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The Ecumenical Battle for The Common Good



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The Ecumenical Battle For the Common Good

Cover This Week

Dr. Robert J. Moon, the eminent physical chemist and physicist, who collaborated with Lyndon LaRouche on questions of fundamental science, works with students on crucial experiments in the history of physics at a summer camp in the 1980s, where children and teenagers learned principles of science, Classical music and Classical art.



Philip Ulanowsky

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Schiller Institute Internet Conference

schillerinstitute.com

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

Saturday, June 27, 2020
11:00 A.M. Eastern Time (U.S.)
1400 GMT

[RSVP](#)

Panel I “Instead of Geopolitics: The Principles of Statecraft”
Helga Zepp-LaRouche and international guests

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April 27, 1987

I. Outflanking the Enemy

ZEPP-LAROCHE WEBCAST

The ‘New Violence’ Is Deployed to Defend the Broken Paradigm, as LaRouche Warned in 2000

This is the edited transcript of the Schiller Institute’s June 10, 2020 interview with Helga Zepp-LaRouche, by Harley Schlanger. Subheads and embedded links have been added. The [video](#) is available.

Harley Schlanger: Hello. I’m Harley Schlanger with the Schiller Institute. Welcome to our webcast today with our founder and President Helga Zepp-LaRouche. It’s June 10, 2020. And as I’m sure all of you are aware, we’ve been going through a very intense strategic situation internationally and a chaos scenario for the United States: Since the murder of George Floyd in Minneapolis, there have been demonstrations, violent provocations, and an escalation of the coup attempt against President Trump. So why don’t we begin with that, Helga? There’s been a lot going on: What’s your assessment of how this period has been unfolding?

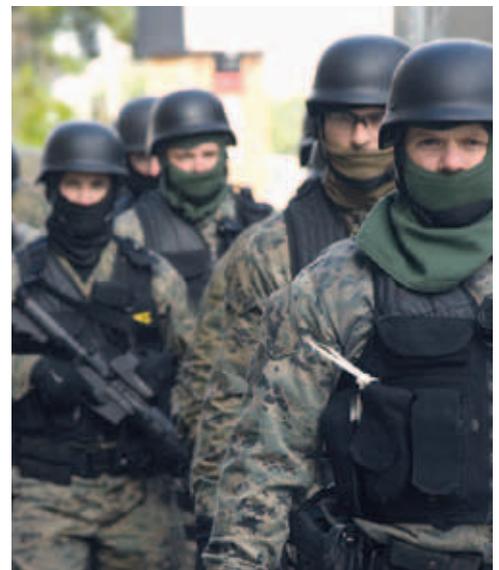
The Coup Attempt Escalates Against Trump

Helga Zepp-LaRouche: When President Trump was elected, my late husband at that point commented, saying that this was not a national event of the United States, but that it had strategic implications and significance. In the same way, the recent situation in the United States is not to be judged from a national perspective, but in the reality of a complete breakdown of the old paradigm.

This breakdown has many

points to it, many aspects: The pandemic of the coronavirus pulled away the veil of a lot of things already there before, but now crystal clear, and staring into one’s face with all their, in large part, ugliness. One such ugliness was what came out in this absolutely barbaric murder of George Floyd, which revealed a missed development which has many aspects, again. One aspect is that there is racism not only in the United States, but also in Europe—we should mention that a little bit later—but also that this police brutality is something which was part of this retrograde paradigm shift.

And again, I want to quote my late husband, who spoke at an event two decades ago about the terrible consequences of video games and the so-called “new



In 2000, Lyndon LaRouche warned against the changing character of the police, from the traditional cop on the beat, to the increased militarization of police forces. At left: A Los Angeles police officer walks her beat. Right: A special weapons and tactics (SWAT) team.

CC/Chris Yarzab

violence,” the brutalization of society which is caused by video games and all this media violence.

He said that one aspect of it, was that the character of the police had changed, that there was a militarization of the police, that the cop as he existed in the community, who knew everybody and many times was able to manage conflicts and bring them to a peaceful end, who was a trusted figure in the community, that kind of cop has completely vanished, and you had, especially in the last decades, especially with the paradigm changes after 9/11, the complete militarization of the police; that actually, many military training techniques were applied to police training. The particularly disgusting way in which this white cop in Minneapolis killed George Floyd, was a technique developed by the Israelis to use against the Palestinians. Many security forces went to Israel to be trained in such techniques.

This kind of role of the policeman in society corresponds to the role of the soldier in an empire as described at great length by Samuel Huntington in his book, *The Soldier and The State*, that the mercenary soldier should not have anything to do with the civilian economy, because otherwise he doesn't have the distance to increase his kill ratio. This book is disgusting, but it's worth reading, if you want to understand the mindset of these people.

There is a reaction coming to the fore that I don't think will go away. Some Americans, especially in the African-American and Hispanic communities, have been completely forgotten; they do not participate in any of the so-called advantages the economic system had provided, at least up to a certain point. You cannot violate the economic interests, the health, the education of large sections of a population over a long time, without eruption under conditions of a breakdown crisis.

This situation calls for the urgent reform and reorganization of the kind we have been talking about a lot. But I want to absolutely make the point that this kind of racism also exists in Europe: If you look at the dis-

gusting attitude of the EU towards the refugees, if you look at what Frontex, the EU border and coast guard agency, for example, is doing in the Mediterranean; or consider the situation more generally, we would not have a pandemic, we would not have the incredible danger to millions of people dying, potentially in the short term, of famine, the terrible underdevelopment in the developing countries, if there were not a profound racism in the so-called establishment which tolerated all of that.

It's very easy to get upset about racism in the United States—or racism in Europe, for that matter—if

you don't take into account that the present financial/economic system kept the developing sector in a condition of de facto slavery, consciously, through the IMF conditionalities, through the policies backed by all the leading financial institutions. I think the problem is not being addressed in the right way.

The Racists Are the Warmongers

Schlanger: What we've seen, as this thing is unfolding, is that the same forces that cre-

ated the conditions for it to occur, are now turning it against President Trump, using it to divide the country. And there was a series of articles, one of which was in *The Atlantic* magazine, comparing what's going on in the U.S. cities to the Maidan in Kiev, Ukraine. What do you think about that?

Zepp-LaRouche: As I said in the beginning, Trump's election never was a national phenomenon or a national matter. Trump's being targeted in the way it is happening right now, because from the very beginning of his Presidency he expressed the potential for improving the U.S. relationship with Russia; and in the beginning of his Presidency, he was not against China. And since the real strategic game of the British Empire forces and their American collaborators, in the form of the former Obama and Bush intelligence chiefs, Wall Street, the City of London, is that they want to prevent the rise of China, and keep their total



Samuel P. Huntington

WEF



UN/Mark Garten



NATO

The discredited former National Security Advisor Colin Powell (left) and NATO Secretary General Jens Stoltenberg (right) are part of the military faction now attacking President Trump and pushing the encirclement of Russia and China, in a drive toward war.

geopolitical control over the world.

In that context, President Trump has often shown an inclination to improve relations with Russia. But that was prevented from succeeding by Russiagate for three years; the economic collapse, the impeachment attempt; and now, the present situation is being used to paint him as someone who wants to use the military against the American population. Eighty-nine former top defense officials and other military brass have started to distance themselves from Trump. *The Economist* had an extensive article saying the U.S. military is abandoning Trump. This is another effort to create conditions to get rid of Trump, chase him out of the White House one way or the other, as Paul Wood, World Affairs correspondent for the BBC [wrote](#) in the British magazine, *The Spectator*, on January 21, 2017—get him out through assassination, coup or impeachment, or get him to capitulate to the agenda of the unipolar world.

People are quite upset about the situation, and I think a lot of things need to be improved dramatically. But if you judge the situation, you cannot leave out this larger picture, that what is really at stake is peace or war. The military faction that is now attacking Trump, is engaged in a war drive. Of all people, Gen. (ret) Colin Powell, who made the infamous speech to the United Nations on Feb. 5, 2003, motivating the attack on Iraq because supposedly Saddam Hussein had weapons of mass destruction—which was a complete lie—is one of them. House Speaker Nancy Pelosi, in one of her more

lucid moments, admitted that they all knew—including Colin Powell when he made that speech—that there were no weapons of mass destruction!

These are the people who are for permanent wars, who are for encircling Russia, encircling China. This is now what is openly being discussed again. There was an article by Ian Brzezinski, Zbigniew Brzezinski's son, who called for a NATO-China Council, pushing the idea to expand NATO to the Pacific. This was then the subject of another meeting of the Atlantic Council, where NATO Secretary General Jens Stoltenberg talked about his so-called "vision" for NATO 2030, where he said, yes, we have to expand NATO to include Japan, South Korea, Australia and New Zealand, making it a global military alliance surrounding Russia and China. This war push will lead to World War III if it's not stopped.

And there is the news that there was a May 15 meeting of the National Security Council, discussing the possible resumption of nuclear weapons testing on the side of the United States. This has not been officially confirmed—at least I have not found any proof of it—but there was a strong reaction by Chinese media, terming it a matter of grave concern, because it would violate the Comprehensive Test Ban Treaty. Taken together with the push for moving NATO troops farther toward the Russian border, I think people should understand that we are not out of a war danger at all.

Trump has shown too many signs that he wants to

have peace—he even talked about a possible meeting between himself and Putin and Xi Jinping, to discuss global disarmament of especially nuclear weapons; he said at the time, it’s a complete waste to spend all of this money on rearmament. This is exactly what the military-industrial complex doesn’t want to hear; permanent wars must be kept going.

This is the issue. A lot of people who are so hyped up against Trump tend to overlook that, as they continue pushing policies that condone activity that could lead to World War III.

Schlanger: What you just said is extremely important for people to think about. Because they’re being forced into a situation of choosing sides that are phony sides: “Are you for Trump using police and military to put down riots?” “Is Trump a racist?” And on and on and on. If you consider militarization of the police, an issue you brought up earlier, which Lyndon LaRouche talked about, you must go back to President George W. Bush and the Patriot Act, you go back to President Barack Obama, who made surplus military equipment available to the police. And then think about the expansion of NATO—well, it’s been President Trump who has been the one questioning whether NATO should even exist in this world. So there really is an operation to take a complex situation and make it unintelligible for the average person, isn’t there?

The Real Rabble-Rousers

Zepp-LaRouche: Yes. People don’t think through the implications of things. For example, who are the key rabble-rousers on this confrontation? Secretary of State Mike Pompeo, the British, the last British Governor of Hong Kong Chris Patten. Pompeo has compared China with the Nazis, and he got a good answer from the editor in chief of *Global Times*, who wrote that he [Pompeo] is more like Goebbels. Chris Patten has been calling on Hong Kong’s residents to rise up against



VOA

Chris Patten, the last British Governor of Hong Kong, has called on Hong Kong residents to rise up against the government of China.

Beijing; UK Prime Minister Boris Johnson has pledged to admit three million Chinese to the UK from Hong Kong by offering them visas.

Who’s supporting that? Well, it’s the Greens! The Green Party in Germany is the war party. Not only is the Green policy—if they were running the government right now, which should be prevented by all means, as that would be the last nail in the coffin of the German economy—towards the developing sector one of de-

population, either explicitly or by implication. Because if you deny development, you have nothing to stop famine or to stop the pandemic and prevent millions of people from dying. But the Greens are also the war party, because of the new antiparliamentarian alliance of war hawks which has been formed.

