-LaRouche keynotes Think-Tank Meeting panel.

model of success available to all other states for “win-win” cooperation. In the mere six years that have passed since then, there has been an incredible response to the BRI, which now has 130 nations and more than 30 large international organizations cooperating with it. This, the largest infrastructure project in human history, has launched six major corridors, built railway lines, expanded ports, built industrial parks and science cities, and for the first time offers developing countries the opportunity to overcome poverty and underdevelopment.

From the very beginning, the BRI has been open to all the countries of the world. President Xi Jinping has not only explicitly offered cooperation to the USA and Europe, but has also said in countless speeches, that he is proposing a completely new model of international cooperation among nations, a “community for the shared future of mankind.” In doing so, he has proposed a higher conception of cooperation, unprecedented in history, which overcomes geopolitics and replaces it with a harmonious system of development for the benefit of all. In this sense, the BRI is the absolutely necessary economic basis for a peace order for the 21st century!

While in many countries of Asia, Africa and Latin America, and even some in Europe, the New Silk Road is welcomed as the greatest vision, as a concept of “peace through development,” as Pope Paul VI had formulated it in his encyclical of 1967, *Populorum Progressio* (On the Development of Peoples)—yet its

adversaries call the same policy a “competition of systems.”

Many Chinese do not understand why this violent reaction, fuelled by geopolitical motives, is taking place. Meanwhile, the West has begun to habituate itself to the changes that have fundamentally altered its political orientation and its scale of values over almost the last 50 years.

The crucial point is that a paradigm shift has taken place in the West since 1971, leading in the opposite direction from the path

that China has taken.

Toward a New Fascism

When President Nixon triggered the dissolution of the Bretton Woods System on August 15, 1971, with its fixed exchange rates and gold reserve standard of the dollar, he set the course towards an increasing renunciation of a policy oriented toward the real physical economy, in favor of a policy aimed at the monetary profits of the financial economy, which was increasingly oriented toward maximizing those profits.

This tendency was reinforced by the abolition, in 1999, of the Glass-Steagall banking separation system, and the accompanying complete deregulation of the financial markets, which led to repeated financial bubbles, and finally to the crash of 2008. Yet the central banks have done absolutely nothing to remove the causes of that crash, but on the contrary, have promoted speculation in the casino economy at the expense of the real economy, through continued quantitative easing, zero interest rates and now even negative interest rates. As a result, the trans-Atlantic financial system, today, faces the danger of an even more dramatic crash than that of 11 years ago.

The American economist Lyndon LaRouche, my recently deceased husband, farsightedly warned in August 1971, that a continuation of Nixon’s monetarist policy would lead to the danger of a new depression and a new fascism—if it were not replaced by a new world economic order.

In 1972, LaRouche also opposed the Malthusian-inspired thesis of the Club of Rome, that the “limits to growth” had supposedly been reached; a false doctrine on which the entire environmentalist movement is still based today, and which has led to a “greening” of a large part of the political party spectrum of the West.

LaRouche replied with his book, *There Are No Limits to Growth*, which emphasizes the role of human creativity as the engine of scientific and technological progress, which is the factor that defines what a “resource” is. At the same time, he also warned that the shift in values towards a rock-drug-sex counterculture associated with this neo-liberal economic policy, would, in the medium term, destroy the cognitive faculties of the population, and thus not only cause a cultural crisis, but also ruin the productivity of the economy.

Unfortunately, this is exactly where we are today.

China took the opposite path in 1978. It replaced the anti-technology policy of the Gang of Four, with a dirigist real economy, based on innovation and financed by a state credit policy.

What is not understood in the West, is that the Chinese economic model is identical, in its basic principles, to the American System, as developed by the first Secretary of the Treasury of the young American Republic, Alexander Hamilton, and his concept of the National Bank and sovereign credit creation. This concept was elaborated by the German economist Friedrich List, who is very famous in China; it was the framework of Lincoln’s economic advisor Henry C. Carey, and it influenced the economic policies of Roosevelt’s Reconstruction Finance Corporation, with which he led the U.S. out of the depression of the 1930s. The Reconstruction Finance Corporation was later the model for the Kreditanstalt für Wiederaufbau, with which Germany organized its post-war reconstruction and the German economic miracle.

So today, China is doing the same thing that was the basis of the economic success of the USA and Germany, before they turned away from this policy and replaced it with the neo-liberal model, whose “success”



Pat Holzer

From left to right: Nino Galoni, Helga Zepp-LaRouche, Jacques Cheminade, and Odile Mojon, at the 2019 Euro-Asia Economic Forum.

can be seen today in the example of the world’s largest derivatives trader, the bankrupt Deutsche Bank.

Cai Yuanpei and Aesthetic Education

An extremely important aspect of the success of the BRI, which is insufficiently understood in the West, and, in my view, not sufficiently emphasized by China, is the basic cultural orientation of the 2,500-year-old Confucian tradition of Chinese society, which was only interrupted during the ten years of the Cultural Revolution. In China, thanks to this tradition, the common good plays a greater role than individualism, which has acquired a greater significance in the West since the Renaissance, but which, to some extent, has taken on a life of its own with today’s liberal change in values, and has degenerated into “everything is permitted.”

The Confucian tradition also implies that the development of the moral character is the highest goal of education, which is expressed in the term *junzi*, which roughly corresponds to Friedrich Schiller’s concept of the “beautiful soul.” It has therefore been taken for granted in China, for more than two thousand years, that respect for public morality and the fight against bad qualities in the population are the prerequisites for a highly developed society.

In the West today, with the abolition of the Humboldt educational ideal—the core of which had also

been the development of the “beautiful character”—the idea of the necessity for moral improvement goes completely against the *Zeitgeist*, the spirit of the times. It is therefore only from the point of view of the liberal system, that someone could call China’s an “authoritarian system,” but by no means from the point of view of China’s own cultural history.

Anyone who wants to understand Xi Jinping’s intentions must consider his letter in reply to the request of eight professors of the Central Academy of Fine Arts (CAFA), about a year ago, in which he emphasized the extraordinary importance of aesthetic education for the spiritual development of China’s youth. Aesthetic education plays a decisive role in the development of a beautiful spirit; it fills the students with love, and promotes the creation of great works of art.

Confucius had already understood that the study of poetry and good music should have a decisive role in the aesthetic education of man, but a master key to the understanding of Xi Jinping’s vision, not only of the “Chinese Dream,” but of the harmonious development of the entire human community, is the scholar who created the modern Chinese educational system—the first Minister of Education of the Provisional Republic of China, Cai Yuanpei. During his travels in search of the best educational systems of his time, Cai finally, in Leipzig, came across the aesthetic writings of Baumgarten and Schiller, and, through the writings of the philosophical historian Wilhelm Windelband, became aware of Wilhelm von Humboldt’s educational concept. He was totally enthusiastic about the affinity of Schiller’s aesthetic education to Confucian morality, and recognized that Schiller influenced the spirit of German Classicism with “great clarity.”

Cai used these ideas to modernize the Chinese educational system, and created the new term *meiju*, for aesthetic education. This strengthened the idea, already found in Confucius, that the refinement of character can



Center, from left to right: Odile Mojon, Jacques Cheminade, and Helga Zepp-LaRouche, with other panelists at the Think-Tank Meeting of the 2019 Euro-Asia Economic Forum.

EIRNS/Pat Holzer

be achieved by immersion in great classical art, so that in this way, a bridge can be built between the sensual world and reason. In an essay of May 10, 1919, Cai formulated thoughts that could also build a bridge for today’s problems in the West:

I believe that the root of our country’s problems lies in the short-sightedness of so many people who want quick success or quick money without any higher moral thinking. The only medicine is aesthetic education.

Is the Good No Longer Conceivable?

Many people in the West today, find it hard to believe that China could be serious about its idea of win-win cooperation, because they have become too accustomed to the paradigm shift already described, with its axiom that all human interactions must be a zero-sum game. But we in the West should remember that the Peace of Westphalia of 1648, which ended 150 years of religious war, established the principle that a lasting order of peace must take into account the interests of others. It was the Peace of Westphalia which established international law and laid the foundations for the UN Charter.

It is the West, and not China, which has moved away



EIRNS/Pat Holzer

Helga Zepp-LaRouche and Jacques Cheminade, with another guest at the Think-Tank Meeting of the 2019 Euro-Asia Economic Forum.

from the principles laid down therein, such as absolute respect for the sovereignty of all states—adopting instead concepts such as the alleged R2P (right to protect), so-called “humanitarian” wars of intervention, and regime change through color revolutions, as we are currently witnessing in Hong Kong.

Xi Jinping’s vision of a “community of a shared future of humanity” corresponds to the Confucian notion of a harmonious development of all, a tradition to which Cai Yuanpei also contributed essential thoughts. He designed the dream of a “great community of the whole world” (*datong shijie*), which would be harmonious and without armies and wars, and which could be achieved through the dialogue of cultures, comparing the partaking of a culture by the culture of other peoples, with the breathing, eating and drinking of the human body, without which it can not live. Indeed, a look at history shows that any higher development of mankind has always taken place through involvement with other cultures.

It is significant that hardly any real analysts or politicians in the West have responded to Xi Jinping’s idea of a “community of destiny for the future of mankind” in any significant

way. If it is mentioned at all, it is only in passing, as if it were not worth regard as anything other than communist propaganda, and as an announcement of China’s intention to play a leading role on the world stage in the future. But what Xi said at the 19th National Congress of the Communist Party of China (CPC) in 2017, was that by 2050, at about the 100th anniversary of the founding of the PRC, the people of China should have democracy, human rights, a developed culture and a happy life. And, not only the Chinese, but all peoples on this planet.

This implicitly poses the question—and answers it positively—that should occupy all philosophers, scientists and statesmen and stateswomen, in view of the many chaotic developments on our planet: Can the human species give itself an order that guarantees its

long-term survival, and is appropriate to the specific dignity of humanity as a creative species? Xi’s concept of the one community of a shared future, very clearly presents the thought that the idea of the one mankind be put first, and only then can national interests be defined in agreement with it.

West Must Return to Cusa, Leibniz, Schiller

In order to be able to keep up with the discussion on this level, of how to shape this new order of “re-



EIRNS/Roger Moore

Helga Zepp-LaRouche being interviewed at the 2019 Euro-Asia Economic Forum.



EIRNS/Pat Holzer

Group photograph at the Think-Tank Meeting of the 2019 Euro-Asia Economic Forum.

classical music in the culture of Bach, Beethoven and Schiller; and of republican traditions in politics. Only when the West experiences a great “rejuvenation,” reviving the ideas of Alexander Hamilton, Friedrich List and Henry C. Carey, can the problem be solved.

Leibniz was very enthusiastic about China, and he tried to learn as much as possible about it from the Jesuit missionaries. He was fascinated that the Kangxi Emperor had come to the same mathematical conclusions as he had, and concluded that there are universal principles accessible to all people and cultures. He even thought the Chinese were morally superior. He wrote:

formed international governance,” we in the West must return to the very humanist traditions that we have pushed aside with the liberal system. Corresponding ideas can be found in Nicholas of Cusa, who considered a concordance of macrocosms possible only through a harmonious development of all microcosms. Or in Gottfried Leibniz’ idea of a pre-stabilized harmony of the universe, in which a higher order is possible, because with higher development, the degrees of freedom increase and therefore we live in the best of all possible worlds. Or in Friedrich Schiller’s idea that there need be no contradiction between the citizen of the world and the patriot, because both are oriented towards the common good of the future of mankind.

In conclusion: China must help the West to understand the concept of the New Silk Road. China must not react defensively to the anti-Chinese attacks, but should instead emphasize the brilliant periods of its own history all the more proudly and self-confidently: the depth of Confucian moral theory, which inspired Benjamin Franklin to his own moral philosophy; the profundity of Chinese poetry; the beauty of Literati Painting. And China should challenge the West to revive its own humanistic traditions, of the Renaissance, of Dante, Petrarca and Brunelleschi; of

In light of the growing moral decay, it seems to be almost necessary that Chinese missionaries be sent to us, who could teach us the application and practice of a natural theology. I therefore believe: that if a wise man were chosen, to judge not the beauty of goddesses, but the excellence of peoples, he would give the golden apple to the Chinese.

The German middle class and the German small and medium-sized enterprises (SMEs), and cities such as Genoa, Vienna, Zürich, Lyon, Duisburg and Hamburg, and many more, have long since come to realize the potential that lies not only in the expansion of bilateral relations, but above all in the expansion of cooperation in third countries, such as the industrialization of Africa and Southwest Asia.

The enthusiasm that is evident in international cooperation in space travel—the ESA cooperation in the projects of the Chinese Space Agency, the idea of international cooperation on the future Chinese space station, the construction of an international moon village and the terraforming on Mars—underlines that Xi Jinping’s vision of the community of a shared destiny for the future of mankind is within reach.

Hysteria in Sweden Over the Growing Interest in the Belt & Road

by Ulf Sandmark

STOCKHOLM, Sept. 11—The breakout by the majority of the world's nations from the old paradigm of economic speculation and poverty, as seen in the advances by the Belt and Road Initiative (BRI) in Eurasia and Africa, is bringing the oligarchical establishment in Europe and North America to the point of hysteria. The containment of their own populations is cracking open, as growing numbers of people are demanding an end to austerity and the right to a productive future. The fear that now grips the leaders of the old order is that this will lead to a demand for a link-up with the new paradigm, for joining forces with the Belt & Road Initiative and its 126 member-nations.

This demand became an open battle in Sweden in recent weeks. Over the past few years, especially in the last 18 months, the Schiller Institute has been very active in collaborating with various business, local gov-

ernment and constituency networks to publicize—through seminars, articles, reports—opportunities for economic activity within Sweden and internationally in connection with the BRI. In the course of this activity, in 2018 a new group was formed, the BRIX, the Belt & Road Institute of Sweden (brixsweden.com), which has functioned as a nonpartisan group entirely dedicated to informing the public about the BRI and opportunities for Swedish business and society to participate in BRI projects around the world.

Moreover, leading figures in the networks associated with the BRIX and the Schiller Institute have been active in promoting reconstruction programs for Syria, Yemen and the entire Southwest Asian region, in line with the traditional role of Sweden and Norway to actively contribute to world peace and development.



Belt and Road Seminar in Halmstad, Sweden, March 28, 2019.

collaborate on economic projects directly with China, despite the anti-China hysteria in Congress. It is noteworthy that on September 10, one of the most outspoken of the anti-China warhawks of the Trump Administration, John Bolton, was fired from his position as National Security Adviser.

Within Sweden, what hangs in the balance is that a new “Swedish China Strategy” is expected to be published in the next few months. This is a very hot

Swedish Establishment’s Ugly Reaction

The Swedish establishment’s reaction to these developments has been fierce. On August 17, a smear attack was launched through an hour-long program on state-owned public radio, Program 1, against the BRIX, the Schiller Institute and allied individuals. It was immediately amplified through print and TV media to discredit the work of these agencies, to demonize China and to defame leading people involved. An especially ugly aspect was the deployment of ethnic profiling against Asians. A carefully fabricated charge was made, claiming that all Chinese businessmen, diplomats, scholars and others automatically act on behalf of the Communist Party’s “United Front,” to conduct subversion. The roster of commentators engaging in this McCarthyite witch hunt includes individuals from the network of extreme anti-China intelligence operations, including the Falun Gong and MERICS (Mercator Institute for China Studies) in Berlin.

This assault has been met with a counter-attack. Several Swedish media and public figures have denounced the government-instigated attacks. Meantime, in the course of the fight, knowledge of, and the popularity of what the Schiller Institute and the BRIX stand for, is spreading more than ever throughout Sweden. What the Belt and Road Initiative can mean in opportunities for betterment, is becoming known.

The events of this Swedish battle are described in some detail below, because the episode sheds light on battles of the same nature now taking place in other western nations. For example, in the United States, many state governors and local leaders are seeking to

strategic matter. Sweden has one of the most advanced industrial cooperation projects in the world with China, in automobile manufacturing. The Volvo Car Group and NEVS (the former Saab car factory) both are owned by companies based in China. The question is, Will Sweden advance its cooperation with China and join the BRI, and expand into the many large projects on all continents with the current 129 nations that have signed cooperation agreements with the BRI?

The brutal, inquisition-style assault by Swedish public radio, described below, exposes a desperation in the geopolitically oriented political factions that fear the development of the Swedish economy in the direction of infrastructure investments, instead of money flows into speculative bubbles. They fear a resurrection of the politically influential middle class, centered on innovative SMEs (small and medium sized enterprises) and entrepreneurs.

In the following two-part account of recent events, the scope of the activities of the Schiller Institute in Sweden is presented first, and then the forensics of the attack against the Schiller Institute.

Schiller Institute’s New Paradigm

Until the end of 2018, most Swedes had little or no knowledge of the existence and significance of the Belt and Road Initiative. The black-out, which had predominated in most of the trans-Atlantic nations for the first few years since the announcement of the BRI in the fall of 2013, was broken, in Sweden, by Schiller Institute and BRIX events, presentations, and articles, over the past year and a half. Of course, most Swedes know



Ulf Sandmark at BRIX meeting in Sweden on April 17, 2019.



Hussein Askary

about the rise of China as the industrial workshop of the world, and of its huge domestic market. However, there was neither any reporting in the mainstream media about the huge change many nations in Asia, Africa and Ibero-America were undergoing in the framework of the BRI, nor accounts of the several huge international BRI summits.

Then at the end of 2018, the blackout in Sweden was transformed into an anti-BRI, anti-China campaign run through academic, media and political establishment circles. However, by this time, their negative intervention was countered by the cumulative effect of the activities of the BRIX and Schiller Institute. A short chronology of selected events indicates how this came to be.

The Schiller Institute's BRI Chronology

- **2016.** The Schiller Institute began the dissemination of *Project Phoenix*, co-authored by Hussein Askary and Ulf Sandmark, proposing international collaboration to rebuild Syria, released as a [video](#) by the La-Rouche PAC in the USA and [reported](#) in *EIR*.

- **May 30, 2018, Stockholm.** A Schiller Institute [seminar](#) titled, “The Significance of China’s Belt and Road Initiative for World Economic Development,” brought together speakers and attendees from the diplomatic and business community, and the public at large.

- **June 30, 2018, Frankfurt.** *The New Silk Road Becomes the World Land-Bridge: A Shared Future for*

Humanity, Vol. II, a book-length report, was released at an international Schiller Institute conference. The report reviewed the progress and prospects of projects worldwide, including maps and sections with specifics on Sweden, e.g., showing “Scandinavian Transport Corridors.” The team of authors included Swedish Schiller Institute leaders Hussein Askary and Ulf Sandmark, who circulated the new report widely in Sweden.

- **July 1, 2018.** The report, *Operation Felix*, authored by Hussein Askary for the reconstruction of Yemen, connecting it with the Silk Road, was launched officially by the Yemen General Investment Authority (GIA) under the name, *Happy Economic Miracle Report*.

- **Sept. 5-13, 2018.** The *Project Phoenix* proposal of the Schiller Institute for Belt & Road collaboration to rebuild Syria, co-authored by Hussein Askary and Ulf Sandmark, was again presented by a Schiller Institute delegation of Ulf Sandmark and Odile Mojon touring Syria.

- **Sept. 28, 2018, Stockholm.** The new organization BRIX (Belt and Road Institute Sweden) was announced at a gala event at the Hotel Winter Garden. It was formed from the forces that had gathered at the Schiller Institute event in May. BRIX was formed to inform the public and specialized constituencies, why it is necessary for Sweden to join the BRI and to promote business exchange with China, particularly for Sweden’s SMEs.

- **Oct. 29, 2018.** Hussein Askary addressed the Belt

and Road International Food Industry Conference in Beijing, an event with 5,000 participants, sponsored by *China People's Daily*, *Global Times*, and *China Food News*, and supervised by the official state Belt and Road Portal. Askary presented the work of the Schiller Institute to promote the Eurasian-African Land-Bridge.

- **Feb. 27, 2019.** BRIX presented the BRI in Skellefteå, Sweden at the side event for the Procurement Managers' Day in the North.

- **March 28, 2019, Halmstad University.** BRIX participated in a unique seminar on the BRI at the university.

- **May 22, 2019, Stockholm.** BRIX hosted a "Second Belt and Road Forum" in center city Stockholm. Thirteen ambassadors were among the 33 diplomats present, mostly from nations that are participating in the BRI, which offers Sweden enormous opportunities for business cooperation. The speakers' roster included ambassadors from China, Portugal and Pakistan. This event began to break the spell against the Belt and Road. Many Swedes are now interested in the opportunities made possible with the BRI.

The State Radio Attack

On Aug. 17, BRIX was attacked on the state-owned public radio, Channel 1, on the weekly *Konflikt* (Conflict) international affairs program, one of the main programs on foreign policy of the government-run media. The show has a record of promoting all kinds of geopolitical moves, fully in line with its name. During the past year and a half, it has attacked China and President Xi Jinping for all manner of imputed human rights issues.

The 56-minute, August 17 program (Segment 12) was packed with personal attacks, racial profiling, and accusations of collaborating with Communist Party subversion. The program triggered a half-day of hourly radio news spot attacks on BRIX and the Schiller Institute and articles in 31 Swedish newspapers the next day.

Overall, the radio program was crafted as a brutal, inquisition-style attack to try to scare Swedes off from cooperating with the BRI and China. A particularly ugly narrative was spun, that a BRIX board member—Mrs. Lydia Liu, who is a Swedish citizen and city council politician born in China, is likely working in a treasonous way with China's Communist Party (CCP) and its United Front unit. It is worth looking closely at this construct and the other aspects of the program. They are all in line with the international witch-hunt tactics against ethnic Chinese citizens now seen in the United

States and elsewhere, in which individuals are accused of "stealing" research and "spying" on local citizens and governments. Chinese scientists have even been summarily dismissed from their jobs.

In the center of the racist profiling, both in the U.S. and Sweden, in which any citizen or visitor with Chinese origins is considered a potential security risk, despite there being no evidence, is a contrived interpretation of China's National Intelligence Law of 2017. The anti-China interpretation asserts that Chinese citizens have an obligation to support national intelligence work. However, the law is clearly not applicable abroad. Secondly, even if it were interpreted to be applicable abroad, it does not say that all Chinese citizens, tourists, students or businessmen must provide intelligence secrets from the guest country to the Chinese intelligence service.

It is notable that the leading Swedish business law firm, Mannheimer Swartling, which has long experience with China and legal questions, has studied China's National Intelligence Law and concluded there are no grounds for presumption of espionage. The firm stated, "In general, the Draft [National Intelligence Law] is broad and vague, making it difficult to predict how the final law will be applied and enforced. The Draft only sets out some generic principles, calling on all Chinese people and organizations to collaborate and cooperate with national intelligence work."

'All Persons of Chinese Origin are Security Risks'

Nonetheless, it has become commonplace to assert that all persons of Chinese origin are security risks. It has become a standard phrase published by officials at the Swedish Defense Research Institute and the Swedish Security Police (SAEPO), as well as Swedish public radio.

Mrs. Liu was targeted with an attack of this sort during the Aug. 17 *Konflikt* broadcast. Liu is a prominent activist for development and international cooperation. She is the first China-born Swedish citizen to be elected to a local city council in Sweden. She is the founder and Executive Director of the China-Sweden Business Council (CSBC) to promote business relations with China.

In a segment of the show, *Konflikt* had guests on to imply that Mrs. Liu was actively working for the CCP's United Front. They interviewed Mrs. Liu, who was unaware of the United Front matter, and the show's guests went over the top to portray her as guilty by association. They referred to a meeting she had with Chinese busi-

ness people promoting visitors to Sweden, including a representative of the Investment Agency of the Hubei Province, who in an article on a Chinese website was said to be there as a representative of the United Front. This incorrect fact was later retracted by the Chinese website, as in none of the meetings was he presented in that way.

Konflikt also brought on as a guest, Hanna Sahlberg, a Chinese speaker and a former China correspondent for Swedish public radio, to try to trap Mrs. Liu into incriminating herself by having her recognize the Chinese written characters for “United” and “Front,” which Mrs. Liu did, though unaware of the culpability to be made of acknowledging the individual words. Sahlberg crowed, “When I ask Lydia in Chinese, she understands immediately. For sure she knows the United Front.” Later in the show, *Konflikt* editor and show host Ivar Ekman pompously said outright, “Lydia Liu is a founder of the CSBC... This organization that is cooperating with the United Front.”

This kind of false accusation was also used by other radio journalists who got in touch with Mrs. Liu’s prominent business contacts, to intimidate them into distancing themselves from her. She was never given any chance to defend herself publicly against the false accusations amounting to charges of treason, and she and her family have been put in personal danger.

Zepp-LaRouche Smeared as Communist Party Dupe for BRI

The first interview by *Konflikt* included the Chairman of BRI, Ulf Sandmark, during which they attempted to bring in a discussion of the LaRouche movement and the Schiller Institute in Sweden, in which Sandmark and two other board members of BRI are active. Sandmark kept the discussion to the activities of BRI and declined to speak about the Schiller Institute. The *Konflikt* program host went into sweeping attacks on Schiller Institute activities, and on its founder and President, Helga Zepp LaRouche,



China Sweden Business Forum in Stockholm, Sweden on September 28, 2018.

in Germany. Guest Mareike Ohlberg, of the Berlin-based MERICS (Mercator Institute for China Studies), presented ludicrous characterizations of the activity of the Schiller Institute in Germany, Italy and elsewhere, and implied it was incriminating that “in Germany, Helga Zepp-LaRouche speaks warmly of the Silk Road in conferences, meetings and seminars, and is quoted frequently in Chinese media. She has also founded a political party that has pushed the issue in local elections in Berlin...” Ohlberg, when asked why the Chinese Communist Party would “find it beneficial” to work with such an (alleged) fringe element, made vapid remarks that, “I guess it makes sense if you know how the CCP works, seeking broad alliances with those interested to work for the goals of the party.”

Another commentator in the *Konflikt* line-up to conduct its McCarthyite agenda, was Manyan Ng, Director of the Human Rights Association and a Falun Gong activist. Ng has a background as a China sales executive in the Swedish mega-multinational ABB. He spun a tale about how he found himself one night in Beijing, at an extortion meeting with the Chinese Communist Party’s United Front.

The policies and activities of the Schiller Institute and BRI are crucial to shaping the policies of the Swedish government in its New China strategy. The hysteria reflected in the Swedish public radio program is a clear indication that the geopoliticians are very nervous about the outcome.

II. The Ideas that will Govern the Future

A NEW GENERATION OF LEADERS

An Exchange on Nuclear Propulsion for Space Exploration

The following is an edited transcript of an exchange between Kesha Rogers, former candidate for Congress and a leader in the LaRouche movement, and NASA Administrator Jim Bridenstine, following his presentation on “JFK and the Race to the Moon” at the Rice Space Institute in Houston, Texas on September 12, 2019. A [video](#) of that exchange is available.

Kesha Rogers: Thank you very much for your service, and thank you for being an excellent NASA Administrator.

My name is Kesha. I want to let you know that I have been a very strong proponent of the space program. I contributed to a report on the subject on behalf of the national LaRouche organization. Right now we’re circulating a petition in support of President Trump’s Artemis program, and we’re getting quite a bit of support on campuses across the nation and internationally. I’ll give you a copy of that report before we leave here.

James Bridenstine: Let me know what I can do to help. I mean that seriously.

Rogers: My question to you is on the subject of not just supporting the next four years of the 2024 goal, but looking at the next 50 years of space exploration. You’re talking about the Moon-Mars mission. If we’re going to send human beings to Mars, we can’t be “taking your time,” and, “let’s do this,” getting people there in as long as nine months or more. There’s discussion right



NASA Administrator James Bridenstine at the Rice Space Institute in Houston, Texas on September 12, 2019.

EIRNS

now on the question of fusion propulsion.

Bridenstine: Oh yeah.

Rogers: So, I want you to speak on that, because the importance of this right now is, how can we actually get human beings to Mars, safely, efficiently, through 1g acceleration, through advanced propulsion—taking instead of more than nine months, less than a few weeks. And I think that’s a very important subject. Even the Russians are talking about the importance of fusion, and many countries are looking to mining the Moon for helium-3, as a fuel for fusion propulsion. So, I’d like you to comment on that.

Bridenstine: My goodness there’s a lot, Kesha! Thank you for your advocacy, and thank you for wear-

ing that shirt. Keep doing that. [laughter]

You mentioned 2024, and some people have said maybe that's a partisan date. Remember what Kennedy said, "by the end of the decade": He gave it a date. Why? Because that's how you get results. And it's important, in this particular case, when we look at why—We compressed the timeline; originally it was 2028, based on traditional budgets. The President said, that's not good enough, so he said, accelerate it. We did. He helped us with additional budget in the budget request. We did a [legislative] amendment and we got that amendment over to the Hill.

'NASA Has a *Political* Problem!'

But here's the important thing: NASA doesn't have a science problem or a technical problem. We can retire all of the technical risks you can imagine. We're an amazing agency, with amazing engineers. We have a *political* problem! That's why we're not on the Moon right now; that's [why] we're not at Mars right now. And Professor Brinkley [Douglas Brinkley at Rice University] has been very clear about why Kennedy was successful: It was bipartisan—and, he gave it a deadline and he moved fast; there was a race.

So, when a program goes 15 years, 20 years, and costs billions of dollars and people aren't seeing results, that's when they get cancelled. When we cannibalized the Science Mission Directorate to fund human exploration, that's when it creates a partisan fight. When we cannibalized the International Space Station to fund deeper space exploration, we create a parochial fight—I'm saying that because the Texas delegation is sitting right here in front of me. [laughter]

So these are all things that—we have a political science problem at NASA historically. I have been very clear: My objective is to fix that. I've been working on it since the day I got into this office.

That being said, fission—fusion, you said, we're not there on fusion; that's going to take a number of years.

For people in the room that might not be aware, fusion of course is taking two nuclei and pushing them together. That's basically how you get energy out of the Sun, and of course the release of energy is massive. Fission is actually nuclei breaking apart.

Fission, I think, is in the short term, how do we do nuclear propulsion. It's going to be necessary to go to Mars: Radiation in deep space is harsh on the human condition; if instead of a seven-to-nine-month journey, we can make it a two-to-three-month journey, it's really good for the medical condition of the astronauts. I will also say that we can do it so safely, that we can do it in a way that it could never be weaponized, and certainly we don't want that, and we would never allow that to happen in the agency.



Kesha Rogers posing a question to NASA Administrator James Bridenstine.

EIRNS

But I will say, other countries do it, other countries are developing that technology right now, and we should be part of it. But cis-lunar space, when you talk about having nuclear propulsion in space, being able to maneuver in cis-lunar, basically the space between the Earth and the Moon, is going to be critical for the future from a national security perspective, for all kinds of reasons I'm not going to talk about here.

But at the end of the day, that's a technology that the DOD [Department of Defense] is interested in. There's no reason, if the DOD is developing it, that we shouldn't take advantage of it for exploration, and it's important.

So anyway thank you all, so much. [applause]

Extinction Rebellion Climate Violence: Funded by the World's Richest People

by Dean Andromidas

Sept. 13—One of the co-founders of the Extinction Rebellion organization we profile here, Roger Hallam, made a video in August 2019 for its web site, in which he advised the climate demonstrators why, in this “climate emergency,” they must accept money from “rich people who are capitalists.” These wealthy people are beset with climate anxiety, he told his supporters:

We’re dealing with people who cry at night, just as we do. We don’t want them to commit suicide. No! We want them to ring us up and give us that million quid [\$1.3 million].

Very rich people, indeed, support the Extinction Rebellion, which calls itself XR for short.

The same billionaires who aim to make large profits with so-called “green finance” schemes for high-tax, high-cost “renewable energy” technologies, are financing XR. According to Extinction Rebellion documents ac-



YouTube video player showing Roger Hallam speaking. The video title is "1) Roger Hallam, 'Should we take their money?' - European Arguments 1/4 | Extinction Rebellion". The video has 6,088 views and was published on Sep 9, 2019. The channel is Extinction Rebellion with 36.2K subscribers. A description below the video reads: "In this the 1st vid of his 4 part 'European Arguments' series Roger contemplates the pros and cons of accepting money from 'rich people' and the attendant tension it might create between volunteers and paid staff."



FridaysForFuture demonstration in Stuttgart, Germany on May 24, 2019.

CC/Frytaarn

quired by Breitbart News, the mega-speculator and financier of so many No-Good Organizations (NGOs), George Soros, topped XR's list of eco-anxious donors, although the amount he gave was blacked out in the relevant document. Other European funds have come from the Children's Investment Fund Foundation, which gave no less than £121,140 (about \$155,000). This is the foundation of the notorious, mercenary London-based hedge fund, The Children's Investment Fund Management, founded and run by Sir Chris Hohn. The CEO of this foundation, which has an endowment of over £2 billion, is Kate Hampton, who also serves as Vice Chair of the key European Climate Foundation and a board member of the Carbon Disclosure Project (CDP).

Another hedge fund donor is Alasdair Breach, founder of the London-based Gemsstock Limited hedge fund. He transferred £50,000 (about \$65,000) through his investment company Furka Holdings AG in Andermatt, Switzerland.

The other funders from Europe include Greenpeace, which gave £10,000, and the European Climate Foundation (ECF), which gave £20,000. The latter's Chairman, Stephen Brenninkmeijer, is a member of the billionaire Brenninkmeijer family that owns C&A Clothing stores, has billions of dollars in "green" and not-so-green investments. One of the most important funders of the environmentalist movement in Europe, the ECF is financed by the Rockefeller Brothers Fund, Bloomberg Philanthropies, Children's Investment Fund Foundation and the Growald Family Fund. The latter is the fund founded and led by Paul Growald, who started his career as public relations representative for the evil Paul R. Ehrlich. Ehrlich's 1972 book, *The Population Bomb*, was a famous series of wildly false doomsday predictions he still claims will come true—someday.

From the Tides Foundation in the United States, which has been funding environmentalism for decades,



NASA/Goddard/Taylor Mickal

Rory Kennedy

came \$10,000. Then the Climate Emergency Fund announced its establishment earlier this month, with a commitment of £500,000 to the Extinction Rebellion and other groups. This fund is led by Rory Kennedy, the daughter of Robert and Ethel Kennedy; and Aileen Getty, the daughter of the late rabid anglophile, Sir John Paul Getty, Jr., who became a British citizen and was knighted by the Queen. A few weeks after this announcement, the younger Getty pledged an additional \$600,000 to the Climate Emergency Fund, no doubt largely for the Extinction Rebellion. A third leader of this

new fund is Trevor Neilson, who co-founded the investment company, "i(x) Investments." On this investment company's board are author and environmentalist Bill McKibben, and David Wallace Wells, who wrote the fashionably gloomy *Uninhabitable Earth*.

Neilson's partner in i(x) Investments is Howard W. Buffett, the grandson of Warren Buffett, the third-richest man America. The Buffett family are long-time financiers of the environmental moment. Howard held high positions in the Obama Administration including in the Defense Department and White House. Neilson himself started out as a servant of Bill Gates, the second-richest American. He had worked for Bill and Melinda Gates in their family office and as a founding member of the team that created the Bill & Melinda Gates Foundation, where he served as the Director of Public Affairs. He was also Executive Director of the Global Business Coalition (GBC), created with investments from Bill Gates, George Soros and Ted Turner. This organization was headed by Ambassador Richard Holbrooke, former U.S. Ambassador to the United Nations and President Obama's former Special Representative for Afghanistan and Pakistan.