Who’s part of it? Well, Marco Rubio (D-FL) and Bob Menendez (D-NJ), who are really the absolute hawks in the U.S. picture. In Germany, Reinhard Bütikofer, a European Parliament member of the Green Party. Who is backing Chris Patten and Pompeo? Claudia Roth [a Green Bundestag member]. The evil role of the Heinrich Böll Foundation and its anti-Russian ravings is also quite visible.

So, the Greens are really a problem. Most people like nature and they like sunflowers, but they don’t think through what it means that the Greens are on the same ideological line as the absolute top warmongers in their confrontation against Russia and China, which can only lead to a catastrophe. People should think through and not latch on to single issues, but rather look at things in context.

Schlanger: And that’s not so surprising with the Greens, given that the other side of the Green New Deal is that it’s Wall Street and the City of London: The former Governor of the Bank of England, Mark Carney, Larry Fink from BlackRock, these are the people pushing the Green New Deal, so there’s a total continuity there.

I want to go back to the attacks in the United States, which led to a very poignant statement from a former ambassador about the situation involving your husband.

Zepp-LaRouche: The former Ambassador from Burundi to the United States, Jacques Bacamurwanko, who wrote a message commenting on the events in the wake of the murder of George Floyd. Ambassador Bacamurwanko, for many years Burundi's ambassador in Washington, D.C., wrote a message which, when I first heard it, really turned my stomach, because he said that what happened to George Floyd was essentially the same thing that happened politically to Lyndon LaRouche in the United States, and that Lyn was getting the same treatment of somebody putting their knee on his neck, trying to extinguish his ideas. He said they did not succeed in doing it, but that the only way this injustice could be undone would be the full exoneration of Lyndon LaRouche and that would be the best thing to happen for this world. Now, he formulated his message in even stronger language.

The image, while very upsetting, is I think absolutely true: Because what was done against my husband in terms of demonizing him, his ideas, to unjustly put him in jail, to try to destroy our movement while he was in jail, which obviously they did not succeed in doing—the methods are absolutely identical.

Olof Palme Murder Investigation

I find it quite incredible that today, the Swedish government announced that the investigation into the 1986 assassination of Olof Palme, then Prime Minister of Sweden, is now closed. The likely assassin was a person by the name of Strid Engström. At the time, Engström had come forward as a witness to the murder, but that was actually his cover, as he himself was the killer. That information was provided to the Swedish intelligence services by South African intelligence. In any case, the 28-year investigation is now closed.

Now, I want to say this: They did not apologize to

my husband—I include all the scoundrels of the media—which says something about their moral standing. I want to recall—and some people may remember it—that when Olof Palme was assassinated on Feb. 28, 1986, shortly thereafter we had an election campaign in Illinois in which two members of the LaRouche organization won the Democratic primaries for Lieutenant Governor and Secretary of State, and immediately with that victory, there began a slander campaign blaming our organization in Sweden for having been involved in the murder of Palme. My husband was accused of having masterminded the assassination of Palme, and you had an unbelievable press barrage, a black propaganda campaign, with *Aftonbladet* having several long articles, slandering my husband.

A terrible woman named Pat Lynch, an investigative producer for the “NBC Nightly News” program, made a so-called documentary on the supposed involvement of LaRouche in the Palme murder. This was all done to poison the atmosphere,

so that no other candidates of the LaRouche movement could possibly win an election. But it also prepared the ground for the October 6-7, 1986 raid on our Leesburg, Virginia offices, and then, as a consequence of that, created the phony environment for the jailing of my husband and many of his associates.

It's the same thing: If you want to make war against somebody, you have to demonize them first. So, if you look at the demonization against my husband, with something which was completely invented, that was part of the legal frameup. Ramsey Clark, former Attorney General of the United States, who became the appeal lawyer for my husband, said this was the most massive case of the bending of justice, in the history of the United States. And, in the Swedish media, later, as became known later, a guy named [Herbert Bremer](#), a former officer in the East German secret police, the Stasi, said that he was in Department X of the Stasi, and that they planted the story blaming LaRouche for the murder of Palme. And then they



Ministry of the Presidency, Spain

Olof Palme, assassinated former Prime Minister of Sweden.

played it through the media, and this is how it was orchestrated.

That lesson has to be learned: Regarding a lot of what is now called “fake news,” a really big and very destructive fake news story was this story that LaRouche was responsible for the murder of Olof Palme.

This has now come out, and since it has now been acknowledged that neither my husband nor his organization had anything to do with the assassination of Olof Palme, I demand from the Swedish government that it issue a written statement saying that, and that all the accusations against Lyndon LaRouche and his movement were a mistake, and apologize. And if there was any honor at NBC, it would do the same thing—that is a big question mark. Given the fact that NBC is in the business of fake news production, it is very unlikely.

Former Burundi Ambassador Calls for LaRouche’s Exoneration

But the use of these techniques, what Ambassador Bacamurwanko of Burundi wrote, is absolutely true,

and the conditions around the Palme murder are just one proof—you don’t have to use your knee to try to murder somebody, you can also use the pencil and typewriters and electronic media, as it has been done by the media.

But I want to state this: It’s really time that the truth comes out, who did this, and why, and if you want to ever get justice anywhere, the truth has to come out.

Schlanger: President Trump insists that he wants to get to the bottom of the Russiagate situation, so that something like what happened to him will never happen again to another President. Had that been done with the LaRouche case, had people taken up the fraud of the attacks on Lyndon LaRouche, the role of the media, and the deployment of people like Robert Mueller as a hit man for the Justice Department against LaRouche, perhaps we never would have had Russiagate. So this has a very current, contemporary, and urgent aspect to it, and that’s why we’re continuing to insist on the exoneration of LaRouche, not just by NBC and the Swedish

Take the Knee Off LaRouche’s Neck

Jacques Bacamurwanko, former ambassador of the nation of Burundi to the United States, in responding to the recent killing of George Floyd in Minneapolis, said:

I’d love to mention that the protest activists, who went to the streets following George Floyd’s heinous killing by the Minnesota police officer, need to be told that it’s the same anti-America system that was responsible for the strangulation of Lyndon LaRouche Jr. LaRouche’s voice was literally choked off by the same white supremacist gang, which did not want him to exercise his right to vote, to move around, or to travel abroad freely.

The good news is the murderous gang did not manage to stop the flow of LaRouche’s freedom and ideas far and wide. The world would be freer today if Mr. Trump could cause an historic Presidential Order to be signed in the Oval Office, urging the anti-America gangsters to get their knee off Lyndon LaRouche’s neck. That’s what our insistent plea and global advo-



EIRNS/Stuart Lewis

Jacques Bacamurwanko, former Ambassador of Burundi to the United States.

cacy to exonerate LaRouche actually means.

If LaRouche were exonerated mankind would usher in a beautiful era of sustainable dialogue for peace, civil rights, and socio-economic development.

government, but by the U.S. government, by the corrupt permanent bureaucracy in the Justice Department, and people like Henry Kissinger and others who worked on this.

A 1.5 Billion New Productive Jobs Program

There are a couple of other things I want to get to: One is that you've continued to make an urgent point about the LaRouche PAC's program for 1.5 billion new, productive jobs worldwide, connected to the Health Silk Road. Meanwhile, the coronavirus is spreading into the Southern Hemisphere. It still remains to be seen whether we're facing a second wave in the North. What kind of update do you have on this?

Zepp-LaRouche: The condition in some countries, like Brazil, is horrific. There are spikes in India and South Africa. The situation in those countries also remains absolutely horrible. There is the ugliness of the mindset of certain governments which covered up the fact that the privatization of the health sector simply meant that adequate facilities were not there to treat the patients when the pandemic erupted.

Scandals are now coming out: In Madrid there is a total uproar because the regional government of Madrid actually gave written instructions to the nursing homes that people who became sick with coronavirus in nursing homes should not be sent to hospitals for treatment. Result: Only 13% of those affected with the coronavirus were admitted to a hospital, the others were only given morphine, and 6,000 died after a day or so. That is euthanasia. That is the kind of slippery slope that was denounced at the Nuremberg trials after World War II, and it reveals the ugly side of what is behind the privatization of medical care.

A similar scandal is erupting in Lombardy, in Bergamo, and this was the hotspot in Italy where I think 20,000 or so families are suing authorities for not having



India, Africa and the Southern Hemisphere countries, whose healthcare delivery systems are woefully inadequate, are now experiencing a rise in the number of deaths from COVID-19. Above: Brazil buries another victim. Below: India goes into lockdown.



given necessary treatment to their family members.

This is all terrible, and the only remedy to this whole situation is that we absolutely have to change the economic system. We still have a complete collapse of the economy. All these predictions that just because you have a lowering of the infection rate, that we will have a “V” recovery—like the letter V, that it went down very sharply and is now going up very sharply—I think is questionable, because the right kinds of policies have not yet been produced. You have an incredible collapse of industrial production: 50 million unemployed in the United States, a production collapse of almost 30% in Germany, 15% over the month, but 25% industrial col-

lapse over the year; and similar figures in other European countries.

But that's not the whole of it, because a lot of people have been put on short work, and if you do not have a real investment in industry and productive jobs, there is a big question mark: What will happen with these short-work jobs when the timespan ends in which these short-work jobs are being supported?

That is why our program to have the 1.5 billion new, productive jobs—50 million in the United States and 50 million for Europe. Because we must count all the different problem areas, like the southern European countries, the Balkans, but also the terrible conditions of infrastructure and other things in Germany, so that Europe can become the engine for a huge technology transfer to the developing countries, starting with investment in a world health system. But that has not yet happened, and that is what we are campaigning for, and that is why I am asking you, our viewers, to join our campaign to get that program on the agenda, because that will determine how this present situation will evolve.

Schlanger: That 1.5 billion new productive jobs [program](#) is available on the LaRouche PAC website for people to download, read, and engage others in discussions.

Next Schiller Institute Conference: June 27

Also Helga, it's just been announced that the Schiller Institute will be holding another online conference on June 27. The [invitation](#) is available on the Schiller Institute website. Is there anything you want to say about that?

Zepp-LaRouche: Yes, this conference will be a continuation of what we did on April 25-26.

The first panel will be a strategic panel, to which we

The LaRouche Plan to Reopen the U.S. Economy

The World Needs 1.5 Billion New, Productive Jobs

The following LaRouche PAC report was researched and written by Robert L. Baker, Dave Christie, Richard Freeman, Paul Gallagher, Susan Kokinda, Brian Lantz, Marcia Merry Baker, William F. Roberts, Dennis Small, and Helga Zepp-LaRouche.

CHAPTER 1

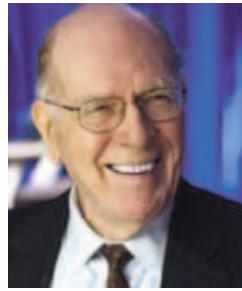
Introduction

The individual who contributes to making society good is worth a thousand times the individual who wanders through life scattering only individual good deeds. For, a bad society will crush the good contributed by its individual members... Who makes society good thus preserves the goods contributed by thousands and millions of individuals.

—Lyndon LaRouche,
The Science of the Human Mind, 1984

Mankind is now living with the terrible consequences of tolerating the "bad society," of which Lyndon LaRouche warned. The COVID-19 pandemic has exposed the criminal failure of the neo-liberal imperial system resulting in hundreds of thousands of deaths, an unprecedented disruption of economic and food supply chains, historic levels of unemployment, and uncounted millions of lives threatened with other diseases and starvation. Looming over this cost in lives and livelihoods is a \$1.8 quadrillion financial bubble which cannot survive, despite the central banks' hyperinflationary attempts to do so.

This is not a series of individual crises. This is systemic, and can only be addressed by a new system, based on fundamentally different principles than those



Lyndon LaRouche. If the world had "listened to the wise words of Lyndon LaRouche," as former Mexican President José López Portillo had urged, the U.S. and world physical economic catastrophe of the last 50 years could have been avoided. That is why LaRouche, the man and his ideas, must be exonerated today.

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will again try to bring representatives of the most important nations to engage in the kind of dialogue on the solution of a New Bretton Woods system among the United States, Russia, China, India, plus countries from Europe, from Africa, because we have to somehow bring onto the agenda the need to have a change from a monetary system to a credit policy. Without that, the current organization of the bankrupt system, where the central banks are allowed to continue with the kind of money-printing they're doing, which does not go primarily to industry but instead primarily to maintain the speculative banking sector, will lead to hyperinflation, despite the deflationary collapse,

which is also ongoing. So, that will be one panel. There will be important speakers addressing the New Paradigm in International Relations.

The second panel will address the looming danger of famine, the collapse of agriculture, how this affects especially the people and countries of Africa, and what needs to be done to quickly double world food production. On this panel will have a lot of very fascinating speakers from Africa and agriculture.

I want you to not only join the Schiller Institute, but also make as well-known as possible that this conference is taking place and that the people you contact should join the bandwagon of people who are trying to really change the agenda of the world, which is urgently needed.

Schlanger: As I said, the invitation is available on the website, download it, RSVP to attend, share it, do what you can to help build this conference, so more people can get out from under the chaos and fog of war and deliberate as citizens.

Thank you very much for joining us today, Helga, and we'll see you next week.

Zepp-LaRouche: Yes, till next week.

Bush, Obama, the ADL, and the Militarization of U.S. Police Forces

by Mark Bender

June 12—There is much more to the riotous scenes of cities going up in flames across America the weekend of June 5 than just the righteous display of grief and anger at the killing of another unarmed black man at the hands of local police. For years, especially since the terror attacks of September 11, 2001, an operation has been building in America, to transform the traditional role of local police departments and to impose a militarization of police forces nationwide, to *unify the intent* of the multitude of municipal police forces across the country into a force equivalent to that of an imperial “occupying power” (think of the U.S. Army in Iraq, or Afghanistan—only now on American soil).

This transformation has its origins in the years following George H.W. Bush’s 1990-1991 Gulf War. The process escalated in the wake of 9/11 and continued under the 16 years of the George W. Bush and Obama administrations. At the same time, these developments have been used to *organize the opposition* in what amounts to a gang/counter-gang operation intended to turn American cities into war zones.

Police forces are, by design, supposed to be local operations, with local communities policing themselves,—many cities even requiring, by law, that police (like fire and education) departments be staffed solely with residents of that community, with the idea to *prevent* the officers from becoming essentially a force of hired *mercenaries*, armed with an official badge sanctioning their activities. The intention is to be “keepers of the peace,” not to act as an *occupying* force.

There are two aspects of the post-9/11 transformation of traditional local policing into something entirely different to be considered here,—



CC/katesheets

U.S. municipal police forces are being increasingly militarized.

one being the “hardware,” and the second what might be thought of as “software”—the re-programming and conditioning of the officers themselves into becoming Gestapo-like enforcers.

Hardware

On the hardware side of things we have the federal 1033 Program, officially certified in 1997, but with precedents dating back to 1990, by which U.S. police forces have been effectively armed to the teeth—for free—with “surplus” military-grade gear equivalent to that of an invading army, on a par with the U.S. military invading forces that later invaded Afghanistan and Iraq. This is the legacy of George Herbert Walker Bush, arguably one of the worst Presidents this country ever had, who sought to militarize America’s streets in the 1990s to cover for his own culpability in creating the crack-co-



EIRNS/Stuart Lewis

Former U.S. President George H.W. Bush.



Public Domain

Military-grade equipment worth billions of dollars has been distributed to municipal police forces by the Pentagon. For example, the Lenco BearCat Armored Personnel Carrier seen here.

caine epidemic and its ensuing crime wave.

Through the 1033 Program, now codified as the Law Enforcement Support Office (LESO), the Defense Logistics Agency is estimated to have distributed more than *several billions* of dollars worth of military-grade equipment to a minimum of 8,600 municipal police departments across the country, according to a 2014 [exposé](#) by *Newsweek* magazine.

Not only has this federal program of giveaways looked more and more attractive to cities as local budgets were stretched thinner and thinner—especially since the 2008 “Great Recession” collapse—but the LESO program itself was very lax at oversight, as a 2017 investigation by the Government Accountability Office (GAO) [detailed](#) in *Stars and Stripes* of June 8, 2017 was to prove. *Stars and Stripes* is a publication of U.S. armed forces news. Having set up a fake municipal recipient agency, the GAO investigators were able to procure over a million dollars worth of hardware within just the first week of their “sting” operation. Faux municipal representatives were given unsupervised clearance to “shop” through the LESO warehouses and choose whatever “anti-terror” equipment they desired. Someone clearly wanted this equipment on America’s streets.

While there is no official accounting of the LESO office available to the general public, since the government conveniently cloaks the identity of recipients (for “security” reasons), recording them only by county, a Nov. 13, 2017 NBC [exposé](#) estimated that, since its creation, the LESO program had, as of that year, distributed a minimum of \$5.4 billion of hardware. The figure today likely approaches \$10 billion.

However, the mere presence of, and access to high-grade military hardware does not, by itself, transform

millions of sworn peace enforcers into lethal “occupiers” of our nation’s cities, essentially as “domestic terrorists.” For that, something additional, even sinister, is needed. This second aspect, the “software” side of conditioning, brings us face to face with our former and would-be future imperial oppressors, the British monarchy, through their agents—the state of Israel and the allied American Anti-Defamation League of B’nai B’rith (ADL).

Software

In January 2002, while the nation was still reeling from the September 11 terror attacks just months earlier, and the newly-created (and misnamed) “Homeland Security” Department was crawling about with the implicit notion that everyone, both foreign and domestic, was a potential terrorist, the state of Israel offered to share its vast expertise in this area by initiating, in cooperation with the ADL, the National Counter-Terror Seminar (NCTS), to be held in Israel, open to any and all law enforcement officials from the federal, down to the municipal level.

Like-minded groups in the U.S., including the giant American Israel Public Affairs Committee (AIPAC), the American Jewish Committee’s Project Interchange and the Jewish Institute for National Security Affairs (JINSA), quickly jumped on board to provide financing for travel and lodging, making it possible for even the smallest cities and towns to “benefit” from the knowledge of this nest of imperialists.

As the ADL itself described the NCTS program (in a singular, undated public acknowledgement of its very existence):

Every year, American law enforcement executives travel to Israel with ADL to study first hand Israel’s tactics and strategies to combat terrorism. The National Counter-Terrorism Seminar (NCTS) is an intensive week long course led by senior commanders in the Israel National Police, experts from Israel’s intelligence and security services, and the Israel Defense Forces. More than 175 law enforcement executives have participated in 12 NCTS sessions since 2004, taking the lessons they learned in Israel back to the United States.

In the wake of the 2015 death of Freddy Gray in Baltimore, Amnesty International issued a [report](#) on this arrangement by which American law enforcement



Israeli Police

The Gideons, a special unit of the Israeli Police.

personnel were being trained in a foreign country, specifically one with a notorious legacy as a violator of human rights. Amnesty International reported, “These trainings put Baltimore police and other U.S. law enforcement employees in the hands of military, security and police systems that have racked up documented human rights violations for years.” The report also noted that “even the U.S. State Department” had documented dozens of cases in which “Israeli police [had carried out] extrajudicial executions and other unlawful killings,” with additional instances of “excessive use of force against peaceful protesters,” including torture.

It must here be noted that while the ADL maintains a squeaky-clean public image as a non-governmental “civil rights” organization dedicated to “fighting anti-Semitism,” the group has a proven track record (for anyone who cares to investigate) of *creating* discrimination cases in order to quash them—similar in that respect to another organization it often partners with in these operations, the U.S. Federal Bureau of Investigation (FBI).

As for the numbers offered by the ADL, they are pitifully low. While no official figures are available, believable estimates run as high as 100,000 American police officers who have been flown, often free of charge, to Israel for the week-long indoctrination sessions hosted by Israel’s federalized police force and the Israeli army. Since its inception, in addition to the Is-

raeli seminars, the NCTS series has now expanded to U.S. soil, where Israeli intelligence officers directly update attendees on the latest “anti-terror” intelligence—essentially a “refresher course.” Reported “graduates” of these conditioning seminars include an acting Deputy Director of Immigration and Customs Enforcement (ICE); former Chief of Police in Washington, D.C., Cathy Lanier (now heading “security” for the NFL); and police department leaders from at least a dozen states from Maine to California.

‘Domestic Terrorists’ in the Form of Police

All this “conditioning” finally came to a head in Ferguson, Missouri on August 9, 2014, when an officer of the Ferguson Police Force—a division of the greater St. Louis Metropolitan Police Department—shot and killed an unarmed young black man in broad daylight. While it is not known whether the specific officer involved was a “graduate” of the Israeli NCTS program, it quickly came to light that the police chief for St. Louis, Tim Fitch, definitely was. An article in *Ebony* magazine on August 19 began, “The St. Louis County Police Department that killed Michael Brown and initially placed Ferguson on siege has trained with the Israeli military.” Citing a 2011 article in the *St. Louis Post-Dispatch*, the magazine noted that, “County Police



U.S. Embassy, Tel Aviv/Matty Stern

Thousands of American police officers have been trained in sessions of the National Counter-Terror Seminar hosted by Israel’s federalized police force and army.

Chief Timothy Fitch was one of 15 American officials to participate in a week-long training in Israel three years ago.”

With the killing of Michael Brown, and the subsequent declaration of a state of emergency by the governor, shocked Americans got their first glimpse of the destruction which a militarized police department—militarized by the U.S. Department of Defense’s LESO

program—was capable. Several observers reported that U.S. police forces changed, and were no longer treating minorities as equals under the law, but, rather acting to treat minorities as a lesser people suitable only of being “contained,” in a manner identical to Israel’s approach to Palestinians on the West Bank.

President Barack Obama attempted to deflect criticism by belatedly announcing [limitations](#) on the federal hardware LESO program saying, “We’ve seen how militarized gear sometimes gives people a feeling like they are an occupying force as opposed to a part of the community there to protect them,” but the hypocrisy of Obama’s statement was [exposed](#) by Glenn Ford in the *Black Agenda Report* of July 28, 2016, headlined “Obama Prepares to Reinforce the Militarized Police Occupation of Black America,” citing a report documenting that, between 2010 and 2014, Obama oversaw a 2,400% (24 times) increase in the distribution of federal hardware to municipalities. Ford called Obama “the biggest domestic war hawk in the history of the United States.”

In 2015, just days before the anniversary of the Ferguson shooting, the ADL issued a rare “award” to the by-then *former* St. Louis Police Chief Fitch, further rubbing salt in still-fresh wounds and adding to the strength of this narrative. The ADL webpage announcing the dinner to honor Fitch, ostensibly in recognition for his having established a “Holocaust education program” for police officers, has been removed.