This is just a sampling of those very, very "rich people" Roger Hallam meant, who are lavishly funding an organization begun only in late 2018, and known mainly for blocking intersections and crazy-gluing its members to doors of government buildings in the UK.

XR's Purpose: Turn 'Climate Anxiety' into Hysteria

Political leaders across Europe and in the U.S. Congress, and the vast majority of newspapers and think tanks in the trans-Atlantic region, are fully on board with the "Big Lie," as Nazi Minister of Propaganda Joseph Goebbels called it, that the climate is rapidly heating, primarily driven by the carbon emitted into the atmosphere by modern industrial civilization, and that this will literally destroy the Earth and mankind if it is not drastically stopped.

The media recount mass psychosis, unprecedented in modern history, gripping the western world. Adolescent, even pre-adolescent children are being mentally abused and placed in the limelight, exclaiming that carbon emissions must be stopped (i.e., industrial civilization must be destroyed) within the next twelve years or their elders will have destroyed civilization. Children are instructed to skip school to protest climate change, since there is no purpose to education if we are all going to die. Women are encouraged not to have children, since they will not have a livable world to live in.

Extinction Rebellion has quickly gotten into the forefront of mobilizing this hysteria, along with explicit children's crusades called the Sunrise Movement, and FridaysforFuture, which aims to keep children out of school on Fridays, demonstrating. An [open letter](#) announcing XR's formation, published in the *Guardian* on Oct. 26, 2018, was signed by 94 academics, politicians, and social activists, declaring that when governments are guilty of "failing to acknowledge that infinite economic growth on a planet with finite resources is non-viable. . . . It is therefore not only our right, but our moral duty to bypass the government's inaction and flagrant dereliction of duty, and to rebel to defend life itself."

This fundamental lie—that we live in a world of scarce resources—was refuted by Lyndon LaRouche in his 1983 [book](#), *There Are No Limits to Growth*, demonstrating that useful resources are constantly expanded through scientific discoveries of new technologies, utilizing previously unused resources.

XR Not a 'Sociological Phenomenon'

Extinction Rebellion is not a sociological phenomenon, but a creation of the same powerful financial and oligarchical interests who, under their environmentalist agenda, for more than a half century have pushed a Malthusian, anti-industrial, anti-technology, and fascist agenda. Not only are billionaires like Bill Gates, Mike Bloomberg, and the Rockefeller family fully mobilized

in this effort; the institutions of the British Monarchy, starting with Prince Charles, self-appointed heir to the New Green Empire, are fully mobilized.

Their model for this XR committee of 94, is Lord Bertrand Russell's 1960 creation of the supposedly pro-peace "Committee of 100" civil disobedience movement. The same Lord Russell had earlier called for a pre-emptive nuclear strike against the Soviet Union in the Oct. 1, 1946 issue of the *Bulletin of the Atomic Scientists* (Vol. 2, Issue 7-8); now he would "ban the bomb." Under the cover of this Ban the Bomb movement, Russell pushed the same anti-technology, Malthusian, one-world government agenda that the climate change movement is pushing now.

Referring to "mass psychology" as the most important tool for politics, Russell in his 1952 [book](#), *The Impact of Science on Society*, wrote (pp. 29-30):

[Mass psychology's] importance has been enormously increased by the growth of modern methods of propaganda. Of these the most influential is what is called "education." Religion plays a part, though a diminishing one; the press, the cinema, and the radio play an increasing part.

What is essential in mass psychology is the art of persuasion. If you compare a speech of Hitler's with a speech of (say) Edmund Burke, you will see what strides have been made in the art since the eighteenth century. What went wrong formerly was that people had read in books that man is a rational animal, and framed their arguments on this hypothesis. . . .

It may be hoped that in time anybody will be able to persuade anybody of anything if he can catch the patient young and is provided by the State with money and equipment.

The XR, an exercise in precisely such mass psychology—better called mass brainwashing—is now shutting down traffic and defacing monuments, but can be expected to proceed to terrorist attacks on CO₂-producing factories and power plants soon.

Brainwashed Brainwashers Destroy a Generation

The professional backgrounds of the nearly 100 signers of the XR founding declaration give them the skills, influence, and especially access to funding, necessary to create a movement, particularly one premised on the psychological manipulation—yes, the brain-



CC/Brain2000

Susie Orbach



CC/Charles Edward

Sunrise Movement Rally in Chicago on February 27, 2019.

washing of young people. It should not be surprising that more than a quarter of them are psychiatrists, psychologists, or involved in the study of education, especially for students under 18 years.

These climate psychologists are brainwashed themselves. They fully accept the lies that climate change is man-made and with apocalyptic consequences. Since they view man as a species incapable of applying creative reason to the advancement of human knowledge, and of creating technologies to expand production and productivity, they declare that *economic development* itself is undermining the future and must be stopped.

An example is Dr. Susie Orbach, a signer of the XR declaration, who identifies herself as a consulting psychoanalyst at the Balint Consultancy. She is one of several authors of the Extinction Rebellion handbook, *This is Not a Drill*. This doomsday handbook targets young, impressionable adolescents. In her chapter on “Climate Sorrow,” Orbach wrote (pp. 66-67):

What is required of us psychologically to engage with, rather than cut off from, this knowledge? How can we envision what is happening when it isn't right in front of us? It's difficult to imagine one's own death. How much more impossible to imagine that human activities might mean extinction?

If you are not depressed, she argues, you should be: “Acknowledging our feelings—to ourselves, to one an-

other—makes us more robust. We need to mourn and organize. It should not be one or the other.”

Isn't this the essence of aversive conditioning, throwing the victim into existential crisis, in this case impressionable young people? They are told to consider that their lives may be destroying civilization—everything would be better without them, and so they must attack their parents for giving them this life. The now well-defined “climate anxiety” syndrome is a kind of depression with no hope, no future except extinction—or unreasoning and even violent action.

Another signatory of the XR declaration is Paul Hoggett, Emeritus Professor of Social Policy, University of West England, Bristol. He is also on the Executive Committee of the Climate Psychology Alliance (CPA), a crew of mad psychologists who, when they are not psychoanalyzing people they claim are suffering “climate change psychosis,” are lecturing others on how to cope with the doom they claim mankind faces because of climate change.

According to its website, CPA announces events at which they discuss such questions as: “What would it be like to be part of a culture which no longer believed in progress, one which was prepared to be prepared for the worst rather than always hoping for the best?” or “What forms might love and hope assume in an age of ecological austerity?”

Eco-psychotherapist Mary-Jayne Rust, a Climate Psychology Alliance board member, discussed everything from “climate anxiety” to “climate grief” in a

recent lecture in which she bemoaned that:

[Climate change] is part of a much bigger story about our dysfunctional relationship with the rest of nature. . . . If we listen, we will hear stories of love and loss in our relationships with the land, animals, plants and more. We also continue to struggle with a very ambivalent relationship with ourselves as animals.

Newspeak à la Orwell's *1984* is not omitted either. Among XR's active leaders is Arran Stibbe, "Professor of Ecological Linguistics," University of Gloucestershire. Stibbe is a devotee of the famous (or infamous) British linguist, the late Michael Halliday, who in 1990 wrote that "applied linguistics" should be used as a weapon against the very idea of progress:

Changing language can change the existing order. When planning language, applied linguists are not forging an ideologically neutral instrument for carrying out policy; they are creating an active force in shaping people's consciousness.

According to Stibbe:

The main example Halliday gave was that of "economic growth," describing how "countless texts repeated daily all around the world contain a simple message: growth is good. Many is better than few, more is better than less, big is better than small, grow is better than shrink," which leads to ecologically destructive consequences.

These are 21st-century climate-change Strangeloves who tell young people to "Stop worrying and love the extinction of mankind."

Psychedelics for 'Green' Movements

In a manifesto titled, "How Psychedelics Helped to Shape the Extinction Rebellion," released in the summer of 2019, Extinction Rebellion co-founder Gail Bradbrook "explains how her psychedelic experiences helped to shape the genesis of the movement." She describes traveling to Costa Rica, where she "ingested a flood dose" of native psychedelics such as ayahuasca.

"I was terrified," she writes, "but the reason why I pushed my consciousness to such [an] extreme wasn't just to do the inner work on myself—I wanted answers to how I could bring about social change."

While admitting her ignorance about the science of climate, Bradbrook raves:

Entire species are going extinct. . . . There is widespread denial of the fact that we as humans are not at the top of a pyramid where we get to dictate the terms, we are part of a web of life.



CC/Steve Eason

Dr. Gail Bradbrook at the XR "declaration of rebellion," in London, October 31, 2018.

Speaking at the 5th Breaking Convention conference on the use and legalization of psychedelic drugs, held on August 16, 2019 at the University of Greenwich in London, the British journal, *Nature*, reported that Bradbrook had declared:

I would support a mass civil disobedience where we take medicine to tell the state that they have absolutely no right to control our consciousness and to define our spiritual practice.

That conference was sponsored by the Beckley Foundation, whose founder and Director is Amanda Feilding, Countess of Wemyss and March. It drew

1,500 researchers, shamans, “psychonauts” and journalists and had as its purpose the promotion and legalization of these psychedelic drugs. Climate change and the Extinction Rebellion were among the key topics at this year’s conference.

Bradbrook said psychedelics must be used in the “right way,” and that we can learn from indigenous cultures that routinely use substances like ayahuasca:

Whilst I’m all for psychedelic science—I think it’s fantastic—I don’t think we necessarily have time to wait for the science to tell us these medicines are useful. The indigenous cultures have already shown us the ways.

Bradbrook didn’t elaborate. It is a fact that many of the tribes who practice the “wisdom” of taking ayahuasca, such as the Yaguas of Colombia, have also practiced cannibalism.

All the Queen’s Men and Women

The mobilization of psychological shock troops preying on our youth and the promoters of drugs and the psychosis they create should be enough for governments to take legal actions against the XR for child abuse, promotion of drugs, and incitement. Nonetheless, there is the other side of this movement: that it is sponsored and promoted by the highest levels of the British establishment, including the British Monarchy and the institutions the royals patronize.

We don’t have to go very far to see this. Just look at the parallel lives of XR co-founder Bradbrook. There is the scatterbrained activist who can be seen on YouTube calling for massive civil disobedience; but there is another side of Bradbrook, with very serious connections. Prior to declaring herself a climate warrior, Bradbrook’s first full-time employment was with Business in the Community (BITC), The Prince’s Responsible Business Network. The “Prince” is Prince Charles, Prince of Wales. From 2001 to 2003, Bradbrook was a program director who “Supported businesses in the ICT [information and communications technology] sector to consider their role in bridging the digital divide and examining their corporate social responsibilities.” Here she developed her skills in digital inclusivity. Needless to say, the BITC has a heavy climate change agenda for businesses.

Prince Charles has been following in the footsteps of his father Prince Philip who, together with the card-

carrying Nazi, Prince Bernhard of Holland, created the World Wildlife Fund after World War II. It was Philip who infamously declared in 1988 that he would hope to be reincarnated as a deadly virus “to contribute something to solving overpopulation.” In July Prince Charles said, “I am firmly of the view that the next 18 months will decide our ability to keep climate change to survivable levels and to restore nature to the equilibrium we need for our survival.”

In 2003 Bradbrook met her future husband, John David Fisher, who, according to his own biography, served as a pilot in the Royal Air Force for four years in 1973-77. Despite his short service record he is currently the Vice Chairman of the Royal Air Force Club and received the Queen when she recently visited the club. Fisher founded and is currently Chief Executive of the digital inclusion charity, [Citizens Online](#), registered at Fisher’s home address in Stroud, Gloucestershire, UK, offering services to organizations and communities to access the Internet. Fisher served on former UK Prime Minister Tony Blair’s Digital Inclusion Panel and as an adviser to cabinet ministers on the issue. Bradbrook was a director of Citizens Online from 2003 until 2018, after which she separated from Fisher and Citizens Online to create XR.

Another director of Citizens Online who has gone to Extinction Rebellion is Dr. Gerald Power, with whom Bradbrook co-authored a study on digital inclusion. Power is a management consultant who began his career at the UK’s Ministry of Defense “on its science and technology fast track management training program,” according to his own biography. He has enjoyed a career “across all of the major Central Government departments.”

Lord-in-Waiting and Bank Chairman

Another of XR’s founding directors, and currently its patron, is Anthony St John, 22nd Baron St John of Bletso, one of 92 hereditary members of the House of Lords, and Extra Lord-in-Waiting to the Queen. Currently Chairman of the Board of merchant bank Strand Hanson, The Lord St John of Bletso also sits as non-executive director of a long list of mining, communications, IT, renewable energy, and financial services companies in South Africa and Europe. In the House of Lords he is an Executive Committee Member of the All-Party Parliamentary Africa Group and Vice Chairman of the All-Party Parliamentary South Africa Group.

St John’s green credentials include supporting for

two decades an organization called Television for the Environment (TVE), which works with filmmakers and partners worldwide to produce and distribute films that put the environment and sustainability on the global agenda. A former president of Friends of TVE, he is now emeritus trustee. TVE was founded by the United Nations Environment Programme, the World Wildlife Fund-UK, and ITV Central (UK) in 1984.

He is also on the advisory board of Successful GREEN, an “international network for environment, innovation and information,” alongside Peter E. Merian, former Director of the Basel Stock Exchange, CEO of Bank Sarasin, and founding member of the Global Environmental Society; and Dr. Marcelo Cavalho de Andrade, President of the Earth Council Alliance created by billionaire Maurice Strong. Cavalho de Andrade is also Partner and Principal of Earth Capital Partners LLP, which is positioned to profit big from the push for green finance.

The Extra Lord-in-Waiting was also a signatory—along with U.S. Senator Sheldon Whitehouse and U.S. Representative Alan Grayson, and rock singer-environmentalists such as Sting, Graham Nash, and Jason Mraz—of an [open letter](#) to world leaders at the 2015 United Nations Climate Change Conference (COP21) in Paris. They called for a sentence to be added to the treaty requiring companies and corporations to fully and transparently account for the costs of developing, producing, transporting, selling and consuming those products generating greenhouse gases.

Chatham House for Climate Action

Not so long ago, among the XR activists who super-glued themselves to the doors of the corporate headquarters of Royal Dutch Shell, could be found Farhana Yamin. This XR leader happens to be Associate Fellow of the Energy, Environment and Resources Department at Her Majesty’s Royal Institute

of International Affairs, Chatham House.

On July 4, Chatham House sponsored a [debate](#) titled, “Climate Action: A Role for Civil Disobedience?” Describing the purpose of the event, the Institute declared:

In spite of this ever-growing public awareness of the urgency of climate action, environmental scientists and activists have struggled to motivate the wider public, policymakers and corporations to push through the disruptive and ambitious policies needed. In recent months however, a new sense of urgency has been injected into the environmental debate by movements including the Extinction Rebellion in London and the Youth For Climate strikes internationally.

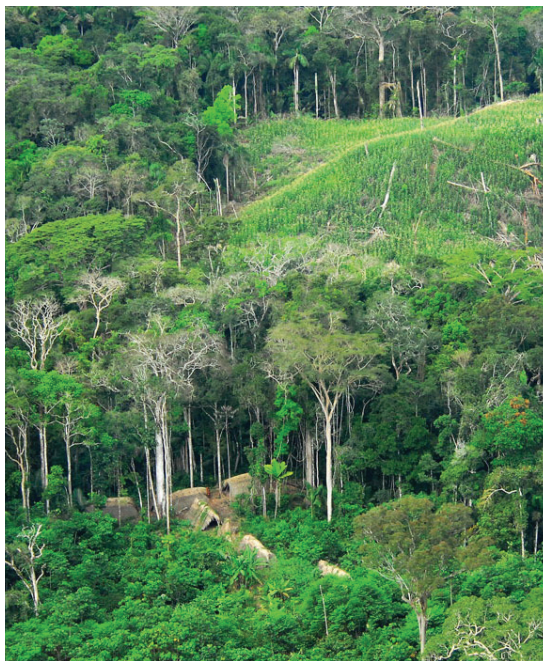
Speaking at that event, Sam Geall, another Royal Institute of International Affairs researcher, called for the security services to repress the oil companies, and not XR rebels. “We need to understand ... who’s not being punished” for causing climate damage, he said.

‘Ditch Development, Save the Amazon’

Near the top of the list of signers of the XR founding declaration can be found the former head of the Church of England—that is, under its Supreme Governor, the Queen—the former Archbishop of Canterbury, Dr. Rowen Williams. He

is among the most active in supporting the XR and appears at conferences and meetings encouraging youth to take part in the International Rebellion in London and beyond. Williams recently authored a commentary appearing in the *Guardian* making the outlandish claim that one-fifth of the world’s oxygen comes from the Brazilian rainforest, declaring that the fires are consequences of our “drive for development that serves only a lust for consumption and convenience ...”

The Amazon forest must be left for the indigenous



CC/Gleilson Maranda/Governor of Acre

In an outrageous intervention in the internal affairs of a sovereign country, Rowan Williams, the former Archbishop of Canterbury, called for denying the huge Amazon region to the development of Brazil’s 211 million citizens.



Welsh Assembly/Ben Wyeth

Dr. Rowan Williams

to live in primitive backwardness, he argues:

Their rights have been overridden in the face of the greed of various powerful economic interests, and theirs is a story that speaks of the stark

economic inequality blighting and corrupting so much of our world, including countries like Brazil...

In the Amazon, mining and oil extraction are pushing the communities out of the forest in which they have lived for centuries.

We are all to blame, said the good pastor, for the crimes of progress and eating meat:

This is not just Brazil's problem... All of us are implicated. The global patterns of economic growth, including the unprecedented levels of demand for meat in the developed world, account for much of the pressure on land use in the region...

The wildfires raging in the Amazon are a visible metaphor for the effect of our unrestrained passion for limitless economic growth.

In an outrageous intervention in the internal affairs of a sovereign country, Williams called for denying the huge Amazon region to the development of Brazil's 211 million citizens.

“You know, the Earth can only carry 1 billion people.”



‘Global Warming’ Scare Is Population Reduction, Not Science

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SCHILLER INSTITUTE DAYS OF ACTION

Youth on Seven Continents Are Called To Arms Around Scientific Optimism

by Dennis Small

Sept. 14—The Schiller Institute’s international Days of Action around Helga Zepp-LaRouche’s “International Call to Youth: The Age of Reason Is in the Stars!” swept the planet on Sept. 10-12, with coordinated organizing on all seven continents on planet Earth: from Dresden to Detroit, from Mexico City to Johannesburg, from Melbourne to Manila—and by email to scientists working on an Argentine research base in Antarctica! With a single voice, humanity’s future is demanding a return to a concept of Man premised on the dignity of being a creative being, who sees and makes his own future in the stars.

In one sense, the call to arms for the Sept. 10-12 Days of Action was issued by Lyndon LaRouche . . . thirty-two years ago! [Speaking](#) to an audience of nearly 500 Peruvians gathered in Lima at a Schiller Institute conference on April 4, 1987, LaRouche stated:

If we get through the present international financial crisis, the Mars-colonization project will be implemented by the United States, with the partici-



EIRNS/Tony DeFranco

Rochester, Michigan: Oakland University.



EIRNS/Gabriela Carr

Mexico City: Instituto Politécnico Nacional.

pation of other nations. If that project is funded, it will determine the kinds of changes which will occur on every part of Earth for the next 50 and more years to come.

LaRouche challenged his audience:

What kind of a world will we build to be enjoyed by the grandchildren of the younger people in this audience today? . . . Never accept the idea that some coun-

tries are rich, and other countries are poor. . . . Never think of yourself as a person from a poor country. I have asked you to turn your eyes up to the stars, to see, with pride and confidence, what your mind is capable of enabling you to accomplish. Your dreaming that dream of the stars, is your nation’s potential; your nation’s potential is its future reality. . . . Never accept the sight of human misery; human misery is unnecessary. Never accept the idea that the world is in danger of being overpopulated by anything except a surplus of diseases and Malthusians.

The same vision of, and mission for, humanity that Lyndon LaRouche posed so poetically thirty-two years ago in Lima, was restated by his widow, Helga Zepp-LaRouche, in her International Call to Youth, which has been translated into nine languages and distributed by the thousands as a [leaflet](#) in close to 50 cities worldwide, and circulated electronically even more broadly, as the centerpiece of the international mobilization:

Man is capable of reason and therefore of limitless intellectual and moral perfectibility!

The great thing about space travel is that it proves that we are not living in a closed system in which raw materials are limited and the murderous views of Thomas Malthus, Julian Huxley, Bertrand Russell, and Prince Philip are correct . . .

It would mean that developing countries would have no prospects for ever escaping poverty, hunger, epidemics and a shortened lifespan; it would be genocide of an unimaginably large number of people!

Youth Hungry for Profound Ideas

LaRouche movement organizers reporting from nearly every deployment on every continent found large numbers of youth wide open to discussing



EIRNS/Michael Steger
Berkeley, California: University of California, Berkeley.



LSA/R.P. Tsokolibane
Sebokeng, South Africa.



EIRNS/Michael Carr
Houston, Texas.

fundamental scientific and moral issues regarding Man's future in the universe, and whether or not our species is in fact doomed by exhausting his own resource base and by destroying the environment—as the barrage of “greenie” environmentalist propaganda has tried to convince us. Everywhere that the controlled environment of politically-correct “green-think” and induced pessimism was broken with a discussion of actual science and morality, many youth responded with natural inquisitiveness and optimism.

As one engaged student at the University of Michigan put it, in the middle of a discussion with a LaRouche organizer:

Why didn't you say at the beginning that LaRouche refuted the limits to growth idea! I didn't know that anybody had even done that. I'm interested in hearing that!

Halfway around the globe in Melbourne, Australia, organizers reported that a hysterical “greenie” provocateur came up to a literature table at Melbourne University intent on disrupting an intense discussion with a student “who was deeply engrossed in our analysis of the next imminent economic crisis and very concerned about what to do about it.” The student interrupted the provocateur's efforts to fear-monger about supposed man-made climate change: “I don't care

about that! Don't interrupt!"

At the University of Houston, Schiller Institute organizers reported that "the response was surprising: curiosity, engaging, and amazingly open to leaving their names for follow-up and activation of some sort." About 500 leaflets were distributed, hundreds of students were spoken to, and 50 contacts were made.

At the University of Sonora in Hermosillo, Mexico, a team of veteran organizers distributed some 400 leaflets and spoke to dozens of students, reporting:

We found a radical change in how the students are thinking, with students very tuned into the big changes going on around the world: China's development; prospects of China, Russia and India working together; and President Trump throwing war-mongering John Bolton out of his administration. We keyed our briefings around building the upcoming Sept. 26 international Spanish-language webcast on LaRouche's Moon-Mars mission, and on how Mexico had to join in the conquest of space and nuclear energy or there won't be any economic recovery. "The whole world wants to go the Moon now. What do you think about that?" we asked. "Fantastic!" was one student's response.



New York City: New York University.

EIRNS



Lima, Peru: Universidad Nacional Mayor de San Marcos.

EIRNS



Montréal, Canada.

EIRNS

The LaRouche PAC-endorsed candidate from New Jersey for U.S. Senate, Daniel Burke, led squads of young organizers on numerous campuses in New York and New Jersey, where they confronted the green ideology head-on, organizing students to join them at the United Nations in New York City, to counter the Malthusian pessimism promoted by the UN Climate Action Summit beginning Sept. 23, which will feature media star Greta Thunberg.

Particularly moving was the video-taped [message](#) sent by Fouad and Ali Al-Ghaffari of Yemen:

Fouad: From Sana'a, the capital of Yemen, and in defiance of the war of aggression and blockade, and in the spirit of our National Vision 2030, we confirm our support to the call to international youth issued by Mrs. Helga Zepp-LaRouche, Chairwoman of the Schiller Institute.

Ali: We salute you Mrs. LaRouche from the capital of perseverance, and salute all other youth who have responded to your call. We join our voice to your voice and theirs!

Fouad: We stand here today in support of Helga's call, and to prove to the world that our country is part of this campaign and preserves its place despite all hardships, and to make our youth participate with

other youth of the world in playing a creative and constructive role in the future of mankind and march of civilization.

Ali: Yes, the Age of Reason is in the stars! And our hands are stretched out to all other youth around the world to build a better future for us all, both here on planet Earth and in space.

To Educate a President, Build a Youth Movement

The Schiller Institute’s world-wide activities were carried out just as India achieved its stunning success with its Chandrayaan-2 lunar mission, which brought pride and optimism not only to that nation of 1.3 billion people, but to (especially) the youth of the entire planet: optimism that they *do* have a future, and that it lies in the stars.

Also coincident with the Days of Action was President Donald Trump’s scathing firing of National Security Adviser John Bolton, an arrogantly opinionated defender of the British Empire’s old order of scarcity and wars. By so doing, President Trump has demonstrated once again his ability to turn on a dime and correct course when needed—a quality which has put him high on London’s “this-man-must-be-stopped” list.

NASA Administrator Jim Bridenstine’s public exchange with long-time LaRouche movement leader Kesha Rogers (see



EIRNS/Malene Robinson
Boston, Massachusetts: Northeastern University.



LPAC-TV
Yemen: Video greeting to LaRouchePAC Friday Webcast.



EIRNS/Lissie Broberg
Copenhagen, Denmark.

transcript, page 16 in this issue of *EIR*) served to underscore the potential in the United States to exonerate LaRouche and his ideas, and adopt his policies, which the British so fear.

Like India, Russia, and China’s space exploration activities, Trump’s Artemis Moon-Mars project is an encouraging step in the direction of an actually viable Moon-Mars mission, as designed by Lyndon LaRouche. Such a mission requires not only international cooperation on fusion-based propulsion to get to Mars and back safely, but more fundamentally, a thoroughgoing rejection of the Malthusian premises and attendant bestial concept of Man—that LaRouche’s science of physical economy alone systematically refutes.

It is for that reason that the actual mission of the Schiller Institute’s Days of Action is perhaps best summed up by the report of a professor in the Mexican City of Querétaro after a day’s organizing activities on his campus:

We managed to awaken a sense of optimism in the youth, despite the fact that the virus of environmentalism had them in a state of pessimism. The antidote or vaccine for that is that we are able to conquer space, along with Vladimir Vernadsky’s idea of the noösphere and the

ideas of Lyndon LaRouche. This is the beginning of organizing a new generation of youth who will help us extend the legacy of the ideas of Lyndon H. LaRouche.

And, as LaRouche himself demonstrated over five decades of organizing in dozens of countries around the world: If you want to educate a President, build a youth movement.

Days of Action on Seven Continents

AFRICA

Republic of South Africa
(Johannesburg)

ANTARCTICA

Argentine Scientific Research
Base

ASIA

Philippines (Manila)
Yemen (Sana'a)

AUSTRALIA

Brisbane, Melbourne

EUROPE

Denmark (Copenhagen)
France (Paris)
Germany (Berlin, Dresden)
Italy (Milan)
Spain (Valencia)
Sweden (Stockholm)
Switzerland (Ponthaux)

IBERO-AMERICA

Argentina (Buenos Aires)
Brazil (Paraíba)
Colombia (Cali, Medellín)
Mexico (Hermosillo, Mexico City,
Querétaro)
Peru (Lima)

NORTH AMERICA

Canada (Montréal)

United States:

California (Berkeley, San Jose,
Los Angeles)
Connecticut (Stamford)
Florida (Boca Raton, Naples)
Hawaii (Honolulu)
Maryland (College Park, Silver
Spring)
Massachusetts (Boston)
Michigan (East Lansing, Oakland)
New Jersey (Princeton, Toms
River)
New York (New York City)
Texas (Houston)
Tennessee (Johnson City)
Virginia (Roanoke)
Washington (Seattle)
Wisconsin (Milwaukee)



III. The Choice to be Immortal

The Schiller Institute's 9/11 Memorial Concert of 2019

The Schiller Institute NYC Chorus presented a 9/11 Memorial Concert on Sunday, September 8, at the St. Veronica Creative Cultural Center in lower Manhattan. The concert opened with two African-American Spirituals and works of Schubert and Brahms—

“Jesus, Lay Your Head in de Winder” (arr. Hall Johnson)
“My Lord, What a Mornin’” (arr. Harry T. Burleigh)
Franz Schubert, Mass in G
Johannes Brahms, *Nänie*, op. 82.

After the intermission—

Ludwig van Beethoven, Piano Sonata no. 17
J.S. Bach, *Jesu, meine Freude* (motet)
Four African-American Spirituals:
“Honor, Honor” (arr. Hall Johnson)
“I’ll Never Turn Back No Mo” (arr. Hall Johnson)
“Let Us Cheer the Weary Traveler” (arr. Nathaniel Dett)
“Soon-Ah Will Be Done” (arr. William L. Dawson).

The keystone of this year’s tribute was a performance

of Johannes Brahms’ beautiful choral and orchestral arrangement of the poem by Friedrich Schiller, *Nänie* (Song of Lamentation). In this performance, the orchestral arrangement was performed on piano. This poem takes up—through the lens of ancient Greek mythology—the question of the inevitability of death: “Auch das Schöne muß sterben,” that even the beautiful must die! This sad occurrence can bring even goddesses to tears. However, their death is not the end when we sing in honor of those dead. Through our songs of lament we give them immortality. They may die, but beauty itself does not die.

In 2014, Helga Zepp-LaRouche introduced a Schiller Chorus performance of *Nänie* with remarks on Schiller’s poem and Brahms’ composition that are [available](#) in *EIR* Vol. 41, No. 26, June 27, 2014.

The full program for the 2019 concert—with texts and translations of the compositions, and biographical sketches of the artists—is [here](#). (The actual order of the musical works, as listed here, is as performed, and differs from the program, which was printed in advance of the concert.)



EIRNS/Dana Carsrud

Diane Sare conducting African-American Spirituals.



EIRNS/Dana Carsrud

John Sigerson conducting the Schiller Institute NYC Chorus.

Let the Very Stones Speak!

Greetings from Schiller Institute
Founder Helga Zepp-LaRouche

To all of you gathered for this concert, held in memory of those who perished in the fateful attacks of September 11, 2001, and those who perished in its ongoing aftermath, whether in war, or due to medical problems caused by the rescue and clean-up, I send my heartfelt greetings.

Today, September 8, happens to be the birthday of my beloved late husband Lyndon LaRouche, who was passionately committed to the cause of justice for all mankind as a whole, and especially in the case of 9/11. In 2016, in response to a question from a military veteran about the first responders who had perished along with many others on that clear September morning, my husband said the following:

We have to set up some kind of memorial, a living memorial for people who died in that case. That would do something. Because the United States so far has failed to do anything about that—a few handfuls of people have been concerned with that. But we have to get the humiliation expressed by the people as a whole, for their failure to defend life, human life, when that life was needed.

To understand what my husband meant by humiliation, one might look to the works of the great German poet for whom the chorus is named, Friedrich Schiller. Schiller personally felt a great humiliation on behalf of mankind, when the French Revolution turned out to be nothing but a violent bloodletting, which he described in his poem, “The Song of the Bell.” He wrote his *Letters on the Aesthetical Education of Man* to address the great shortcomings of the population of Europe, which had met a moment of great opportunity with such small hearts and minds.

This is why the work of the chorus is so very important to the development of mankind, because when people are ennobled, tragic events do not lead to self-perpetuating continuing tragedy, but rather become the catalyst for a greater good, and in that way those who lost their lives are immortalized by the sublime actions of future generations.

As my husband wrote in 2001 in a statement entitled, “Faith, Hope, and Agape”:

Therefore, let the stones speak; let Creation itself testify to the manifest intention of the Creator, as it did to Johannes Kepler, and to Carl Gauss after Kepler. Let the relevant evidence speak for itself, as Moses Mendelssohn taught and demonstrated. Let the relevant evidence speak for itself, as the cognitive powers of the individual mind are capable of re-enacting, and thus verifying universal physical principles, including principles bearing upon our notions of the nature of the relations among man, God, and nature.

Opening Remarks by Dennis Speed

This is an edited transcript of Dennis Speed's opening remarks at the Concert in Manhattan on Sunday, September 8, honoring the dead on the anniversary of 9/11.

My name is Dennis Speed. On behalf of the Schiller Institute, and its NYC Chorus, I want to welcome everyone to today's concert.

"I stand here and sing in entirely secure peace." That is one of the ideas proposed in Bach's choral motet, *Jesu, meine Freude*, which you will hear a little later today. The whole idea reads: "Rage, world, and attack. I stand here and sing in entirely secure peace. But there is no such thing on Earth—for the mortal part of us—as entirely secure peace, not even in this church, not even at this time."

Surely, that is one indelible lesson of September 11, 2001. Death may come, may be brought to us, out of the sky, for reasons that are not reasons. We are not required to accept those dubious reasons, but we are required to suffer death at the hands of them.

"Even the beautiful must die." This first line of Friedrich Schiller's poem *Nänie* (Lament)—which you will hear today in a musical placement by Johannes Brahms—confronts us with a question, which, if left unanswered, refutes the fundamental premise of human freedom itself. That question is: Why? Why do even the beautiful have to die? If there is something we must do, against our will, then our freedom is only conditional. It is not absolute.

But the Brahms setting, like the sonata by Beethoven, *The Tempest*, is not sorrowful. The *Mass in G Major*, composed by the 17-year-old Franz Schubert, if properly performed, sounds as optimistic as all 17-year-olds should be. The Mass is solemn, perhaps, but joyful, as should this occasion be.

All performances by the Schiller Institute NYC Chorus are done at the original tuning of middle C at 256 cycles, sometimes called as the Giuseppe Verdi tuning, after the opera composer who set several of Friedrich Schiller's plays to music.

The answer to the question, "Why does even the beautiful have to die?" Is given in each of the pieces performed here today. The beautiful, if it is immortal, never dies.

The African-American Spirituals, each of these selected, are placed and designed to allow you the most direct access, using the fewest words possible, to the fundamental emotion that we are intending to evoke through the whole, and each part of, the concert—that of the Sublime.

Life is perpetuated past the physical existence of an individual *by his or her choice to be immortal*. The first responders, uniformed and civilian, professional and volunteer, and in a different way, the families of the slain, demonstrate that capacity in all of us, to be immortal *by choice* not because we woke up one morning with that intent, but because, thrust upon us, that unsought choice was accepted, not on our own behalf, but for others, in-



EIRNS/Dana Carsrud

cluding strangers we would otherwise never know.

The Schiller Institute NYC Chorus was formed in 2014 as a response to the violent death of Eric Garner, followed by the killing of two policemen in Brooklyn. It consists almost entirely of non-professional singers and insists on a policy of no auditions. We want to extend special thanks to soloists and pianists.

This particular set of concerts originated in 2016, inspired by economist Lyndon LaRouche, a World War II veteran, who proposed a Living Memorial to those who died and are dying as a result of 9/11, in all forms and capacities. Mr. LaRouche lived here in the Village at Morton Street for many years. Mr. LaRouche passed away on Feb. 12 of this year.

We know that there are members of the diplomatic community, of the uniformed services of New York City, and others of various prominence, that have joined us today. We thank you all for your presence here today, and we hope that you all enjoy the concert.

To Save Civilization, Place Your Voice!

Edited excerpts from a talk by Lyndon LaRouche to associates on Nov. 10, 2015.