Beyond George Floyd

Since the death of George Floyd in Minneapolis, May 25, 2020, numerous articles have brought to light that the “knee on the neck” technique that killed him is one unique to the Israeli Defense Forces. Yet, as exposure of the Pentagon’s Law Enforcement Supply Office and the supply of military-grade hardware for use in “policing” U.S. citizens has quickly led to action on the federal level, hardly a voice has been raised in opposition to the far more sinister program of training our police officers to be thugs in service of an imperial New World Order.

While there are a few isolated instances of municipalities having been shamed into halting the participation of their officers in the NCTS, only the lone city of Durham, North Carolina can be congratulated for having codified it into law: The town council voted unanimously against it. Reported in the *Middle East Monitor*, the June 9 headline read, “U.S. city bans brutal Israeli military training of police forces.” It was

also reported in *Stars and Stripes*.

To understand the truly satanic nature of the British, however, and the British role in this, one has to peel away the next layer, to see how this has created the conditions for social chaos. In classic “gang/countergang” fashion, in the wake of the 2014 death of Michael Brown, the newly-founded Black Lives Matter (BLM) was quickly showered with cash, led first by a \$30 million grant from British operative, billionaire George Soros, famous for his funding of “color revolutions” against sovereign governments worldwide, followed by another \$100 million from the Ford Foundation, itself well-known as a front for CIA operations during the 1950s and 60s.

The current alleged solution put forward by BLM and its allies—to “defund” the police—is a fraudulent demand that would unleash lawlessness across the nation, particularly victimizing the inhabitants of urban areas. An actual solution lies in returning local police to what they were conceived to be: “keepers of the peace.” What should be “defunded,” is the Pentagon’s LESO program, which arms them as if going into battle with a foreign invading force, leading them to view their own neighbors as the enemy. That should happen immediately.

At the same time, no more should American police officers be sent to a foreign country, Israel, for training, or in any way should they be accepting its influence. Beyond that, the “cure” will only come from realizing that, especially since the onset of the coronavirus lockdowns, the entire nation is suffering, and solutions must address that larger picture where the issue of economic policy becomes paramount.

In that light, what quickly needs to be “defunded” is Wall Street, with its looting, casino economy—by enforcing bank separation through implementation of a newly-legislated Glass-Steagall Act (which one would expect President Trump to gladly sign into law), and reforming the Federal Reserve into a National Bank, capable of funding trillions of dollars of job-creating infrastructure investments. The nation needs to turn its eyes back to the stars—as they were with the SpaceX launch a mere two days before George Floyd’s death—with a commitment to build the NASA Gateway and related lunar infrastructure for colonizing the Solar System and beyond.

These and other ideas for recovery are spelled out in the LaRouche PAC’s [program](#) for creating 1.5 billion new, productive jobs rebuilding the world, and LaRouche’s [Four Laws](#) program. Only in this way can we defeat this scourge of pessimism.

Belt & Road Initiative: Challenges and Opportunities Post COVID-19

A Call for a New Multinational Cooperation Mechanism

by Helga Zepp-LaRouche

Zepp-LaRouche, founder and president of the Schiller Institute, gave a speech to the June 12, 2020 Zhejiang Virtual Expo in Digital Service Trade—IT Telecommunication Technologies Services Session, speaking to an audience of representatives from cities in Zhejiang Province, China, and from Eastern and Central Europe. Her speech, “The Belt and Road Initiative in the Post-COVID-19 World: Challenges and Opportunities and a Call for a New Paradigm in International Relations,” was presented as part of the Discussion Panel, “New Mechanism of Cross Countries Cooperation.”

The theme of the session was: “Share the Innovation Achievements of the Global 5G Industry, Grasp the Future Development Trends, Strengthen Cooperation Between Cities in Different Countries, and Quickly Restore the National Economy and Life in the Post COVID-19 Pandemic Era.” This is the edited transcript of Zepp-LaRouche’s speech. Subheads and a footnote have been added.

Allow me to situate one aspect of the role of digital and telecommunication technologies in the present historic moment. The outbreak of the coronavirus pandemic has changed the world in ways very few people would have imagined only half a year ago. Among other things, it has ripped the veil away from the brittleness of a world which was dominated for decades by the financial institutions of the neoliberal monetary system. Very brutally it was exposed, that the privatization of the health system in the trans-Atlantic countries had left these societies unprepared with insufficient supplies of personal protective equipment, ventilators, hospital intensive care units, testing capability, and contact tracing capacity.

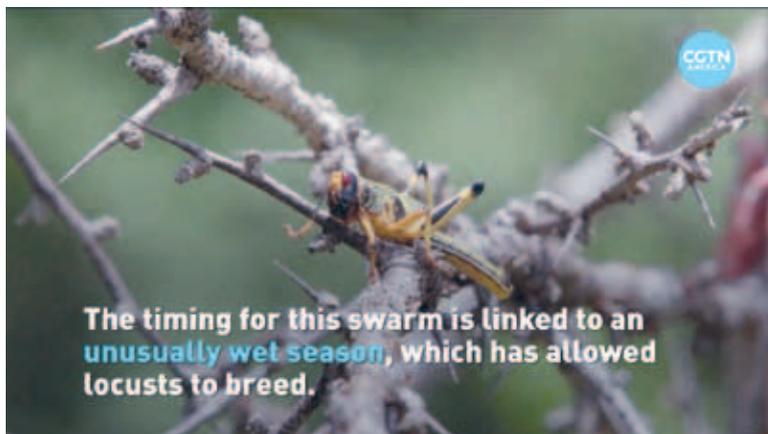
In the developing countries—in which the effects of the pandemic are still expanding—the absence of effective health systems is catastrophic, as we are now witnessing in countries like Brazil and Chile. According to the UN’s International Labor Organization, 60% of the global workforce is deployed in the so-called informal economy—people living from hand to mouth, therefore the economic lockdown imposed as a result of the pan-



Chile has seen a recent spike in new coronavirus cases last week.

CGTN

The absence of effective food and health care delivery systems in the developing countries will have catastrophic consequences. Above: the poor of Santiago, Chile demanding food aid, May 19, 2020. Below: the locust plague threatens millions.



The timing for this swarm is linked to an unusually wet season, which has allowed locusts to breed.

demically immediately threatens the very existence of these people. David Beasley of the UN's World Food Program has warned repeatedly that the crisis in food production has been worsened by the pandemic. Combined with the locust plague now hitting several countries in Africa and Asia, the world will soon be hit with a famine of "Biblical dimension," potentially killing as many as 300,000 people per day, if nothing is done in the short term.

Lack of Industrial Development Caused the Pandemic

It was not the coronavirus which caused the pandemic, it was the lack of real industrial development. As the case of the effective measures implemented by the Chinese government in the city of Wuhan and Hubei Province have demonstrated, the virus was brought under control in China. If every nation on this planet had had a comparable health system, the coronavirus would never have turned into a pandemic, or at least it could have been contained to a very large extent.

As early as 1973, my late husband, the economist Lyndon LaRouche, had set up a biological task force to investigate the impact of the monetarist policies of the IMF and the World Bank on health and life expectancy in the developing sector. This task force produced several large, comprehensive studies in the '70s and '80s, which pointed out that the lowering of the living standard of populations over generations, caused by the conditionalities of the IMF, would inevitably lead to the re-emergence of old diseases and the outbreak of new ones and pandemics.

Now "The Big One" is here, and we have the simultaneous crises of the pandemic, major dislocation and bankruptcies in agriculture, a looming famine, and last but not least, another crisis of the financial system that threatens to become much larger than the crisis of 2008. It should be clear, that a continuation of politics as it has been, can only lead to chaos—potentially a global catastrophe and a plunge into a new dark century worse than the 14th Century in Europe.

When it became obvious that China was not only able to contain the virus much better than the West, but also was able to restart its economic development much

more quickly, the existing efforts to try to contain the rise of China became more desperate. Representatives of British Intelligence, such as the former head of MI6, Sir Richard Dearlove, U.S. Secretary of State Mike Pompeo, and others, started to spread the lie that China deliberately spread the virus in order to weaken the West.

There is even a debate in certain quarters over whether to decouple the economies of the U.S. and China completely, and enormous pressure is being applied to Europe and other countries around the world, to disengage from cooperation with China. The pressure to prevent countries from cooperation with Huawei and its 5G technology is only one expression of these efforts. A lot of American and other companies however realize, that



Sixty percent of global labor works in the informal economy, living hand-to-mouth. The economic lockdown imposed as a result of the COVID-19 pandemic threatens their very existence. Shown are street vendors in Pilibhit City, Uttar Pradesh, India.

such a decoupling would only penalize them, condemning the countries that refuse to participate in mutually beneficial cooperation with China to irrelevance.

There Is an Alternative!

There is an alternative perspective! The crisis of all of human society is so enormous, that only a top down solution can work. I have called since the beginning of this year for a summit of the leaders of the four most important countries, China, Russia, India, and the United States. The world needs a solution that addresses all the problems mentioned above in establishing a completely new paradigm of relations among nations.

The first step, obviously, should be to address the

looming danger of a financial collapse by establishing a new credit system in the tradition of the Bretton Woods System as it was intended by President Franklin D. Roosevelt, namely to provide large, long-term credits for the industrialization of the developing sector.

To fight the pandemic, the first step must be the construction of a national health system in every single nation of the planet, because unless the underlying cause of under-development is remedied, there is no guarantee that there will not be very soon new virus outbreaks leading to new pandemics, famines and plagues. The construction of such a health system in every country can be the first step to create 1.5 billion new productive jobs.¹

This means, that if one applies the standard of the Hill-Burton Act of the U.S. health care system, that is, 4.5 hospital beds per 1,000 persons, the world needs circa 35,000 new modern hospitals with about 35 million beds, especially in Africa, Latin America and Asia. With that, one needs the construction of water systems for clean drinking water, sanitation systems, parts of which can be initially mass produced in advanced countries and then transported to crisis areas.

The same approach can be taken for the emergency production of energy, which then can be complemented by permanent investments in energy production and distribution, communication systems and all aspects of basic infrastructure. Various means for the production of new fresh water—the tapping of aquifers or by the desalination of large quantities of ocean water through nuclear energy—must be developed. In the beginning, international emergency aid teams must be brought in, coordinating with the UN, the WHO, and the sovereign governments of the host countries, to build up these facilities and train large numbers of local medical personnel.

With such an integrated approach for remedying the structural causes of the health crisis, one can plan from the beginning to apply the lessons learned from fighting COVID-19 by bringing in the most modern internet, data processing, and telecommunication technologies. These technologies will make it possible to collect anonymized patient data from every country. The data will



CG/Rosie.Andre

Telemedicine will be a key component in a truly equitable global health care system. Shown: new telecommunications equipment for nurses and doctors at Health Sciences North/Horizon Santé-Nord (HSN), Sudbury, Ontario, Canada.

only be used for the purposes of constructing a health “weather map,” and will not be traced back to the individual patient. Smart thermometers, contact tracing systems, and visualization of illness levels, will all be made available on a permanent basis, so when the next virus hits, it can be contained from the very beginning, without losing valuable time costing many peoples’ lives, were such a system not installed until after the breakout of a new disease.

In order to establish a truly equitable health care system for every nation and every person on this planet, it will be necessary to perfect telemedicine such as teleoperated medical robotic systems, which will connect advanced health care centers with all remote areas to allow procedures such as diagnosis, treatment and surgeries to be carried out across short and long distances. These can be connected using wired or wireless communication networks. Telemedicine in general will provide specialized health care to everyone by eliminating the necessity that the doctor and the patient be in the same location, and therefore allow for the most advanced medical care in the developing nations, or areas of natural catastrophes.