We are now in the process of moving our organization as a whole into the area of Manhattan, which is where it should have remained always, according to Alexander Hamilton's intention. What we're getting now is, we're moving rapidly. First of all, we are clearing up the question of music. We no longer accept mere music; it's a failure, it's a mistake, because it has no placement of the voice; and the basis of everything depends on the placement of the voice. Otherwise, you really don't have a basis of unity. When people use different terms, different words, idiosyncrasies and so forth, and try to make that set of idiosyncrasies and trade styles into a nation, that was always a failure; that was always an error.

And what we're seeing now, which I began to put into effect in October of 2014, my intention from that point on has been to eliminate that kind of system among the states; which is a change that must occur if the competence of the United States is to be brought into being.

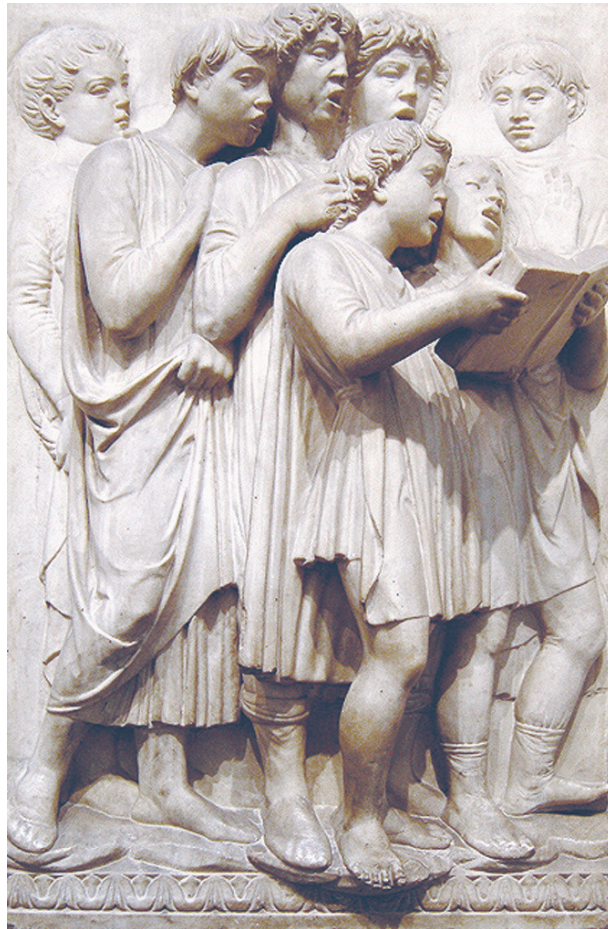
Now what's happening, we've taken the placement of the voice, the true placement of the human voice, which is not a snarl or a growl or a coughing up of things; but it's a way which is not mathematical. Mathematics is the enemy of the human mind; it always has been. And the point is that mankind's creative powers,

the placement of the voice as such, is the principle of organization of a competent society. And that's where we are now; it's coming on fast. We're not getting all the results we would like to get immediately, but they're coming on fast.

And we're going to accelerate this continuously, because the principle is the placement of the voice, and you have a model of this in the case of Furtwängler's work. Furtwängler's work fits precisely into that question of the placement of the human singing voice. And what we're doing is, we're re-assembling our organization in that area; not just in Manhattan, not just in the New York organization, but in the surrounding area.

We are now creating a new kind of understanding of what the United States always was intended to be. And now we're going to have to make it come to be what it always should have been, advocated by Alexander Hamilton and such people as that.

So the point is, the use of music is legitimate as long as you don't sing the wrong way. Your voice has to be placed appropriately; you don't make sounds, you understand the principle of musical composition. And you work at maintaining that. We have a fairly enthusiastic bunch of people who are assembling around us in the Manhattan area and around that; and this thing is developing rapidly. This defines the true meaning of what the United States should have always represented. And the "blab, blab, blab," and "blab, blab,



picture by Ricardo André Frantz

A segment of Luca della Robbia's choir loft (Cantoria) from the Renaissance cathedral (duomo) in Florence.

blab,” and all those kinds of funny sounds will have to be purged.

And it’s working in the Brooklyn region where we’re working; it’s going to work. It takes time to adjust the pianos and other instruments; it takes time to bring a concert of the instruments into the right configuration which conforms to the principle which we call the Italian principle.

And the idea is, get rid of local states. Filling stations are allowed; but otherwise, we don’t want local states. We want a state; and a state which will be in harmony hopefully with other states. But the United States is a single state; it is not a collection of states. And that was always true—as Alexander Hamilton had already argued—and the United States has never worked successfully, except as a single nation.

It has to be a single nation with a single quality of singing voice; and that’s what we’re working on. We’re working on that standpoint of reference as a scientific principle; and to bring everything into conformity with the proper placement of the human singing voice. And the instruments will also be told to behave.

We are on the point that this whole system, the whole United States system in its present form, is ready to disintegrate. And the only way you’re going to prevent a disintegration is by learning to place your voice properly. And that’s the law; and it’s being worked on at this moment, as you sit here. That’s happening right now in the fringes of Manhattan; that’s where we’re going. Why are we going there? Because it doesn’t make a damn bit of good not to do it. And that’s what our project has to be.

We’re at a point of real desolation of all hope of mankind under the present global conditions. There are parts of China, parts of India, some other parts; but in the trans-Atlantic region, we have essentially degeneration. Not a regeneration, but a degeneration; and I think it will not hurt anybody to find themselves placing the human singing voice. It would take a little work on some parts, but it’s the principle that makes the difference. The old habits don’t work; they never did. But when you have the proper placing of the voice by people who are properly directed musically, then you have something.



Conductor Wilhelm Furtwängler (center) with the soloists for a performance of Beethoven’s Choral Symphony (the Ninth) in Bayreuth in 1954.

The Voice Seems Not to Sound

The point is—the thing to always go back to: You never sound music. You don’t sound the music as such; you place the voice. And the placement of the voice creates the music. It is not your throat driving some kind of machine that makes noises; it’s the idea of the placement of the mind.

And the best example of that, of course, for modern purposes of practice, is Furtwängler: Furtwängler’s notion of the placement of the voice. Now this is not unique to him, but the emphasis, shall we say, on the question is very strong; there’s nothing that matches it. You see other things in the musical domain which have the same thing; you don’t sound the notes. You create the activity of the voice; and there’s a difference, a fundamental difference. And therefore the idea in the Italian model, which is the Classical Italian model, is the most efficient standard model.

Now Helga and I, in our various occasions in Italy, working with the Italian music people and forces,—that’s what they did, and the placement is there. If you go to the Italian performers of that generation—our generation—the placement is there. You do not make a sound; that’s not music. You make a vacuum in a sense, which is the voice. You resonate something in that sense; you don’t generate a noise. You place the voice. And that term “place the voice,” and the most exacting kind of placement is Furtwängler. Furtwängler is the actual measure of what the principle of the voice is.

And we have people who are practicing as musicians, and they work on the basis of the placement of the voice; not the voice as such, but the placement of the voice. The placement of the voice is what's important. And anyone who has a beautiful voice, has it essentially because of placement; and that placement is what's crucial. That placement is what makes the meaning of "human" pleasant. And that's the truth of the matter, and it is rarely understood very well.

And I have had the opportunity of living in Italy at various points during my whole career. And with the Verdi commitment, which is the best; it's the best we have in general knowledge in modern experience. And the best of the Italian singers: they live to make music; and they understand what that means. They free their voice of garbage and litter; and they let the voice speak for itself. The voice does not sound apparently; it does not have a sounding character; it captivates people because it is not a form of noise. It involves the question of placement; placement above all.

And I know there are people in this room who have some knowledge of this matter. But don't fall into the trap of singing jazz.

Why Are They All So Stupid?

People have the simplistic conception of the sound of the voice as such, and things like that, as the principle of human behavior; that is not true. The characteristic is, and the music is, that the music itself, the musical voice as such is the standard. Not the decorations, not the noises, not anything else. It's the placement of the voice, and the placement of the voice is not something that you generate physically. It's not that way. What it is, is the character of the mind.

Now, for example, what's wrong with the average citizen of the United States today? Just the average citizen. Why are they all stupid? What is their stupidity? They believe that they make noises; they talk, they make noises; they rub, they make noises. This has nothing to do with mankind, but quite the contrary. The idea of placement of the voice is not making a sound. The placement of the voice is an act which has an effect; but it's not a noise. It's not a sound; it's not noise as such. It has a very specific kind of character, and any attempt to imitate that character without the right placement, is a failure.

Now, what's the result of the failure? Well, most people are stupid; most modern people are stupid. Why are they stupid? Because they don't have a placement

of the mind. And the placement of the mind is not a noise; it's not a sound as such. And it's exactly what Furtwängler defined it to be, exactly that. That concept of placement of the voice. And art and so forth, the idea of physical art,—physical this, physical that,—that is not the point. That has an effect, and the effect has an implication; but the point is the placement of the voice. The voice is *placed*; it is not sounded. It is placed by tuning, the tuning of the voice.

And that's where the problem is. Because the question is here: What's important, making noises? Well, we can get skunks to make noises. As a matter of fact, skunks will make noises.

A Place which is No Place

The tuning principle we're organizing in Manhattan now, is a complete overhaul of the idea of music relative to what the standard has been heretofore for a long period of time. The placement of the voice is not something that's arbitrary. The placement of the voice is a particular area of the human mind, and the human mind's behavior, which responds to the human mind itself.

So, it's not tuning something; it's not tuning an object. The problem is most people tune objects. They don't tune the mind, they tune objects. What we're doing now in Manhattan, is we are now in a mass mobilization, relatively speaking, in Brooklyn and other areas, where we're working with people who are actually in the Italian school of placement. And placement is not something you can deviate from, and it's not a sound! It's a resonance, it's not a sound. And if you want to get the effect, the audible effect, you have to tune your mind to go to the right tuning.

Your mouth, your mind does not control music, not really, not under the Italian school. The placement of the voice, the exact *pitch* of the voice, that pitch is what your contract is; that pitch, the placement of that pitch. And you have to let it project. You don't utter it. You don't actually utter it; you cause it to be brought forth. And for example, the best example of that, the one that's most easy to see—look precisely at what Furtwängler did in his work. There's no such thing as tuning to a music that you impose. No such thing! It's a noise.

It's the placement of the voice, and the placement is a vacation—it's a place which is not a place. And you move, you become tuned. *You* become tuned. How? By



EIRNS/Frank Mathis

The New York Community Chorus rehearsing under the baton of Diane Sare.

placing your voice; but you don't make the voice. You hear the voice, but you don't make it. But you act in such a way as to respond, to resonate, with the voice that cannot be heard as such *per se*; not generated *per se*. It's the *placement* of the sound, but it's not the sound itself. And the placement authorizes the application of what you call the amplitude of the sound.

But it's not amplitude as such; it's the amplitude of the tuning. It's what we have now in Brooklyn, for example, which we're going to take about a year or so to get the pitch, and we're going to take the whole instrumental structure of the Manhattan musical performance; we're going to tune *everything* according to the Italian standard, the true Italian standard. And all the instruments, and the voices, and the voices are not spurting out noises,—they're receiving something, they're resonating, they are *tuned into the environment* in which they're speaking; they're tuned into the environment of their expression. Not the expression, but the tuning into the environment. And, that's the difference.

And that's a subject which is almost lost, unknown, to most people in music today. They have no conception of what the placement of the voice means. And yet the greatest singers and composers, musicians as well, instrumentalists as well, all understood it.

What's happened is today's population has no comprehension of what the whole damned thing is about! And only a handful of people have any real conception of this.

A Sound Which is Not

The best thing is the Furtwängler standard. The most precise approach is Furtwängler. Because that is perfect. Furtwängler's conception of this is perfect; the Italian thing is perfect, because it is the tuning principle,—the tuning of the voice is restricted. You cannot impose a tuning on the voice. You have to follow and adapt to the voice. And you are compelled to be obliged to that; otherwise it doesn't work!

What it means, is that it's not the sound that's created; not the sound as such. It's the human being, the tuning of the *mind* of the human being! Not the tuning of the voice; it's the tuning of the mind. And the tuning of the mind, and the tuning of the function of the mind are one and the same thing. And if you don't have the right placement, that does not work. And that's what the problem is. And the best thing we have, the best training, is the performance of Furtwängler! And the Italian school, as such. That is perfect.

And what do you think we're doing in Manhattan now? We're cleaning everything up, we're changing all the instruments; we're tuning them. We're tuning up the people, based on this principle of tuning. And you don't make the sound. Your presence makes the voice; you obey the voice. You don't generate the voice, you obey it. And you learn to obey. The successful singer learns to behave well, according to those standards. And what comes out of the singer, is something which the singer just does, because they under-



Schiller Institute

Italian soprano Mirella Freni (left) on stage in Barcelona in 1993, and American bass William Warfield at a Schiller Institute event in May 1994. Both were signers of the Institute's petition to return to the Verdi tuning.

stand what they must do; they understand what they must let their voice do, and at what pitch, at what tuning, at what mode.

And that gets lost, because people try to make sounds, and making sounds is the wrong way to go at it. And Furtwängler made it very clear: what you have in tuning, is you have a non-sound. That's the genius of it. It's not a sound; in other words it's not a sound projected by the voice of the singer or an instrument.

What you have, is you tune yourself to mankind; you tune yourself to humanity. You do not direct a sound as such; you get something that flows from around the singer's mind, and so forth. But it's not created as making a noise, or a sound as such. It's the tuning of the body, the tuning of the mind. And all of the good things that come out of that process are of that nature. And the Furtwängler model is perfect on this thing; and Furtwängler, of course, uses one method, you know, the Italian method. And that's how the best work was done.

You don't make a sound, you don't push a sound out. You resonate in a certain way. And you look at Furtwängler's performances, which are on record and so forth, these things demonstrate the principle precisely; and that's the only true principle of music: the placement of the voice which is not generated by a *push* from a voice. It's a vacuum area, it's an area where it seems almost like nothing.

And follow this stuff with Furtwängler's work: He never makes a sound as such. He places the voice, the

placing of the voice. And the people who are good in their singing, will do that. They won't push a noise out. They will *tune*, they will tune the entire environment. And that's what's been lost! And you get singers who learn to do it, but when they really do it well, they don't think in those terms; they think about projecting, they think about forming the effect. But it has to be *tuned* right. The human voice is tuned, it isn't making noise, it's tuned.

In other words, just imagine an area of sound, a fluid

of sound: absolute, indefinite sound. Now what, in that indefinite sweep of sound *per se*,—what constitutes real music? The thing that stands out, *the vacuum*; the place that is different. And when the singer is trained, the voice is trained, the voice follows that rule. And the most perfect example of this was done in examples by Furtwängler, who laid down what is essentially the Italian school, the true Italian school, which is based on this: you, your body, everything about you, has now been tuned,—like water,—tuned. And when you're tuned, then you're in harmony with the universe. And the purpose of music is to find mankind's sense of harmony, of mankind in the universe.

They're Being Human

The Classical Italian artistic composition, that's the principle. But if you want to do the Italian model in the right pitch, the right focus, you have to follow this rule. You have to say, "No, I'm not making a sound, I'm tuning myself against an environment which is different." And the point is, it really is, when you think about it, you think about real musical performances,—and instrumental as well as vocal, otherwise, same thing; and that is where the mistake is made. It's like this whole thing about mathematics. Mathematics is shit, that's the best thing that can be said for it. Because that's all it is. And you know, I've known this, I've been steeped in this thing in Italy! And the Italian standard is there, but the perfect expression today to define this definition about how this principle works, is Furtwängler. The most precise. You get it also in other

places, but the most precise thing for modern purposes is that.

And what we have, is we have the whole musical program we're running in Manhattan, and out of Manhattan, is all based on this. Everything you need, the instruments and the singers are being tuned, tuned according to law. And it's by inspiring people to accept being tuned in that sense that they become human, and don't make non-human noises any more.

This is something; it's well-known, but we're so corrupted by assuming that different styles and different kinds of things,—and all these things,—make a sound! And it actually is the non-sound that you want to hear. The non-sound that is different than all the sounds around you.

All you have to do, is get into—you know, sing it! Singing and finding out the placement of the voice. And people who can place the voice will tend to understand that; they may use another word for it, they may use another term, they may get distracted. But what they are is they are *human*! And what they're doing is, they're being *human*. As opposed to people who ain't so human.

And the Furtwängler model is the perfect one. The more general model is the Classical Italian or the modern Classical Italian. That is the most convenient one, the Italian, and Furtwängler had that, and Schlusnus had much of those qualities in placement of voice. Take recordings of Schlusnus's songs, and you will get a lot of that, and you will recognize exactly how that works.

Beauty by Subtraction

It means something when it's something which is different, where you change the atmosphere according to a principle. And the Italian school, the best Italian examples are the best models to use for general purposes. But Schlusnus of course has a particular capability for this matter.



EIRNS/Stuart Lewis

A sextet at the Schiller Institute's May 1994 conference at the Howard University Rankin Memorial Chapel, for a Marian Anderson National Conservatory of Music Movement. From left to right: Rev. James Cokely, George Shirley, Detra Battle (largely hidden), Kebeme (Valerie Eichelberger), William Warfield, and Robert McFerrin.

And the point is, the problem is that our minds don't function properly, because we're too busy trying to make noises, according to some principle. We don't realize that when you organize the process in the proper way, that's what makes life rich and good. The good Italian school is also other schools of the same thing; people sing: beautiful voices. People sing. Why do they sing? To impress something upon the environment? On the contrary! They sing to eliminate the noises. And the remainder after that deduction is music.

I have enjoyed beauty for many years,—not recently so much; I'm in no condition to be involved in the music business otherwise, practically. But I know about it, and I haven't forgotten about it. I know when it's right; I'm also very aware when it's wrong.

You make people happy by getting the dirt out of the atmosphere and creating a blank area, where there is no dirt. And that resonates, by subtraction, by eliminating noises. I've said this for a couple of weeks already on this thing; the emphasis on this question. But the placement of the voice is not adding something to the voice,—it's subtracting from the noise! That's what's beautiful: You subtract the noise. And that's what makes you dream well, and think well, and enjoy life, by getting rid of bad noise in all forms.

IV. The Paradox at the Root of Science

Notes on the Legacy of Lyndon LaRouche and the Future of Science

by Bruce Director

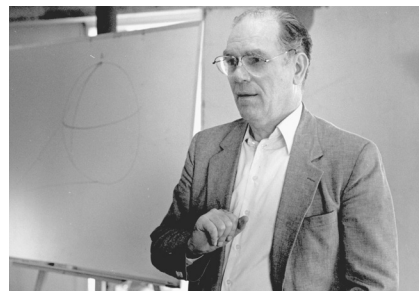
These notes were prepared by the author as background for his August 6 video discussion with Megan Beets in this issue (see p. 45), and are cited by her in the discussion.

July 28—Over a long and productive life, Lyndon LaRouche, Jr. provided a myriad of inter-related original contributions to science, art, and philosophy, all flowing from his central discovery in what he emphasized, was the overarching field of the science of physical economy.¹ Current and future specialists in these fields, as well the rarer renaissance polymath, will, undoubtedly, bring forth new and unexpected discoveries from the implications of these contributions, especially as mankind extends his economic reach beyond the Earth. These notes are designed to take some of the first general steps, in the domains of physical, biologic and cognitive sciences.²

The central starting point, for thinking about the implications of LaRouche's concept of physical economy for the future of science, is LaRouche's rigorous placement of human creativity at the center of economics, or, perhaps more pointedly, his re-definition of the science of physical economy as the science of human creativity. In his work, LaRouche showed that



Lyndon LaRouche addressing a variety of audiences, spanning the period from 1985 to 2006, in locations from New York City to Moscow.



1. LaRouche, paraphrasing Carl Gauss, called his science of physical economy the “king of the sciences.”

2. This writer had the good fortune to enjoy a more than 45-year relationship with LaRouche, the last 25 included many personal discussions on these subjects. The fruit of those discussions is reflected in these notes. However, unless directly attributed to LaRouche, the ideas contained in these notes are the impact of LaRouche's discovery on my own thoughts.

human creativity, as manifest in economic relationships, within and among the generations, plays a central organizing role in the development of all processes on the Earth and nearby space, and by implication, the universe as a whole.

This expresses itself in the increased power of human

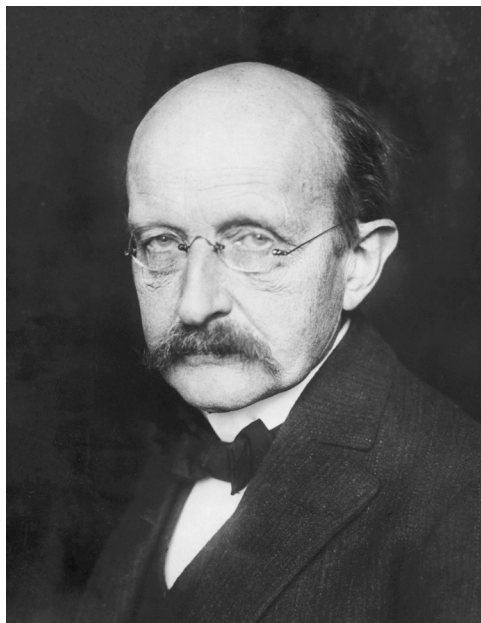
creativity to control and develop living and non-living processes, but also in the power of human creativity to increase the power of human creativity itself.³ The former is associated with the general notions of science, while the latter with art. However, LaRouche insisted that neither can be separated from the other, and thus, there is only one science of human creativity, what LaRouche often referred to as the study of “*creativity per se.*”

The general implication of LaRouche’s concept, is that human creativity as manifest in physical economy is fundamentally “*anti-entropic*”⁴ as expressed in the demonstrable increase in LaRouche’s *potential relative population density*, energy flux density, and mankind’s general increased power over nature. In other words, the action of human creativity produces secular increases in the state of organization of mankind and nature, i.e. an increase in *anti-entropy*. The question implied thereby is, “is this merely a characteristic of human nature, or is this a characteristic of the universe as a whole?” LaRouche insisted on the latter, and provided substantial proof, both original to him, and in the discoveries of many great thinkers who came before,⁵ that this was the case. Future breakthroughs in science will be based on the recognition that LaRouche and his predecessors were correct in that assessment.

Where Was Science Going?

To begin to sort out the implication of the foregoing, a foundation must be laid. An appropriate starting

point is the perspective developed by Max Planck in his 1931 essay, “*Where is Science Going?*”⁶ which was written to take stock of the revolutionary changes brought about from around 1880 until that writing, with the advent of atomic science and what has become known as quantum phenomena. As Planck noted there, by 1880, “the common concept [of science] rested on a two-fold foundation. One part of the foundation consisted of [William Rowan] Hamilton’s Principle of Least-Action, which includes the Principle of the Conservation of Energy. The second part of the foundation was the Second Law of Thermodynamics.”



Max Planck

Since the present writing is only intended as notes, a full explanation of these two “foundations” will be dispensed with. Yet, Planck’s identification of these two principles as “foundations” is an appropriate starting point for the intended purpose of these notes. Contrary to the vast amount of general misunderstanding of these principles, both were ultimately justified by a requirement

that science may only adopt as principles, concepts that accept a coherence between the power of the human mind and the behavior of the universe as a whole. Leibniz originally formulated the first foundation as a consequence of the principle of sufficient reason, and thus, mechanical perpetual motion must be excluded. Planck formulated the second foundation on similar grounds, that perpetual motion of the second kind, i.e. perpetual motion with respect to a heat-engine, is also impossible.

While a more elaborated explanation of the immediate foregoing is absolutely indispensable for general comprehension of science, it is not necessary, to proceed here. Suffice it to say, that, as Planck himself developed, these two “foundations” specify two distinct types of physical processes which can be summarized as follows:

3. “Power” here is used in the sense of Pythagoras’ and Plato’s *dynamis*, and Cusa’s Latin equivalent, *potentia*, which in English is often referred to as “potential.”

4. “Anti-entropic” here does not signify the reversal of the increase in entropy, nor the decrease in entropy, but an entirely different process. For reasons stated below and elsewhere, this author has proposed the use of the term, *dynatropic*, comprising the Greek roots, *dynamis* (power) and *tropoi* (change), or change in power (potential).

5. These thinkers included, but are not limited to, Pythagoras, Archytas, Plato, Augustine, Cusa, Kepler, Leibniz, Gauss, Riemann, Planck, and Einstein.

6. First published in English in 1933. The 1981 reprint was published by Ox Bow Press, P.O. Box 4045, Woodbridge, CT 06525.

1. Planck designated processes characterized by the principle of least-action as reversible and dynamical. That is, a potential of action is established by the physical principles under which action is determined, according to the applicable characteristics of these principles.

2. Processes characterized by the second law of thermodynamics were described by Planck as irreversible and statistical. No deterministic characteristic could be specified, only statistically more probable states.

Both types can be restated in terms of the concept of entropy, if that concept is understood in its most general form as designating “potential for change.”⁷ In processes of the first kind (least-action), there is no change in the potential, thus no decrease or increase in entropy. For processes of the second kind (thermodynamic), there is always an increase in entropy, that is, a *decrease* in the potential for change.

Herein lies the tale. As LaRouche demonstrated, the effect of human creativity defies both foundations. The effect of man’s discovery and application of principles of science and art creates an increase in potential for change, as each new discovery lays the foundation, and the potential, for new discoveries. Such a characteristic can only be described as “*irreversible anti-entropy*,” a type of action not considered under the foregoing two foundations, but demonstrably existing.

7. Rudolf Clausius coined the term “entropy” in regard to heat-powered machines, from the Greek prefix *en* for internal and *tropoi* for change, and he gave it an inverse measurement. That is, an increase in entropy signifies a decrease in the potential for change. Clausius made the blunder of extrapolating from the thermodynamics of a closed system to the universe as a whole, with the proclamation, “the entropy of the universe is always increasing.” That blunder has bedeviled science ever since. Ludwig Boltzmann, but most importantly Planck, subsequently demystified Clausius’s notion by showing that entropy implied statistical non-determinism. Thus, even Clausius’s foolish statement had to be rephrased as, an increase in entropy is more probable than a decrease in entropy, in a closed system.

Where Is Science Now Going?

As it turned out, and as Planck elaborated in his essay cited above, neither physical processes, nor living ones, are characterized by the two foundations on which science was based in 1880. The rise of atomic physics, the interactions of light and matter, the generalizations of relativity and quantum phenomena, all indicated that a new foundation must be sought.⁸ The discoveries of Pasteur and Vernadsky with respect to living processes and their interaction with the abiotic domain, clearly showed that life can only be characterized as *irreversibly anti-entropic*.

And, as cited above, LaRouche’s unique treatment of the science of physical economy establishes *irreversible anti-entropy* as the unyielding characteristic of mankind. Thus, for science to progress, a new foundation must be laid. The initial principles have been set down by LaRouche.

This involves two aspects, both of which were emphasized by LaRouche. One, is a careful study of the characteristics of irreversible anti-entropy. The starting point for this is the study

of the activity of human creativity as expressed in the physical economy.

The second, is the recognition that anti-entropy cannot be represented by any formal, logically deductive mathematical system, yet it nevertheless can be fairly precisely represented by the types of expression associated with classical art.

On the first aspect, both the deterministic and the statistical approach to investigating what nature appears to do, must be rejected. Instead, science must turn its primary attention to the investigation of the priority existence of potential. Such an approach is not new. In the 15th century, Cusa identified the study of potential as the most fundamental subject for scientific

8. Such phenomena as the wave-particle duality, non-locality, etc. for example.



Nicholas of Cusa

investigation.⁹ For Cusa, what things are and do, is merely a consequence of the potential that enables them to behave as they are measured and observed. Though the behavior is apparent to the senses, the potential lies beyond the senses, and is accessible to the mind, via the anomalies that poke through into the sensible domain.

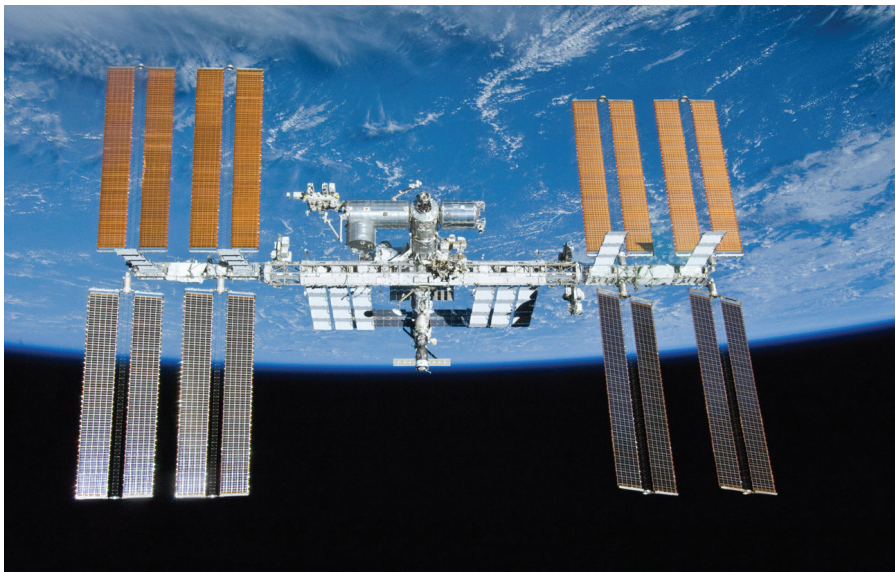
Thus, it is the nature of the potential that must be grasped and made intelligible. That is the actual subject matter of science. Cusa's approach was adopted by Kepler, Leibniz, Gauss, Riemann, et al., and formed the basis for all the fundamental breakthroughs in physical science from that time on.

Gauss incorporated the term "potential" into physics, and formally ended the Newtonian-Cartesian construct once and for all. Yet, the dependence of science on sense perception persisted in the form of positivism, which continues to permeate mathematical physics and reductionist biology today, as well as the use of statistical methods in physics, biology and economics.

The Potential to Create Potential

Cusa turned his attention to an even higher investigation, which is the true foundation of the future of modern science: *the potential to create potential*. While this may seem to be merely a philosophical investigation, it becomes very concrete, as LaRouche developed, in the domain of physical economy.

As LaRouche emphasized, economic progress proceeds via the active creative power of the human mind, which makes, and applies, discoveries of principles of man and nature. The potential for these discoveries is based on the level of material and social inputs available to the individual and society as a whole. But the true output of the economy is not the material or social benefits on which these discoveries are based, nor which they produce, nor the discoveries per se, but the potential to *make* those discoveries



International Space Station, May 23, 2010.

NASA

themselves. Or, even more fundamental, the potential to create the potential to make the discoveries.

Following Cusa and LaRouche, there is a still higher form of potential that must become the object of scientific investigation: *the potential to create a higher potential*. In the domain of physical economy this is exemplified by large-scale investments in space exploration, both directly by humans, but also by extension of human capabilities through advanced observational and robotic devices. Such investments provide not only an up-shift in the existing potential of the economy (through spin-off technologies and similar developments), but the organization of society in such an endeavor has the spiritual effect of increasing the creative potential of the individuals in society and society as a whole.

The above affords us an example upon which to outline a new foundation for science that replaces and supersedes the foundations identified by Planck. This is the higher foundation of the principle of irreversible anti-entropy. It is neither deterministic, since it depends on the creative generation of new, previously undiscovered, ideas, nor is it statistical, as these discoveries must not be merely *probable*, they are *necessary* for economic progress. And, further, economic progress is irreversible. Additionally, it implies a new form of least-action; a principle of least-action that maximizes the increase of anti-entropy, as exemplified by large-scale investments in human development beyond the Earth.

9. See, "Summit of Vision," Wertz translation, in *Toward a New Council of Florence: 'On the peace of faith' and Other Works by Nicolaus of Cusa*, translated and with an introduction by William F. Wertz, Jr.

Thus, the formulation and expression of a concept of irreversible anti-entropy is not only an essential subject for investigation, but its development itself is an embodiment of irreversible anti-entropy.

As LaRouche insisted, any attempt to formulate such a concept in conventional, or even non-conventional mathematical terms, is futile. But fortunately, that is not necessary. Great classical art is replete with inspirations that provide us the means to generate such concepts. In fact, the very characteristic that separates classical art from mere entertainment is precisely its congruence with irreversible anti-entropy.¹⁰

This points to the most crucial feature, that irreversible anti-entropy is not a formal construct. As cited above, the term, *potential*, expresses the active capacity of power (*dynamis*). In art, this is expressed by the emotions evoked by the artist that compel the mind, non-deterministically, to generate a creative discovery in the context of experiencing the artistic work. Such emotional power is an essential characteristic of economic development, as expressed in the recent celebrations of the 50th landing of a man on the Moon, which, in turn, is an expression of the power to dedicate one's life to contributing to an endeavor whose physical accomplishment is beyond the individual's mortal capacity to achieve.¹¹

The Universe is Ontologically, Irreversibly Anti-Entropic (*Dynatropic*)

As the above sketch makes clear, the creative power of the human mind, in its inseparable and interrelated



The Diskobolos (Discus Thrower) of Myron, an ancient Greek sculptor, 5th century B.C.

wikipedia

expression in the individual and in society within and among the generations, is irreversibly anti-entropic. However, science has been hampered by the false belief, which, at best, treats this characteristic as limited to humanity, while the universe as a whole, is characterized by irreversible increase in entropy, or, at worst, denies the existence of human creativity altogether. While this is emphatically the prevailing assumption in scientific circles, there is actually very little evidence to support the existence of universal increase in entropy.¹²

In fact, the scientific evidence is exactly the opposite. Exemplary are Vernadsky's studies of life and the interactive effect of life on the Earth as a whole. As Vernadsky showed, living organisms themselves cannot be characterized by increasing entropy. And as a whole, life itself, as an organizing

principle, has the characteristic of progressing to ever higher forms of life, and transforming the non-living parts of the Earth, increasingly, into artifacts of life. That evolutionary development of living organisms has always proceeded toward life forms characterized by higher energy flux densities and capabilities for transforming the environment, is evidence of this.

As Kepler, Leibniz, LaRouche and others have shown, even apparently totally abiotic processes, such as the motions of the planets in the solar system, or the physics of the catenary, require a reference to human creativity. Thus, LaRouche insisted that the principle of creativity, and life, are universal principles, everywhere active and present in the universe, regardless of their momentary embodiment. That is, the *anti-entropy of the universe is always irreversibly increasing*.

Though the potential for life may, apparently, lack the willful quality of the type expressed by human creative potential, it, nevertheless, exhibits a power to develop

10. This writer is actively engaged in the effort, to concretize the application of this artistic principle to science through a type of "anti-entropic calculus" that would supersede, but not entirely replace, the reliance on conventional mathematics in science.

11. We are guided in the study of this emotional power by Schiller's *Letters on the Aesthetical Education of Man*, Wertz translation, in addition to LaRouche's extensive writings on this subject.

12. This is a subject for investigation under the rubric of psychology in the sub-category of psychopathology.

higher forms of existence, as in the evolution of higher life-forms. Also, in a different way, abiotic processes as well.

Thus, life itself can only be characterized as a process of generating increasing potential. Shouldn't the biological sciences turn their attention to the study of this potential?

Similarly, in the abiotic domain. Current cosmology is simply a mess: a hodge-podge of mathematical theories that is constantly befuddled by the experimental evidence that the universe exhibits a tendency to generate higher forms of organization and existence. Already the evidence gleaned from expanded exploration capabilities, such as the Hubble Space Telescope, and similar Earth- and space-based devices, has provided science with ample evidence of anti-entropic organization.