A summit between President Xi, President Trump, President Putin, and Prime Minister Modi could adopt such a health emergency plan, a Health Silk Road, and with that respond to the urgent need of all of humanity and introduce a new era of cooperation in the history of Mankind.

1. Read *The LaRouche Plan to Reopen the U.S. Economy: The World Needs 1.5 Billion New, Productive Jobs*.

II. Turn Your Vision to the Future

LaRouche PAC Live Internet Conference

June 6, 2020

The Principle of Power

How the LaRouche Idea of Creative Reason Will Change the Physical Economy

WELCOMING REMARKS

What Exactly Do You Propose To Do?

by Dennis Speed and Lyndon LaRouche

Good afternoon! My name is Dennis Speed, and on behalf of the LaRouche Political Action Committee, I want to welcome you to today's discussion. We're going to turn our attention to something called "The Principle of Power." The Principle of Power was the name of a particular [presentation](#) that Lyndon LaRouche commissioned in 2005 for the members of his LaRouche Youth Movement, composed in collaboration with about 20 people—a kind of Platonic dialogue. We're starting with this because today in the United States people are involved in several actions which purport to address the murder of George Floyd at the hands of a uniformed police officer in Minneapolis. They're using all kinds of phrases that seem to apply to the idea of power. Power by any means necessary. They seem to be invoking Malcolm X, for example, in this regard.



Public domain/Herman Hiller
Malcolm X

We think we can invoke Malcolm X as well, but we're going to invoke him to say something different, something very famous: "You've been had. You've been took. You've been bamboozled." It's not wrong for people to express their sense of indignation, horror, and so on at injustice. That's something every American, every human being should do. But the question is, when the demonstrations are over—let's leave out entirely the looting and the burning and the other things which nobody should be countenancing—but when it's all over, what exactly is to be done? This is what Lyndon LaRouche and his organization have always emphasized.

We are not going to trivialize the matter in any way. We're not going to trivialize the controversy, the tragedy, but nor are we going to trivialize the responsibility that anybody who is out there has, which is, "What exactly do you propose to do?"

In order to discuss that, as we often have, we're going to allow Lyndon LaRouche to have the first word. The following is an excerpt from the keynote [speech](#) Mr. LaRouche gave on May 4, 2001 to the Schiller Institute conference, "Winning the Ecumenical Battle for the Common Good," in Bad Schwalbach, Germany.

Acting for a Principle

LaRouche: We are finding a great response from within sections of the American population that have been disregarded and cast aside, the lower 80% of family-income brackets, who have been out of politics, essentially, for much of the past quarter of a century or longer. They are responding. Why? Because my friends and I are intervening with people in the Democratic Party, all kinds of people, to bring them together around the idea of establishing the general welfare as a general principle.

The reference to that is easy. The general welfare principle, as Helga Zepp-LaRouche will indicate on Sunday, is an old principle in European civilization. It is one of the characteristic benefits of European civilization to all of humanity. The idea of the sovereign nation-state as the alternative to empire. That is the great contribution.

But in a recent period, which is most comparable, in immediate recollection, to that of now, in the Great Depression of the 1930s, when stupidity similar to that which rules the United States today, the stupidity of Theodore Roosevelt, that fascist, of Woodrow Wilson, that Ku Klux Klan



LoC
"The stupidity of fascist Theodore Roosevelt (left) and Ku Klux Klan racist Woodrow Wilson (above), destroyed the U.S. and a good part of the world."

racist, the stupidity of Coolidge, who got himself into trouble every time he opened his mouth, so he didn't talk, at least not in public; these people, along with Treasury Secretary Andrew Mellon, destroyed the United States and destroyed a good part of the world.



Margaret Suckley, 1941

While stricken with polio, Franklin Roosevelt found his roots in the American Revolution, and as President transformed the Democratic Party from the party of racism and treason into a party committed to the promotion of the general welfare. Shown is FDR with Ruthie Bie, also a victim of polio.

Then Franklin Roosevelt came in. He had poliomyelitis, he was crippled, he fought against the crippling effects of polio. During this period, he restudied his own roots. He was the descendant of a collaborator of Alexander Hamilton some centuries before. He found again his roots in the American Revolution. And he brought forth, as governor of New York and as candidate for President of the United States, a conception which transformed that traditionally ultra-racist party, called the Democratic Party.

Remember, the Democratic Party was conceived as a racist, treasonous party,

and remained so until Roosevelt became President, even though there were some decent people in it from time to time. Roosevelt changed that. He changed that party from the party of racism and treason into a party committed to the promotion of the general welfare. Not that he was able to enforce, with a sweep of the hand, the general welfare, but he fought to establish the principle. Most important, he fought to establish the principle in the minds of the American citizens.

See, we are not emperors; we cannot, with a wave of the hand, declare a principle and then impose it by our will, on people. The way we convey a principle is as philosophers, philosophers in action, who convince people that that principle is the way in which they ought to live and act. When a people is aroused to act for that principle, then the great good comes. No man is a god, no man can decree by a wave of the hand and give the world something according to principle. What a man can do, an individual human being, is to transmit ideas, utilize ideas, convey them to others.

The function of leadership is essentially that of a philosopher, which few politicians seem to understand. It is the philosopher who conveys and implants ideas in people, ideas of principle, like a scientist who conveys discoveries. It is the implanting of those ideas in the social process, the creation of political and other institutions around ideas, which mobilize humanity to do a great work.

How We Can Win

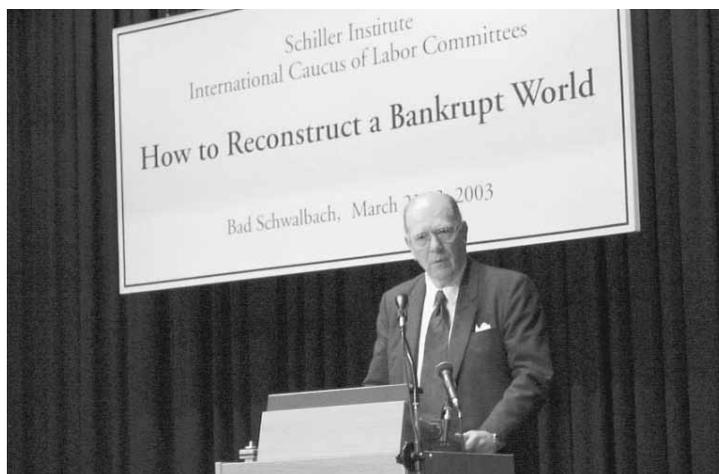
So, that's the lesson for today.

We are in the worst crisis in world history, and the good side of it is, there is no way you can cheat. You either do it my way, or you're doomed; that's the good side. The other good side is that we can win. But to win, you have to think of philosophers in action. Not as agitators, but philosophers in action, who take people who are living in a depraved way, mental state, who are being selfish.

Let me just give you an example of this. What's the principle involved? It may occur to all of you that we each have been born, and that has a point in time. You weren't born, and then you were born. It has occurred to most of you that all of us are going to die—even George Bush, who may be already dead for all I know. There may just be a mechanical device up there they use to pass him off to us.

So, therefore, when somebody talks about “my self-interest,” what is their self-interest? If you're going to die, what becomes of your self-interest the minute you die? Your self-interest in pleasure? Your self-interest in gluttony? Your self-interest in riches? What happens to those things? They go. What's your self-interest? Your self-interest is in having lived, and having your life mean something to humanity. So, you live for your self-interest.

Now, most people aren't capable of doing that, not yet. Given the educational system, it's not surprising. They're not capable of rising to that. But when people are inspired to rise to that sense of their personal self-interest, that what they can do for mankind while they're alive is their self-interest, then they're capable



EIRNS/Chris Lewis

“Your self-interest is in having lived, having your life mean something to humanity. You live for your self-interest.” Here, Lyndon LaRouche addresses a Schiller Institute conference in Bad Schwalbach, Germany.

of asserting leadership. If they can do that, they can arouse in people who all have this potential, at least for a moment, the ability to see that in themselves.

In the old time, when people used to believe in having babies, long before, people would express that in a very simple way. They would say, “All right, I'm living, I'm sacrificing, we're living, we're working for our children and grandchildren.” And the idea of children and grandchildren was not something in itself, it was something that gave you a way of focusing upon concretely what your life meant. And you would joyfully sacrifice for the sake of the future of these children and grandchildren. You would vote and support actions by society.

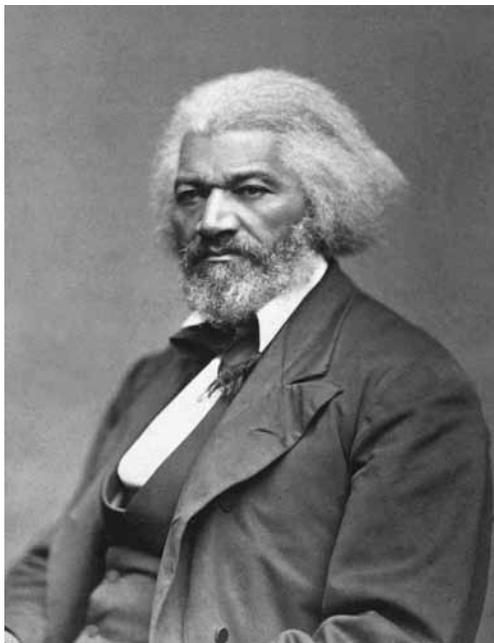
Soldiers were willing to die for their society to save

it. They didn't want to die, but they were willing to take the risk because they had a sense that there is something that's more important than their mortal life itself. It's what they do with it that's important, like any great scientist. How do you measure a scientist? It's by what they contribute to humanity. People whose names we know from thousands of years ago, what was their self-interest? It was to be what they were, great discoverers who benefitted all humanity after them. Great artists who uplifted all of humanity after them.

So, a few of us have that, a few of us have that developed commitment. In former times, there were more people who had that kind of commitment which they expressed in terms of their obligation to improve their society, their family, and so forth. Those values have more or less passed away under this decadent cultural period in which we live. We've come to a time where people suddenly realize that "my money, my money" is not the essence of humanity of life. The essence of the ability to buy is not the essence of life. It's being human that is the essence of life.

When people have taken away from them some of the false values to which they have clung too ardently, sometimes they're forced to look and say, "What is really valuable?" And sometimes, for that reason, it's the poor who are the best fighters for freedom, because they have the least to lose. And freedom means everything to them because they have nothing else except the fight for freedom.

So, when we come to a time of great peril and depravity and whatnot, as we are now, in that time the secret is leadership. The secret is the development and spread of ideas, sound ideas which enable people to mobilize themselves about actions which will address the problem. And in such a moment, when that occurs, suddenly the majority of people are able to decide on how to run this planet. And those few tyrants who dominate us, become pitiful



George Kendall Warren

Frederick Douglass, abolitionist and collaborator of President Abraham Lincoln.

wrecks running into places of refuge, or hiding and changing their identity. Thank you.

Frederick Douglass, Barack Obama, and Donald Trump

Speed: On June 4, we held an internet [discussion](#) which we called, "A Certain Difference Between Barack Obama and Frederick Douglass." Frederick Douglass being not only the great abolitionist, but a collaborator with Abraham Lincoln during the Civil War. Douglass, who was born into slavery, in about 1818, became one of the major recruiters of almost 200,000 troops into the Union ranks during the period after the Emancipation Proclamation, issued in 1863.