Instead of trying to interpret this evidence from the standpoint of the assumption of universal increase in entropy, shouldn't science turn its attention to studying these phenomena as the effect of an irreversibly anti-entropic universe? Such an approach would eliminate the reliance on mathematical constructs such as "dark matter" and "dark energy." While this author has no opinion as to the ultimate existence of dark matter or dark energy, its existence is hypothesized at this point

purely for mathematical reasons that flow from the acceptance of a universal increase in entropy. Further study may show that irreversible anti-entropy needs no such entities, or, at least will shine a light on them.

A similar case can be made for micro-physics.

Further, breaking down the division between physics and biophysics, in the direction of Pasteur and Vernadsky, is essential. As their investigations in crystallography and the biogenic migration of atoms show, life produces unique physical effects that are characteristically anti-entropic. Thus, as LaRouche insisted, instead of trying to understand living processes from the standpoint of abiotic physics, a reverse approach is needed. Experimental evidence exists that processes that occur in the abiotic domain only under extreme conditions, as for example the creation of quasi-crystals with five-fold symmetry, are characteristic at "normal" conditions under the influence of life. This, and other phenomena, indicate that a universal anti-entropic tendency links the abiotic, biotic and cognitive domains.

As LaRouche emphasized, such investigations cannot proceed from the bottom up under separation of abiotic, biotic and cognitive domains. But, if we take as our foundation, the irreversibly anti-entropic character of the human mind, we will find that the universe in which we are blessed to live, is, happily, just like us.

Dynatropy: The Creative Universe and Mankind's Unending Progress

The following is an edited transcript of the August 6 discussion between LaRouche PAC Science Team members Bruce Director and Megan Beets. The video of the interview is available [here](#).

Megan Beets: Welcome, everyone. Thank you for watching. My name is Megan Beets, and I am a member of the LaRouche PAC Science Team. I'm joined here by my colleague Bruce Director, who is a 45-year collaborator of Lyndon LaRouche, and author of numerous articles on science and the history of science, including one on how Gauss determined the orbit of Ceres, and the "Riemann for Anti-Dummies" series.

What Bruce and I want to do today is initiate a discussion on Lyndon LaRouche's idea that the universe is fundamentally creative. That it is a fundamen-

tally creative, developing system, as opposed to the Second Law of Thermodynamics, which states that the universe is running down and is fundamentally entropic.

LaRouche shaped his entire life's work around this concept. This is centered in his early discovery of the principles of the science of physical economy. Bruce, in the notes you prepared for this discussion, you commented on this. You said, "The general implication of LaRouche's concept is that human creativity, as manifest in physical economy, is fundamentally anti-entropic. The question implied thereby is, is this merely a characteristic of human nature? Or is this a characteristic of the universe as a whole?" So, could you start us off by talking more about that. Why do you assert that as the most important question?

Bruce Director: I think the best way to look at that is to just make a brief summary of the main point LaRouche made with respect to economics. Of course, it's always very dangerous to try and summarize the work of someone who developed a concept over a 60-70-year period into just a small little bit. But I think LaRouche, over the decades, made a fundamental discovery of the nature of creativity in the universe, and how creativity is expressed in the science of physical economy—which is certainly not what people consider to be economics

today. Physical economy has nothing to do with money or finance, or even production and distribution of goods and services; it is really the science of how man interacts with the universe and the science of human development.

There is empirical evidence to show that mankind, over its history as far back as we have accurate records, but even where our records get very sparse beyond, say, 10,000 years ago, but over what we assume to be about a 2 million-year history of human beings on this planet, you see a secular increase in man's power over nature. There is an increase of the human population, which you don't see in any other species, and also an increase in other defining characteristics, such as what LaRouche called "potential relative population density," or the number of people that can exist and prosper relative to a certain level of technology, per unit area of the Earth's surface.

That's always been increasing, at least over the long term. There might be periods in which you have a decrease, such as the Black Plague period of the 14th Century; but generally, it's been increasing. You don't see this in any other species.

You also have effects like the increase of the energy-flux density of the level of technology available to mankind. That is, the amount of power available per operative has dramatically increased over time from basic,



wikipedia

Lascaux cave paintings in southern France, which were created about 18,000 years ago.

crude tool-making, to the ability of man to deploy the power of the atom.

Beets: LaRouche referred to this in more recent years as man's increasing use of fire.

Director: Man's increasing use of fire is a very good way to actually judge that. These are all indications of a certain characteristic of mankind; something that mankind has the ability to do that you don't see in any other species. LaRouche identified that as being the creative power of the human mind to discover principles of nature, and also to apply those principles of nature to changing nature. We see that in the development of mankind. The creation of new materials, the creation of new organization of the Earth itself.

But also, man has demonstrated a capability of discovering principles about his own creativity. This really is the province of man; and this is also very unique to mankind, and is also ancient. In fact, we cannot think of human beings without art. You have all these examples, in many of the ancient cave paintings. These are not just playthings, although they are a type of play. But they really indicate man's investigation of his own thinking, his own creativity.

By making these kinds of discoveries in both science and art, mankind deploys a power, an actual phys-

ical power to transform his surroundings, the environment. As we grow and expand, we deploy this power even beyond the Earth itself. In fact, even ancient man who didn't have space flight capability, in a certain sense deployed the heavens for his benefit, through his mastery of the motions of the planets and the stars, which was essential to navigation and calendars and other types of things.

So this is a power that man has, and if you just look at the experimental evidence of that, of man's action in and over the universe over the millennia, it's characterized by an increase in what LaRouche called the anti-entropy of the universe. It is contrary to the idea of the Second Law of Thermodynamics, which has been stated in many different ways, but fundamentally says that the universe as a whole is transforming itself from states of higher organization to states of lower organization. It's always tending towards equilibrium, or it's running down.

You see this Second Law idea in the case of just a simple thermodynamic example, that heat always flows from hot to cold. It tends to go towards equilibrium. If you put a hot piece of iron into a bath of cold water, the water gets warmer, the iron gets cooler, and eventually both reach the same temperature. Now to make a long story short, from a scientific standpoint, there really is no causal reason that can explain that, other than that equilibrium is a more probable state than disequilibrium.

Beets: Wait, can you say more? What do you mean there's no reason to explain that?

Director: There's no causal reason, if you were to put a hot piece of iron into a bath of cold water, why the iron wouldn't get hotter and the water colder. That is, what heat there was in the water would be transferred to the iron, and the iron would get hotter, and the water would get colder. But that never happens; we don't see that happening. We don't have any evidence of that happening. But when you ask the question, why is that the case? For reasons that are beyond the scope of this brief discussion, it can only be stated from a mathematical or formal standpoint that the state of equilibrium is a more probable condition; and that's why it happens. The likelihood of the opposite happening is so remote, that it just never happens.

From this sort of crude summary of this thermodynamic process, Rudolf Clausius, who was the first to

originally discuss this in these terms, stated that there was a property of matter and energy, a property of the universe, which he called entropy, which he formulated from the Greek preface *en* which is internal, and *tropē* which is a Germanized version of the Greek word for change. That, in addition to energy flowing from the hot to the cold, you also have an internal change which represents the potential for change.

If you have a hot piece of iron and a cold bath of water, there's a big potential for change; because there's a big differential in the temperatures or heat content. After the iron has cooled, and the water has warmed, it's all the same, the potential for change is almost zero; you can't really get—maybe you could have local fluctuations on the microscopic level—but you can't get more lukewarm than lukewarm; you can't get more equal than equilibrium.

Beets: The potential for change is also the potential for work.

Director: Yes, that's another way to put it. I use the idea of the potential for change to express a more general point, because this phenomenon has now been expressed not only in the case of thermodynamics, but in all kinds of other situations, like information theory and that kind of stuff.

On the other hand, if you look at the economy, and you look at what man does, and the development of mankind, you see exactly the opposite process. The potential for change is actually increasing. Clausius measured entropy inversely. In other words, if the potential for change is decreasing, the entropy is increasing. So, an increase of entropy means a decrease in potential for change. And an increase in potential for change means a decrease in entropy.

But if you look at the economy, you see that it goes the other way. Mankind's activity and behavior and power to discover principles of science and art, actually increase the potential for change. We, as individuals today, in society as a whole, have a much greater potential to change ourselves, to change the nature of man; as is happening right now with the idea of organizing our economy around the space program.

President Trump's proposal for a Moon-Mars mission is an old proposal; LaRouche proposed such a mission a long time ago. But even before LaRouche did, going to the Moon and Mars was the policy of the U.S.

government. Now it's been joined by other countries—China, Russia, India, Japan, many nations are getting in on this. So, we have a huge potential for change as we reach out into space and beyond. This is, as LaRouche pointed out, an increase in the potential for change; that is the nature of physical economy.

LaRouche also emphasized that this is not simply the reverse of an increase in entropy. It's not as if the cold water would be getting colder and the hot piece of iron getting hotter. It's actually a different process altogether, in which something other than entropy is happening. LaRouche called this anti-entropy, to distinguish it from the term negative entropy, which is just the reverse of entropy. I have coined the term "Dynatropy" from the Greek word *dynamis* and *tropē*, meaning the power to change.

Beets: Let's get back to what you just said, that anti-entropy, at least as we study it in the human economy, is not just the reverse of entropy. But first I want to bring something else up. You gave the example of a hot piece of iron in a bath of cold water, but the first thing that occurred to me was that when someone says "entropy"—that the universe is running down—it is a reference to the very widespread assumption today that we're running out of resources; and the faster we develop and use resources, even though we might improve, really we're making the universe we're operating in run down faster.

Director: This is the stupidest idea that anybody can have. It's kind of funny, because it really isn't that well accepted, except with the force of very big financial institutions and political powers like the British monarchy and the Club of Rome and so forth. In some parts of the world, the idea of running out of resources has really taken a strong popular root in the population, rooted in a lot of pessimism.



Resource shortages are often faked. Here, a gas rationing system announced in a newspaper. A sign in the background reads "Sorry, no gasoline." January 1974.

In the United States you see a somewhat different situation: While this is taught in the schools a lot and people are brainwashed to believe we're running out of resources, I don't think it's really that widely accepted as a principle in the population. Just look at what we do. What are resources? At one time, horses were our resource for transportation, and oil was something you didn't want to run into when you were drilling a water well. Now, uranium—which at one time only had a real purpose to color glass yellow in making glasses and dishes and ceramics—is now a major source of energy.

If we develop fusion power—which I'm confident will be done very soon—even an element like helium-3,

which is rare on Earth but abundant on the surface of the Moon, will become a resource. So, there's no such thing as running out of resources. We invent new resources and we learn how to use the resources we have more efficiently. So, that's another expression of anti-entropy. Not only is the energy-flux density of mankind increasing, but also our ability to organize matter and energy is increasing in such a way that we can now count as resources things which previously were not even known.

Beets: Right; things that couldn't have been included in enumerating resources.

Director: Correct.

Beets: So, how did an idea that stemmed from studying closed thermodynamic systems become extended to the entire universe?

Director: It's basically through brainwashing and stupidity; but it's not really new. It didn't come about in the middle of the 19th Century. It's very similar to the kind of mass hysteria that occurred around the time of

the murder of Archimedes by the Romans and the collapse of Greek society in the aftermath of the Peloponnesian Wars. Actually the degeneration of Greek society started long before that. The high point of Greece probably was even before Socrates, back in the time of the Pythagoreans—and their later followers like Archytas and so forth.

But the Greeks and the Egyptians and probably other ancient cultures understood, based on their astronomical observations, that the Earth moved around the Sun—at least they had some idea of it—in non-uniform orbits. They had at least some conception of a Solar System which was a heliocentric Solar System. But from around the time of the murder of Archimedes, for the next 1800 years, this idea of the Earth at the center of the Solar System was dominant. In fact, it was a heresy to suggest anything else.

You may say, isn't that just sort of an esoteric thing? Most people were just trying to eke out a living as peasants or farmers. Why would that matter, whether they thought the Earth was at the center, or the Sun? But it really implied a theological false belief, which was essential for maintaining the kind of evil that was the Roman Empire and this imperial system.

The argument went as follows: If the Earth is at the center, unmoving, and the Earth is full of change; the further away you get from the Earth, the less things change. You looked at the planets, you looked at the stars, they change less. So, the more perfect part of the universe is as far away from the Earth as you can possibly get. This sort of false belief became the theological justification for an imperial system; that God is out there, in the perfect, unchanging part of the universe, while you're down here; you're as far from God as you can possibly be. And you have to obey the Emperor because he's the only thing that brings stability; he's the only thing that prevents change. The purpose of an imperial system is to prevent change; to prevent development.

So, that all crumbled in the time of the Renaissance and with Kepler. So, the Earth-centered view was just sort of a new version of that—that no change is preferred by the universe. It prefers equilibrium. Anything that causes change is anti-universal. Therefore, what man does, his essential nature, is at odds with the overall characteristic of the universe. And that's how it actually came about. In fact, one of the predecessors or contemporaries of Clausius, Lord Kelvin, actually

wrote a whole treatise on this, about the heat death of the universe. He said that ultimately this is what everybody has to accept; that the universe is ultimately going to run down and go to nothing. Therefore, everything that man does is completely antithetical to what the universe otherwise wants to do. That's sort of the prevailing view today, and has been ever since that time.

Beets: This is what LaRouche intervened in, with his paper called "On LaRouche's Discovery," in which he wrote about his own encounter in the 1940s with Norbert Wiener and the assertion that statistical entropy is the characteristic of the universe, and that it also characterizes human communication. Wiener also asserts that a statistical reversal of entropy is the nature of local anti-entropy. To LaRouche, his gut reaction was that this was completely wrong. He thus launched his investigation into anti-entropy, as he investigated it in the realm of human economics and the realm of human art. This leads me back to what you are now calling dynatropy, which is anti-entropy; not as the opposite of entropy, but as a different kind of process.

Director: Exactly! It is a completely different type of process that actually characterizes the universe. Instead of talking about the universe as not being what it's not, let's talk about what it actually is, which is what LaRouche gives us the tools to do. The universe is creative.

Now the question for us here today, going forward, is seeing that when you look at what LaRouche says is expressed by human activity—and he asserted, and I think made very strong proofs and compelling arguments—that it is a universal characteristic. The reason why man can exhibit this characteristic of anti-entropy is because it is the characteristic of the universe itself. But then the question is: Can we show that?

Can we show that it's a characteristic of the universe itself and not just something man is doing, as the opposing argument goes? Or is it that man is anti-entropic, but he's doing this at the expense of increasing the entropy of the rest of the universe? That argument, just from an empirical, scientific standpoint is pretty absurd; because to make the assumption that what we're doing in this little corner of the universe is somehow increasing the entropy of the whole universe is a

little bit presumptuous. Rather,—as LaRouche pointed out—man can do this because the universe actually is creative; it’s ontologically creative, not just humanity. There are different degrees of this, but it’s not just humanity; it’s the universe as whole. It’s an ontological characteristic.

LaRouche made a lot of very important discoveries over the course of his life; including himself looking at the works of the great scientists—the Greeks, the Renaissance scientists, Leonardo, Pacioli, Cusa, Leibniz, and others—and inspiring others to do this work. You can see when you look at the work of the great scientists of the past, the ones really responsible for making fun-

Director: Yes. In my “Notes on the Legacy of Lyndon LaRouche and the Future of Science,” I reference a [paper](#) that Max Planck wrote in the 1930s, “Where Is Science Going?” For people who don’t know, Max Planck was a leading scientist at the end of the 19th Century into the first half the 20th. He was a collaborator of Einstein. He was a Classical pianist, and he was really the dean of science for the first half of the 20th Century.

He made a decision early in his life to continue to play the piano, but he abandoned his pursuit of a career as a Classical pianist and took up the study of physics. He was advised by his professors and advisors that this



Leonardo da Vinci



Luca Pacioli



Gottfried Leibniz

damental discoveries, that these discoveries flow from a belief and commitment that the universe is fundamentally creative. You see this in the works of Kepler, you see it in Cusa, you see it in Leibniz and Einstein, Planck and so forth.

The question moving forward for science is, can we adopt this again as the standard of scientific investigation? I think that’s what we really have to fight for; especially if we’re going to accomplish what we really need to accomplish in terms of space and fusion and other frontiers of science; also, with life.

Beets: So, you’re saying that this assumption that the universe is characterized by entropy has not only held back our social organization, but it’s fundamentally held back science itself.

was a waste of time, because with the discovery of the Second Law of Thermodynamics, everything had been discovered. The only thing left to do was work out the details.

In “Where Is Science Going?” he referred back to the state of science in 1880 before the discovery of what we now identify as atomic science and quantum effects. There, Planck says that at that time, science had come to the conclusion that there are basically two types of processes in physics.

One was processes which he called reversible, which are deterministic processes, like the motion of a planet or the swinging of a pendulum. Something which, if you have the equations and the initial conditions, you can mathematically describe every aspect of the motion.

Then there are things like heat transfer, which do not obey that. You cannot write an equation for how it happens. You can only use statistical methods. That was fine, except that science progressed, especially as a result of the development of technology. Particularly when people began to investigate the interaction of the immaterial with the material, such as the interaction between matter and energy.

Look at the famous experiment of the black body: It was like an oven. You heat up the oven, and the walls of the oven start to glow because it gets hot, so it's emitting light. The light then gets re-absorbed by the walls of the oven, but they're also radiating into the cavity of the oven. So, you have an interaction between this immaterial thing—light and heat, which are really two versions of the same thing—and the material substance of the walls. You find that all kinds of new paradoxes arise out of this Planck discovery. Such as the relationship between the color of the light and the temperature of the oven. Things are not as simple as they seem in this regard.

And all these kinds of paradoxes that we now call quantum physics emerge out of this. Phenomena like the so-called wave-particle duality, or non-locality, super-position—all these things that people hear from quantum physics. These are things that scientists don't really understand at all. Yet, we're able to use them; we're able to master these phenomena quite dramatically. The development of computers and all kinds of other things; yet we cannot explain how they occur. Planck says the reason why we can't explain how they occur, is because we're still locked into these two foundations: dynamical and statistical. We need to get to something higher. He doesn't say what that is, but he was convinced that it must lie somewhere in the nature of the human mind.