There is a difference between Frederick Douglass and Barack Obama. As Mr. LaRouche said, we are not emperors; but Obama apparently thought he was one. It's important to bring him up here because the attacks presently against President Trump are actually mostly



White House

It was President Barack Obama's decision in 2009 to cancel the U.S. manned space program that caused Lyndon LaRouche to declare that he should be impeached.

lies in the following sense. When Barack Obama decided to end the manned space program in 2009, Lyndon LaRouche insisted *at that point*, that we had to go for Obama's impeachment. The reason was, Obama was no longer merely screwing up the lives of every-

body alive in the United States at that moment. He was screwing up the whole future, and therefore, we had to take a stand. He was now directly and in every way destroying the prospects for the continued advancement of human civilization by opposing that space program.

Now whatever you would like to tell us you think one way or the other about Donald Trump, that space program has now been reinstated in the United States as of last week's launch. The power that exists in those technologies is the core of what can actually solve the problems in front of the American people.

This has not been the first time that people have decided injustice exists and have expressed their sense of powerlessness in the face of that injustice. But it's important to talk about the fact that it has also not been the first time they've been reprimanded correctly to understand what they really do have.

'What's in Your Hand?'

There was a speech given many years ago now, by Congressman Adam Clayton Powell, who was also, for people who don't know, a minister. It was up in Harlem, and he served in the United States Congress from 1948 until 1972. He gave a famous speech called "What's in Your Hand?" I'm going to refer to it, because we're going to be talking about the idea of the machine-tool principle with you and the power of labor. He said this:

A young slave boy stood one day before the greatest ruler of his day. And God said to Moses, "What's in your hand?" And Moses said, "LORD, only I've got a stick, that's all." He said, "Well, let me use what's in your hand!" And God used that slave boy with a stick in his hand to divide the Red Sea, march through a wilderness, bring water out of rocks, manna from Heaven, and bring his people to freedom land!

What's in your hand?

What's in your hand?! George Washington Carver! Who was so frail that he was traded for a broken-down horse as a slave boy ... And George Washington Carver sitting in the science laboratory at Tuskegee told me, he said, "Dr. Powell," he said, "I just go out into the fields each morning at 5 o'clock, and I let God guide me and I bring back these little things I find in the field, and I work them over in my laboratory."

And that man did more to revolutionize the agricultural science of peanuts, and of cotton, and sweet potatoes than any other human being in the field of agricultural science....

What's in your hand? "I've got a string in my hand, that's all, and I'm flying a kite! And way up in the heavens lightning strikes it! And I, Benjamin Franklin, discover for the first time, the possibilities of electricity with a string in my hand."

What's in your hand? Little hunchback sitting in a Roman jail? "I haven't got anything in my hand, but an old quill pen, but God says, 'Write what I tell ya to write!'" And Paul wrote: "I have run my race with patience. I've finished my course. I've kept the faith...."

Powell gave that [speech](#) to a group of welfare recipients who were complaining about the fact that they were powerless, and they had no money, and they had no capabilities. And he said, "No, that's not true. The question is, what's in your hand? In your hand is the power of the vote, in your hand is the power of the few cents you have, to spend them how you wish." But it's this idea of what's in your hand, transformed by real science, real conceptions, philosophical conceptions; that's what's needed in the United States today. And that's what we want to provide to you today in what we're putting forward. If you've been watching our website, you know we have a [program](#) to bring 1.5 billion jobs to the world, 50 million of them in the United States, but using the most advanced technologies.



James J. Kriegman
*Rep. Adam Clayton Powell (D-NY),
Congressman from Harlem (1948-72).*

The New Frontiers for Mankind: We're Only Getting Started

by Brian Lantz

This is the edited transcript of Mr. Lantz's opening remarks to the June 6 conference. Subheads and embedded links have been added.

June 6—First, I'll frame it this way: The universe does not intend to die! I'm paraphrasing Lyndon LaRouche. The universe does not intend to die. It is not-entropic; it is negentropic. Its very nature is creation, and we're part of that creation, an expression of that creative principle. When we think of the new slogan of the Trump administration, the recent 2.5-minute ad, "Make space great again!" we're only recognizing what's already there. But it's important that we recognize it as the basis for our own progress, for the progress of mankind and for future generations.

Compare that to the Presidency of Obama. It was on April 15th, ten years ago, that Barack Obama went down to the Kennedy Space Center in Florida, and told NASA employees gathered to hear him, that we'd already been to the Moon. We'd done that. It was the same Barack Obama in September of the same year, who in Virginia said we don't need to invent some fancy new fusion, meaning fusion energy. It was that same Barack Obama again who in June of 2013 on his tour of Africa, in South Africa and then in Dar es Salaam, told his audience, "Well, if all these young people here get cars, get air-conditioning, get big houses, the world is going to boil over." That was Barack Obama.

New Frontiers of Discovery

But what we're now recognizing is something quite different. We're recognizing a frontier, or frontiers, and this is man at his best; going out into the universe to discover what he's about and what he's to do. This is a global effort. NASA Administrator Jim Bridenstine, as many of you may know, commented on this in the context of the SpaceX launch a week ago today. He was asked about U.S.-Russia collaboration, and he said, "Our cooperation transcends above terrestrial geopolitics." We're not in the realm of scarcity; scarcity breeds geopolitics and reinforces it.

We're in the realm of frontiers now. I want to emphasize, in terms of what we're going to be discussing

here today, that the space-faring nations of the world, whose number is growing virtually every day, in their exploration going out to the Moon, going out to Mars, are going to be, and in some cases already are, working at the cutting edge of the science and technologies that will vastly increase the creative and productive powers of mankind. This is our real self-interest, especially for our young people.

Gottfried Wilhelm Leibniz, in his writings of 1671, based economics on the idea that a machine utilized by one man could do the work of 100 people. Lyndon LaRouche put it this way:

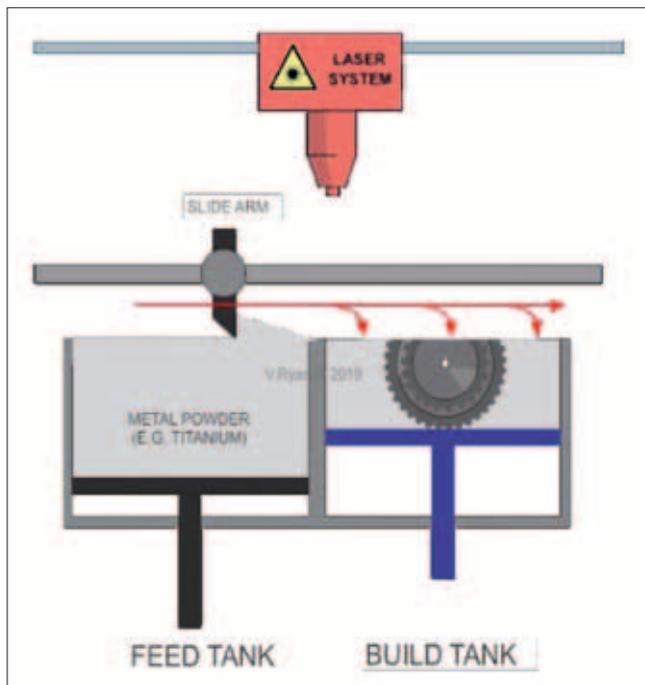
Increases in productivity come directly, only, from improvements in technology derived from fundamental scientific discoveries; the higher the rate you convert fundamental physical discoveries into practice, the greater the rate of increase of productivity per capita of population, and per square kilometer of area.

We increase the *power* of man's labor through innovation, through the discovery of new physical principles in science. This is one feature of our [report](#), *The LaRouche Plan to Reopen the U.S. Economy: The World Needs 1.5 Billion New, Productive Jobs*. We have to shift upward the percentage of our workforce engaged in transforming nature for man, making the physical changes on nature, back towards 50% of the workforce as outlined in the report. At the same time we also have to increase our scientific workforce, those engaged in research and development and basic science, from approximately 2% today—and that's being generous—to 5% of our workforce, at least.

Man Missions in Outer Space

I'm going to take the example here of SpaceX. Last Saturday, the SpaceX Crew Dragon spacecraft with the *Endeavour* capsule on top, successfully carried out a mission to deliver two U.S. astronauts, supplies and gear to the International Space Station. It was lofted by the Falcon 9 rocket. It is reported that the Falcon 9 rockets—86 of them to date have been flown successfully—

FIGURE 1



CC BY-SA 4.0

have now flown more missions than any other rocket in the world. More than the Atlas rocket, for example. Thirty-one of those launches were with first stages that had gone up before; they are being utilized again and again. The cost of moving a kilogram from Earth to Lower Earth Orbit has been cut to one-seventh of its previous cost, under SpaceX and its rapid development of rocketry.

Lyndon LaRouche wrote a paper in 1985, specifying the need for the private sector to become a more significant part—in fact a cutting-edge, a disruptive cutting-edge—of the U.S. space program. That indeed is what SpaceX and others are doing. There’s a lot of creativity out there. There needs to be more, but it’s happening. It’s also happening in many fields. There is a vast global cooperative effort now underway to find a vaccine for COVID-19. And we have that kind of cooperation in space exploration, as Jim Bridenstine’s remarks reflect. Such efforts involve the European Union, Russia, China, the United Arab Emirates. We’re going to Mars again this year. We’re going to the Moon again this year.

All of this is underway. Mankind is going, despite the entropy that had kicked in as the destructive consequence of the mindset of a mere Barack Obama, or those who shaped him. Despite that entropy, mankind as a whole expresses the very nature of the universe itself as a very creative force.

Additive Manufacturing

Let’s turn to creative innovations by looking at SpaceX. For example: Additive Manufacturing (AM), also known as 3-D manufacturing. SpaceX developed the first fully 3-D printed rocket engine, the Super Draco rocket engine, used as the propulsion system of the Crew Dragon’s crew capsule, which can move it safely, if needed on launch, out of the way of an otherwise potentially fatal accident. Potentially, those same Super Draco rocket engines could land the space capsule on land; that’s the idea. Obviously if we’re going to get to Mars and get back, we’ve got to be able to land and take off again.

The Super Draco engines are produced through *additive manufacturing*. **Figure 1** shows *metal laser sintering*. Running across the top, is a laser system; this could be a CO₂ laser, or some other type, but often a CO₂ laser. Down below to the right is a table, with something that looks cut away there—a series of circles. This is the item that’s being built up, horizontal layer by horizontal layer.

You can see this device coming across the top. It’s moving a metallic powder into the compartment where that piece of machinery is being built. It will distribute that powder over the top of it, and the programmed laser, run by a computer and utilizing a 3-D computer-aided design (CAD), will direct that laser down to precisely merge this metallic powder into another layer of the machine part that’s being built. Any remaining metallic powder is then scraped horizontally off the far side. The blue there is the base of this well in which the item is being built, that will then move down. On the left side, the metallic powder is moving up. So, in the course of time, a building process.

Figure 2 shows the product. (The blue is a man’s arm reaching out to a tool and brushing away the

FIGURE 2



Stratasys

powder.) That powder, around the item as it's being built up, helps stabilize it as the metal is being fused. This is called *sintering*. Think of how snowfall becomes a glacier; compressing with heat or pressure, a solid material is formed. It's not melted; it's compressed. This is sintering.

This technique was utilized to produce the Super Draco engine, with the entire engine being made of a few parts built up by this additive manufacturing process. The product made by this process is tougher, lighter, and more durable, because it reduces the number of parts to two or three or four, and because there are not as many interfaces between parts, in which friction and other problems can develop and cause the machine as a whole to break down.

Direct Energy Deposition

Figure 3 is a rocket engine being produced by a new company called Relativity Space, using additive manufacturing. The figure shows the thrust chamber of their Aeon rocket engine. Relativity Space is aiming to produce entire rockets by additive manufacturing.

In **Figure 4**, to the right in the main area, with the co-founders of Relativity Space, is the second stage of their Terran1 rocket, produced via 3-D printing. The engine was built with direct metal sintering of the type mentioned above. The simple version of their proprietary engine has just three parts to it, compared to at least

FIGURE 3



Relativity Space

2,500 for one produced using traditional manufacturing methods and materials.

Figure 5 shows a fuel tank being created by another form of additive manufacturing. The Stargate 3-D printer created by Relativity Space is claimed by the company to be “the largest 3-D printer in the world.” With it, they can produce items up to 20 feet tall and 10 feet in diameter. The process used here is called *direct energy deposition* (DED)—deposition as in “deposit.”

Stargate uses an electron beam and an arm—this is the actual production process—that deposits metal wire onto the surface which is then melted into the layer underneath. As it is turned, the arm climbs according to a CAD program creating the specific shape, closing at the top much like it is closed at the bottom to complete the fuel tank construction. By simply pushing a couple of buttons, an operator can cause that

FIGURE 4



Relativity Space

FIGURE 5



Relativity Space

Stargate 3-D printer, using DED, to move from creating one fuel tank to another, or to create another item altogether. There's virtually no tooling, in the traditional sense, involved.

The Stargate is sitting in the main construction room of the Relativity Space factory. Notice it's not greasy, no racks of tools on the walls. All the work is done by one gigantic machine. Such machines could ultimately be exported to Mars and other places to build rockets there. This is not a far-fetched effort. Relativity Space is partnering with NASA's facility at Stennis Space Center in Mississippi for warehouse and construction space, and is headquartered in Long Beach, California. The U.S. Air Force has contracted Launch Complex 16 at Cape Canaveral to Relativity Space. This is a main-

streamed process now going forward. Another revolution, another leap in terms of the *productive power* of mankind!

I think you already have the sense that additive manufacturing, or 3-D printing, on both a large and small scale, is being acquired across the board, including for medical devices and in a host of industrial and manufacturing processes.

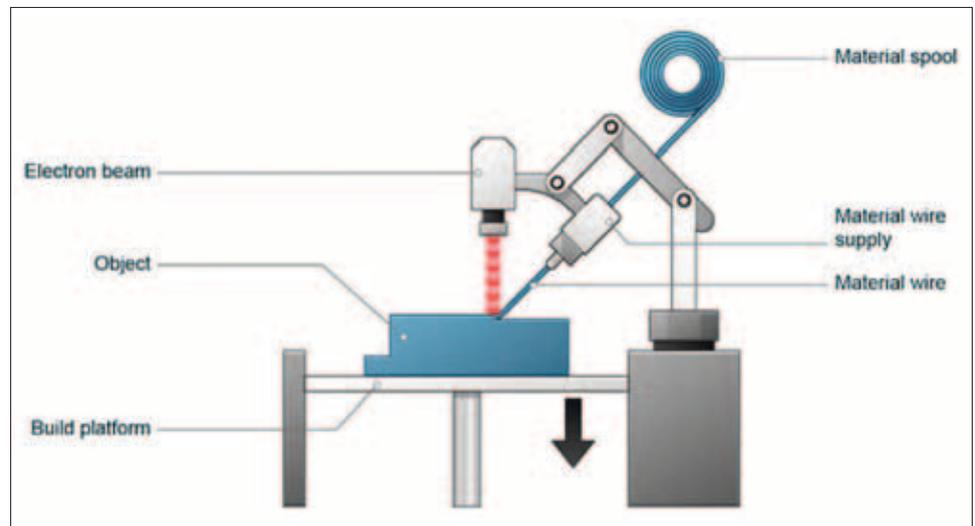
Figure 6 is a cursive diagram of the process of *direct energy deposition*. Notice in blue on the top-right, a coil of wire. It's being fed down. The machine is constructing the blue object on the table. The electron beam has been melting the blue wire as it feeds it in. That beam is not stationary, but moves around the perimeter of the object being constructed, according to programmed instructions, digitally communicated to it.

There's another area. These days, we're in a COVID-19 environment, dealing with a deadly pandemic. Our medical science has become more central to our thinking as we search for effective treatment regimes, therapies, and vaccines. We know that mankind has got to penetrate the frontiers of the very small to make the breakthroughs required.

Medical Science: 3-D Bio-Fabrication

Right now the International Space Station is home to the U.S. National Laboratory. Did you know that we have a national laboratory on the ISS? One of the companies operating there, called Techshot, is operating a 3-D bio-fabrication facility that recently completed

FIGURE 6



the production of layers of heart tissue. In this case, obviously they're not dealing with lasers, but with "feeds" of living cells encapsulated in spheroids of hydrogels or polymer material fed in, layer upon layer, in rows across an area. Over time, stabilized in space, these layers then grow together and reinforce each other.

This process is now at work on the Space Station. In fact, Techshot partners with U.S. National Laboratory to offer access to commercial companies on the Space Station for this purpose, but they're already running out of room. So contracts are being made with other space companies that are intending to send up space laboratories for further work in such research areas. This is just one example of what's going on right now in the bio-sciences related to additive manufacturing/3-D printing: *bio-printing*.

Other areas of related research include regenerative structures for bones. Bone grafting involves artificial material that doesn't grow, but when living materials made from stem cells or from the patient's own cells, are implanted, they fuse and grow into that bone's structure. Cartilage, again from stem cells or the patient's own cells, can be injected into areas, layer upon layer, where the cartilage has worn away, and will there reproduce. This is in process; it's being evaluated in trials with animals. Skin grafting, corneas, ultimately heart replacements. All of this is going on, on the frontiers where the life sciences intersect with bio-engineering and other related areas of research.

The Mission

I'll close by focusing on the mission. What are we asking for in our call for a Space Civilian Conservation Corps? What would be its mission? Well, you already have some sense of it here, but let me give just a couple of quick additional examples. During World War II, we have the example of the B-24 Liberator bomber. The Ford Motor Company was asked to produce the Liberator—not just a few of them, but thousands, on an assembly line basis. Nobody had done anything like that. As one executive of another company, North American Aviation, put it, "You can't expect a black-



Howard R. Hollem

The B24E (Liberator) heavy bomber was redesigned for assembly-line mass production. More than 8,000 were then turned out at the Ford Willow Run Plant near Ypsilanti, Michigan during World War II.

smith to make a watch overnight." He was saying it couldn't be done.

But in Ypsilanti, Michigan a plant was built over a half-mile long, and an existing plane—the Liberator bomber that was then being built in San Diego, California—was adopted as the bomber that was going to be built at this huge new plant in Ypsilanti, funded by the U.S. government. Well, Edsel Ford, Henry's son, got out to San Diego with his team and looked at this bomber, and then tried to look over the blueprints. But there were no blueprints for significant parts of the plane. Parts were being custom built, one by one, for each plane.

Edsel Ford and his team flew a couple of these bombers from San Diego to Ypsilanti, and took the bombers apart—they had a team of 1,000 design engineers working on this—to define and redesign that plane to make it suitable for production on a huge assembly line. The B-24 is a four-engine heavy bomber, one of the largest bombers made during World War II.

They produced 8,000 of these bombers in three years between 1942 and 1945; approximately half of all the Liberator bombers built in the entire country were built there in Ypsilanti. That was *the mission* taken up by Ford, by his design team, by the mechanics and engineers, and it was accomplished. The civilian airline industry came out of that process.

Elon Musk took the airline industry as a model for

building rockets at SpaceX. You've got to standardize; you've got to make parts interchangeable; you've got to make it durable; you've got to make it landable; and you've got to turn it around and fly it again. Think of how we are used to seeing commercial airplanes coming in and out of airports—or at least before COVID-19 we were used to seeing them coming in and out of airports! So, this was the working approach of the SpaceX team in designing the Falcon 1, in designing and redesigning it, through many iterations. In addition, the Falcon Heavy is already being utilized by the U.S. Department of Defense; that bigger rocket is being flown as we speak.

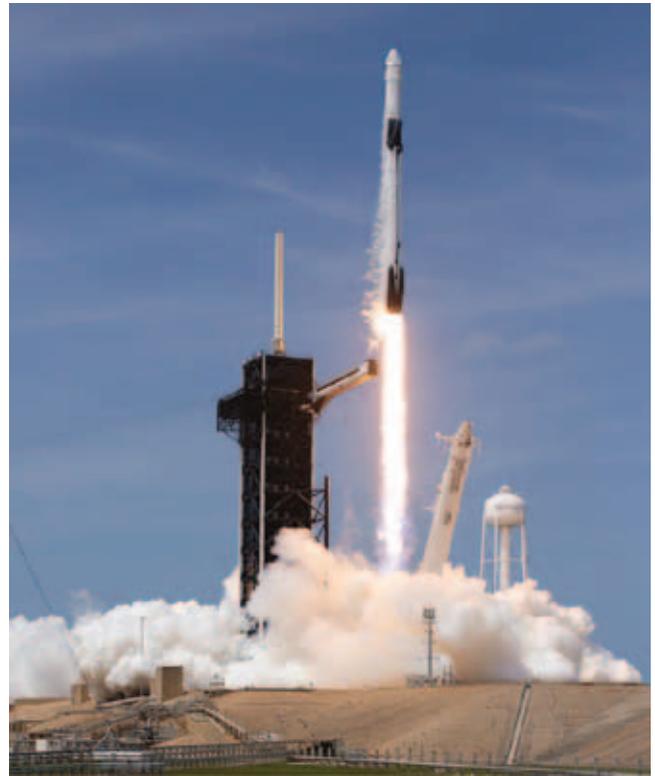
After the launch on Saturday to the International Space Station, only three days later, on the Wednesday following, another Falcon 9 went up. This gives you some idea of the rate at which SpaceX rockets are being launched. The rocket that went up on Wednesday, was on its fifth launch; its first stage has now been used five times.

Increasing the Productive Powers of Labor

We're talking here about discovery, and increasing *powers*. Rockets are not the whole of this. We need space planes; we need other technologies to launch a greater volume of materials, supplies, equipment, and so on into space at a much cheaper rate than we can achieve even with these advances in rocket engines and rocketry. But it gives you an idea of how you have to approach this. *The mission*, think about it. If we're going to build a high-speed rail system in this country, everything from the ballast under the rails to the braking has to be developed. It has to be problem-solved. This means materials science. Machine tools have to be developed. For example, over 1,000 machine tools were used specifically to construct the Liberator bomber.

We're just beginning to crack fusion energy and bring it on line. Developing direct energy conversion from fusion energy, and all of the implications of that, is an absolutely required mission for mankind.

We need small modular nuclear reactors. This is critical for all of Africa and South America. You can't build a 1 GW nuclear power plant if the power grid to carry all that power isn't in place. You need small nuclear reactors, modular nuclear reactors that can be floated or otherwise transported and assembled and put into place quickly and brought on line. Likewise, in



NASA/Joel Kowsky

A SpaceX Falcon 9 carrying two U.S. astronauts to the International Space Station, May 30, 2020.

other areas like freshwater systems and so forth. All of these are going to require enormous brain power and advanced skills to make the changes on nature for mankind that are required.