This is where I think LaRouche made a very important contribution to science that has to be promoted and taken much more seriously. Which is, yes, the place to start, is how does the mind work? How does the mind create new things? As you investigate this aspect, which LaRouche called creativity *per se*, you gain insights into the nature of creativity, and thus, the universe itself. Then, if you approach some of these paradoxes that present themselves in scientific investigation, from the standpoint of the universe being ontologically creative, a whole new potential for discovery occurs. That's what I think is a real challenge for science.

Planck posed the question, in his time, "Where is

science going?" For us, that would be "Where *was* science going?" And the question for us now is, "Where is science going now?" Right now, that's at a crossroads, and I really think that the insights that LaRouche provided us really point in a fruitful direction to answer that question.

Beets: I want to leave our discussion there, except for one concluding question, picking up on what you just said, which is incredibly provocative. We, by investigating our own creative powers—which are developing, they're not fixed—by investigating our own powers to create and discover, we can discover something about the universe as a whole. Why is this so critical right now, given everything we know about the political fight unfolding on the world stage, and about the fact that man is facing the choice between a collapsing old paradigm of war, geopolitics, empire; and the emerging New Paradigm in the world? Given the economic conditions people are swamped with today, they have a lot on their plates. So, why should they consider what you just brought up?

Director: Well, I think they have to consider that we're at a revolutionary period in human history—we're coming out of a Dark Age period. Look at the 20th Century; it was a pretty pessimistic century. It had the worst wars and genocide in the history of mankind. And at the same time, during that period there were tremendous advances in technology, despite all the bad things that happened. Now we're at a point where mankind is coming together to launch explorations in space.

Bernhard Riemann, the great mathematical physicist and science philosopher, whom LaRouche refers to a lot, talked about how science makes discoveries by looking into the very large and the very small. We're doing that; we're able to do that now at a level we never could before. We keep confronting new questions; we keep raising new questions. Most of those questions are avoided by just trying to tinker with mathematical equations to come up with some explanation for these questions. We have to get beyond the mathematical equations and look at what is actually causing this.

Let me give you a paradox, or an example of where I think this comes about. We have made a lot of advances in medical technology and understanding of life and living systems and so forth. But we miss one single

question that we can't answer: What is life? The prevailing view in science—and I don't say the only view, because there is a growing number of scientists who are looking into this from their own standpoint—but the prevailing view is to try and explain life and living things, and how living things behave, as an epiphenomenon of non-living processes. That somehow the complexities of even a single-celled organism can be explained by the laws of physics. But in a living organism, the non-living laws of physics don't apply.

No one has been able to create life from non-life. You can't explain life from the standpoint of the physics of non-life. In fact, when you look at it, you increasingly find that life does things "normally" under its ordinary conditions that only happen in the abiotic domain under extreme conditions, or not at all.

Beets: Extreme temperatures, pressures.

Director: Extreme pressures like explosions of stars and so on and so forth. Yet living organisms create complex molecules and utilize energy and transform themselves. And as Vernadsky shows, living organisms transform the non-living parts of the Earth. The way, for example, living organisms change rocks into soil. And the way the action of man controlling life—say in agriculture—further that process even more.

LaRouche emphasized this quite a bit. You can't understand science from the bottom up, which is the way most science goes. We start with physics and we say, "What in physics can explain life? What in life can explain man?" You can't go that way. Turn it around, and it becomes much simpler.

Start with, what does man do? And what is this power of creativity that man has? Then you look at how that exhibits itself in life, even in living organisms that are not human, like plants. There's still a type of consciousness within the plant. The roots are communicating with the leaves in an organized way. The plant, from the plant's standpoint, has a certain understanding of itself. Not the way human beings do, but as no abiotic process does. And the plant interacts with the world around it. It takes up water and takes in carbon dioxide—all that wonderful carbon dioxide that man is making.

Beets: And shapes its body to respond to light.

Director: Right! It shapes its body to respond to



There's still a type of consciousness within the plant. The roots are communicating with the leaves in an organized way. The plant, from the plant's standpoint, has a certain understanding of itself.

light, and it loves carbon dioxide. If we want to be kind to the plants, we should make sure we make more carbon dioxide. I don't think we should support these plant killers out there who are trying to limit the carbon dioxide. Plant genocidalists, they must be.

So, if you look at it this way, you see that there is something completely different going on. I used the example of a plant, because it's a rather extreme example, but you see this also in other animals and man's ability to domesticate animals and so forth. This way of actually exploring these questions of the way man's creative powers in and over the universe change the universe itself, is really the future of science. I think people have a certain instinctive idea that that's the way you have to go.

It's very funny; if you talk to a lot of scientists, you find that when they try to explain the creative work they do, they become completely incomprehensible. But yet, they never make the discoveries in the way they try to explain them, with mathematical equations, or this logical theory, or this deductive theory. The creative scientist uses his or her mind and makes a discovery based purely on this creative power.

So, LaRouche taught us we should focus on that; focus on understanding that creative power. And then look at how that creative power expresses itself in the other parts of the universe. I think we will create a lot more potential if we do that.

The Future of Science: Three Types of Action

As a result of his efforts to achieve a comprehensive overview of physical laws, Max Planck demonstrated that all physical processes could be characterized as being governed, fundamentally, either by what he called dynamical or statistical laws. The former processes, he showed, were a consequence of the reversibility of the physical process, the latter of its irreversibility. From this fundamental consideration of reversibility or irreversibility, all other characteristics are derived.

However, Planck recognized that even though such a characterization encompasses all physical processes, it is limited, and cannot characterize the universe as a whole. Living processes, human thought and even certain abiotic processes, such as those exhibited by the so-called quantum effects, do not fall neatly into these two categories. Moreover, Planck insisted, the universe as a whole cannot be so simply characterized.

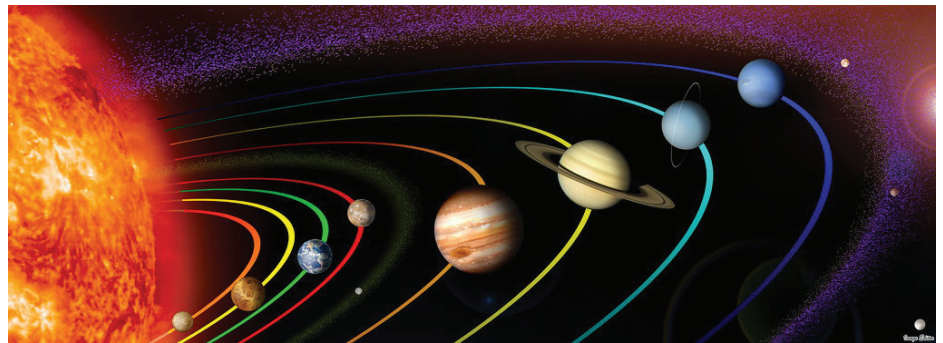
The following illustrates, pedagogically, Planck's distinction:

1. Reversible Processes

Reversible processes are typified by the motion of a planet around the Sun, or the path of light under reflection or refraction. The path of the planet is determined by Kepler's laws; light, by the principle of least-distance (reflection) or least-time (refraction). All are specific cases of the principle of least-action. Simply stated, the action is determined as a function of the physical principles. Planck considered

such processes as reversible, because either they can be physically reversed, or, the action is so determined that its evolution over time can be retraced with exactitude by deterministic mathematical equations. The physical principles acting, determine the potential for change within the process, but there is no increase or decrease in that potential, absent the introduction of a new principle, such as in the relationship of refraction to reflection.

Leibniz, Planck, and many others, showed that this principle of least-action is furthermore a requirement of sufficient reason. Or, in other words, that the universe is fundamentally lawful, and thus subject to comprehension by human reason. A subsidiary consequence of this is the impossibility of perpetual motion. For if perpetual motion were possible, that is, as Leibniz put it, if the effect were greater than the cause, the universe would be irrational and not subject to human comprehension.



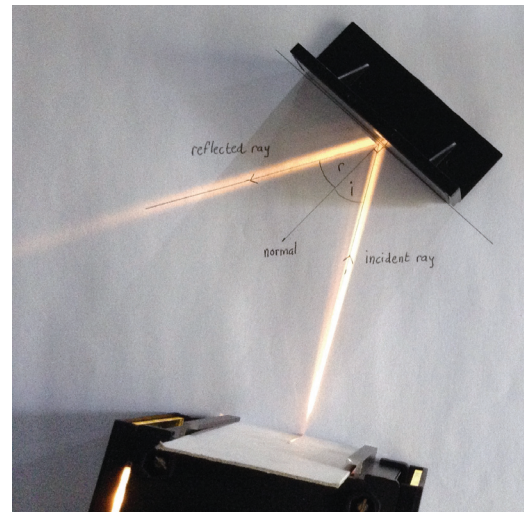
Artist's rendering of the planets orbiting our Sun (not to scale).

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ScienceGiant from Pixabay

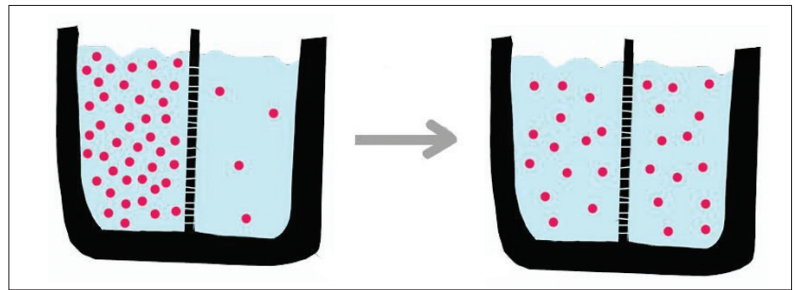
Refraction of light.



CC/Meganbeckett27

Reflection of light.

Thus, given a precise understanding of the physical principles, all the action—past, present and future—can be set forth. However, Planck (and Leibniz and others) recognized that the discovery and comprehension of the underlying physical principles are *not* subject to mathematical formulation, but require the creative powers of the human mind. Thus, the understanding of even deterministic abiotic processes is based on creative discovery, and can only be understood, even in the abiotic domain, by reference to an underlying *universal intention*, or, as Leibniz said, *metaphysical* principles.



Diffusion through a membrane. The molecules in the higher density chamber tend to migrate, over time, to the lower density chamber, until the distribution of molecules becomes close to equal in both chambers.

2. Irreversible Processes

Irreversible processes are typified by phenomena such as heat transfer or diffusion, which appear only to go in one direction. In the example above, the molecules in the higher density chamber tend to migrate, over time, to the lower density chamber, until the distribution of molecules becomes close to equal in both chambers. However, there is no causal determination for this result. There is only the fact that, since there are more molecules in the higher density chamber, it is more likely that more of them would migrate to the lower density side. On the other hand, it is physically possible for the molecules in the lower density chamber to migrate, over time, to the higher density chamber, thus producing an increased disequilibrium, but this is not experimentally observed. Yet, it cannot be said with certainty, that such a phenomenon could not happen. It can only be said that this is highly improbable. Thus, such physical phenomena can only be characterized by statistical equations. This implies that such processes are fundamentally random. Furthermore, irreversible processes are characterized by a general decrease in the potential for change, or, a so-called increase in entropy. On the other hand, the improbable occurrence of an increase in

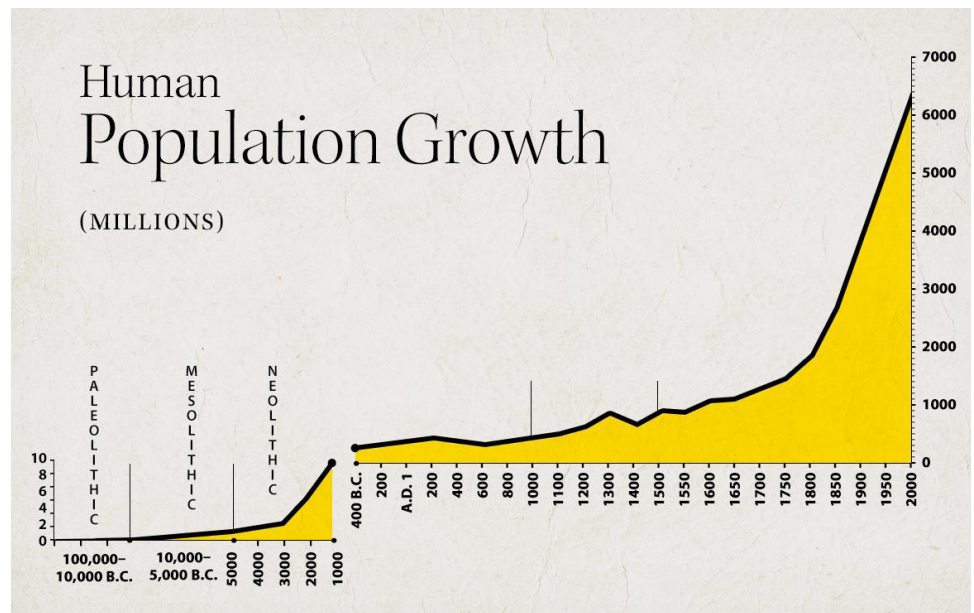
disequilibrium would be merely a decrease in entropy.

Planck extended Leibniz’s notion of sufficient reason to irreversible processes by showing that the increase in entropy is a consequence of the impossibility of perpetual motion of a second kind. Thus, even though an increase of entropy can only be described as merely more probable, it is physically necessary in such conditions.

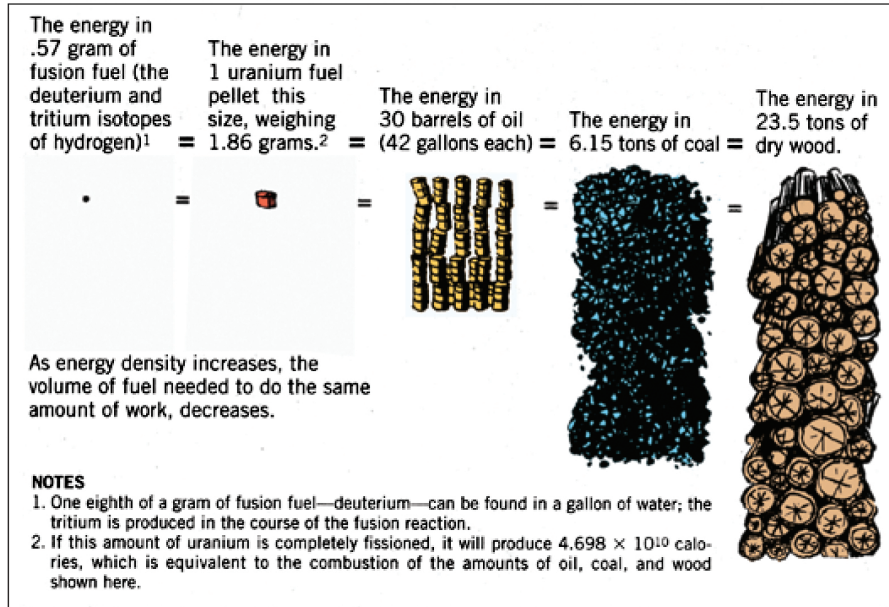
When this is generalized (falsely) to the universe as a whole, it leads to the ontological idea that the universe is fundamentally random, and not subject to an underlying lawfulness, or ultimately, human comprehension.

3. Irreversible Anti-Entropic Processes

In his discoveries in the science of physical economy, Lyndon LaRouche showed that the willful action of human creativity on the universe and on mankind itself, produces an increased potential for increasing man’s power in and over the universe. Such a demon-



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ropy) can only be expressed by the principles of classical art, i.e., metaphorically.

This increase in potential defines a new type of potential: *a potential to increase potential*. In Leibniz's terms, a greater effect is produced by the self-creation of a greater cause. LaRouche showed that this characteristic of human creativity can be directly studied and mastered, which he called the study of *creativity per se*. It is a fundamental characteristic of humanity and the universe as a whole. Thus, from LaRouche's standpoint, *irreversible anti-entropy* is a necessary universal characteristic.

In this way, LaRouche has defined a new characterization that

supersedes Planck's characterization of phenomena. The challenge for science is to apply this characterization of *irreversible anti-entropy* to the study of all phenomena.

strable effect does not fall into either of the two categories identified by Planck, but, rather, defines a third type: *irreversible anti-entropy*, or *dynatropy*. Unlike simply reversible, dynamical processes, human creative activity creates new principles (of thinking and action) that cannot be characterized by mathematical equations, and which have the effect of increasing the potential for man to act on nature and himself; thus, *anti-entropic*. Since this creates a new state of potential altogether, it is not merely a decrease in entropy, but rather an increase in *anti-entropy*. And, being willful, creative activity cannot be characterized by statistical laws, nor can it be pre-determined by existing laws. All creative discoveries are, by their very nature, highly improbable—in fact, *impossible*—relative to the state of prior knowledge. *Irreversible anti-entropy* (*dyna-*

supersedes Planck's characterization of phenomena. The challenge for science is to apply this characterization of *irreversible anti-entropy* to the study of all phenomena.

Dynamic	Entropic	Dynatropic
Reversible	Irreversible	Irreversible
No change in entropy No change in potential for change	Increasing entropy Decreasing potential for change	Increasing anti-entropy Increasing potential for change (only local increase in entropy)
Differential equations Deterministic	Statistical	Creative Non-linear/Riemannian Non-deterministic overall Locally deterministic Metaphor
Least action	No least action Only transitions from less probable to more probable	Local least action, geodesic Non-linear discontinuous change in manifold leading to change in geodesic Higher form of geodesic, non-linear world-line
Potential is a function of physical principles	No potential Increase in entropy is inevitable	Locally dynamic forces Overall <i>dynatropic</i> power = creative passion

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