We need LaRouche's Four Laws for this. We need national credit. It's really a minor thing when you put all this into perspective. It's these projects and others like them, as in the bio-sciences, that are the new frontiers for mankind, and we're only getting started. We don't know many of the laws of the universe. We won't get closer to knowing until we start getting out there, and that's the challenge.

So, this idea of exploration, of frontiers, this is what Frederick Douglass understood about the potential of every man, woman, and child. This is the conception that the Trump administration has brought to fore with Artemis: to put a man and a woman on the Moon by 2024; to build a permanent, sustainable presence on the Moon by 2027; and to move on to the colonization of Mars in the 2030s. But it's going to take millions of productive individuals taking up these very interconnected missions to make that possible.

Lunar and Martian Missions Are in Our Immediate Future!

by Michael James Carr

This is the edited transcript of Mr. Carr's presentation to the June 6 conference. Subheads have been added.

Let me quote Elon Musk from 2012: He says, "I think there are probably too many smart people pursuing internet stuff, finance and law. That is part of the reason why we haven't seen as much innovation."

That's the way he looks at it, but the truth is that ever since the founding of the United States, which was the original revolutionary institution in the world fighting for uplifting all of humanity around the principle of the General Welfare, we've been continuously under attack. Sometimes it was in warfare directly; at other times it was through the other known means of the Empire. But in particular, in the past hundred years, there have been really only two periods in which American System policies have mostly prevailed. That was during the administration of Franklin Roosevelt, and in the administration of President Kennedy. We've been under heavy attack: In 1963, President Kennedy was killed. Even before we landed on the Moon, beginning in 1967, there were a great many layoffs in the aerospace industry. In 1968, Martin Luther King and Robert Kennedy were killed.

Moves were made to shut down the United States: In 1967, the British psychological warfare institute, the Tavistock Institute, came out with a report that said that *at all costs the space program of the United States must be shut down. All the kids want to be scientists and engineers! We have to stop that!* So, even at the time of the first Moon landing, the Apollo program was already being shut down. It was being turned into a no-future operation: There was to be no follow-on.

There was a huge fight, which we in the LaRouche movement waged, along with other people, to build the Space Shuttle, which was an idea of Wernher von Braun, but there was so much political haggling and undercutting that what came out was nowhere near what Wernher von Braun and people at North American Aviation had in mind when they first made the proposal, for a fully reusable surface-to-orbit, two-stage flyback

system.

We just barely got the Space Shuttle. And that was after a long hiatus, from the 1975 Apollo-Soyuz test project, to 1980, when the Shuttle first flew. It was really only because of the courage of the astronauts and some other people that we were able to get that. But the nuclear industry, the space program, the work on supersonic transportation, work in high-speed rail—everything that had to do with creating a better future that was necessary not only for the people in the United States, but for those people today who are suffering from the locusts in East Africa and South Asia—was under attack.

You had a situation in which the young people who were interested in a future in science and technology were left high and dry. They didn't have much opportunity to implement their dreams, because we didn't have a credit system; we didn't have a policy to promote the development of industry. We had a policy to shut it down and go back to the colonial status.

LaRouche identified, as the basis for the future of society, the principle of the utilization of insight, combined with fighting through to get that insight into production. I will mention three people, who represent that principle: Henry Ford, Wernher von Braun, and Elon Musk. They've not been right about everything; they've made mistakes, but they deliberately set out to transform civilization for the better. Just the other day, before the SpaceX Falcon 9 launch on May 30, NASA Administrator Jim Bridenstine said that we need to inspire hundreds of Elon Musks, because we need to massively increase the rate at which technological advance takes place.

Miracles are Possible

I want to review some aspects of what was done by SpaceX because it's really miraculous. As with the operation to destroy the Apollo project, and the operation to destroy the Space Shuttle even before it was launched—when the Shuttle program was shut down and it was proposed that we just have some private contractors made responsible for sending people up to the Space Station, it was assumed that maybe Boeing *might*

be able to do it, but really it was assumed that probably the proposal would not work. That was the intent! The *intent* was for the Commercial Crew Program to fail!

Let's review a timeline of what the SpaceX people did.

SpaceX was founded in 2002. In 2006 they had their first launch which ended in failure; they had two more failures. Finally in 2008 they finally reached orbit with the Falcon 1. In 2010, they had the first Falcon 9 launch. The Falcon 9 has nine engines in the first stage, instead of one, enabling it to be more powerful.

In 2015, they had the first landing of a first stage back at the launch site, and in 2016, the first vertical landing on a ship.

What was done at SpaceX was the rapid adoption of new technologies. The cockpit display of the Crew Dragon *Endeavour* going into orbit last Saturday is to-

In the Near Future

There's a huge amount of activity coming up immediately. There's going to be another unmanned test launch of the Boeing Starliner this year. Next year there's going to be an unmanned launch of the Orion spacecraft around the Moon.

So, we're about to have three American manned spacecraft in operation starting next year—in contrast to the last nine years of having none.

Also next year, Sierra Nevada Corporation's Dream Chaser spaceplane is scheduled to start carrying cargo up to the International Space Station. Sierra Nevada intends to make it a manned vehicle, but for the time being the contract from NASA is for unmanned cargo flights. The vehicles that we have so far, have limitations. We have a long way to go before achieving the ultimate vehicle. For example, the Starliner lands on land, under parachutes; the SpaceX Dragon lands in the water under parachutes. The Dream Chaser, with the ability to land on a runway, is a step in the right direction.

Of course India and China are also going to fly new manned spacecraft in the next two years, and China next year will start building a space station, using a version of the Long March 5 rocket. The new Chinese spacecraft will have the International Docking Adapter system, allowing China to be integrated with the rest of the international space community, if we politically straighten out the mess we have with some of our congressmen.

What does the Crew Dragon *Endeavour* launch open up? It opens up a huge array of possibilities. Earlier this year, a company called Axiom Space signed an agreement with NASA to start tests of various manufacturing capabilities on the ISS, and then to start adding modules to the ISS. They have identified as targets for space manufacturing in orbiting space stations or space factories, fiber optics; higher strength, lower-weight alloys; satellites; biomedical research components such as protein crystals; growing organs and tissues in space, with a sort of biological 3-D printing capability which is being developed; and micro-encapsulation of things for biomedical and pharmaceutical purposes.

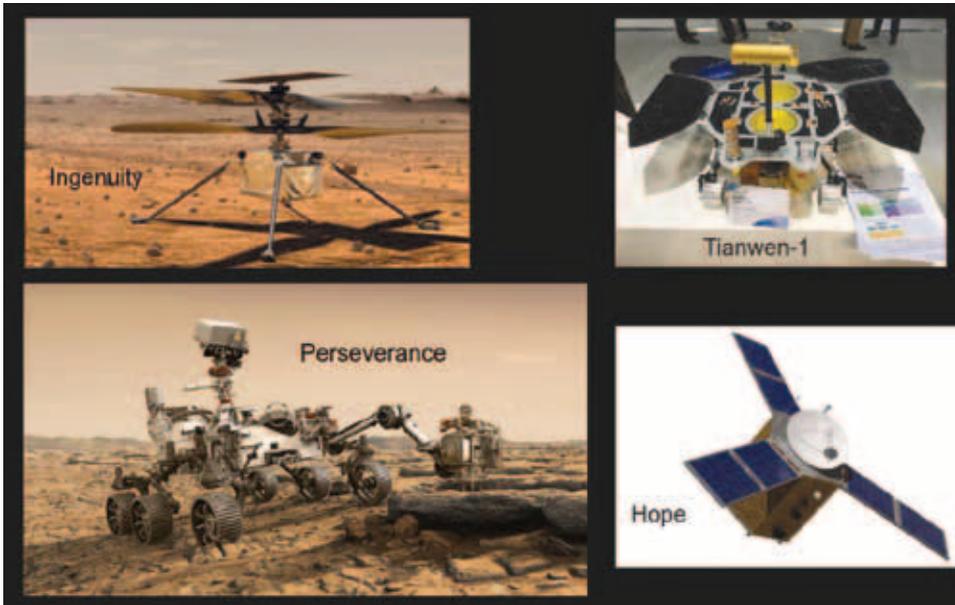
Once Axiom has proven these technologies, and proven the ability to manufacture in space, they have



An interior view of the NASA/SpaceX Dragon Endeavour cockpit, unlike that of any other spacecraft.

tally different from any other cockpit of any other spacecraft. When the astronauts saw what was intended, they were a little bit wondrous about whether the touch-screen technology would work or not, because they were used to a totally different configuration. Once they went through the technology, they saw that this was going to work.

The rocket and crew capsule were designed to be autonomous and to fly into orbit and dock with the International Space Station (ISS) without pilot astronauts. The two NASA pilots, Robert Behnken and Douglas Hurley, who launched on Saturday, are test pilots trained in testing new equipment in extreme situations; they're hands-on people. But this system is designed to take people with very minimal training up into orbit.



Credits clockwise from lower left: NASA, CATC, UAE Space Agency

Leaving for Mars this summer are (clockwise from lower left) NASA's Perseverance rover with its associated Ingenuity helicopter; China's Tianwen-1 rover; and the United Arab Emirates' Hope orbiter.

the idea that they would break off these modules and create separate stations, separate factories in space, separate from the ISS, and that these could be proliferated to fulfill the manufacturing demand. So if we have the kinds of technologies which the Dragon spacecraft represents—which means basically a massive reduction in the cost of getting people to orbit, comparable to the massive reduction in cost of getting freight into orbit that the Falcon 9 represents—then you have the possibility of whole new areas of industry and science opening up in low Earth orbit.

Space Stations, Landers and Rovers Going Up

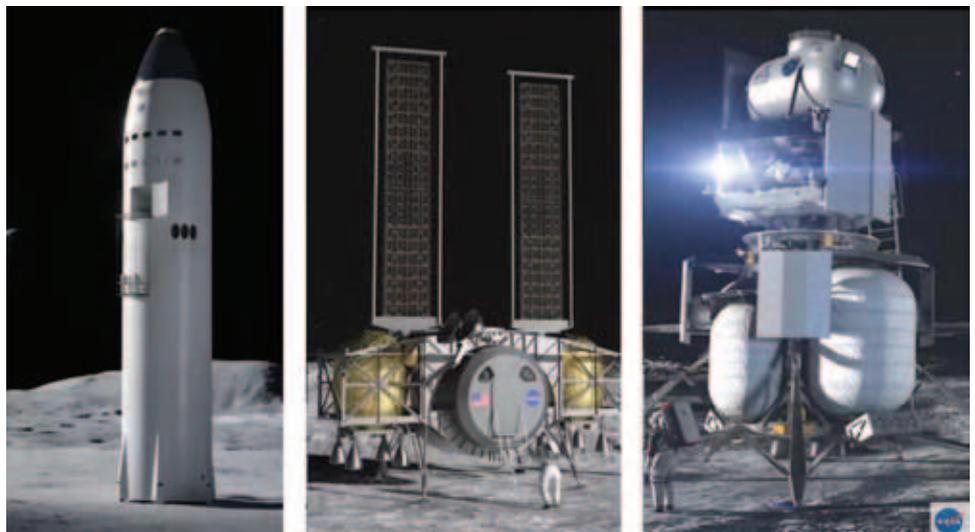
Another company, Bigelow Space, which has an inflatable module on the Space Station right now, has ideas for building inflatable space stations for manufacturing. The owner of Bigelow is a hotel magnate, and he wants

to use these for hotels in orbit, too. None of this could be done before because the price of getting people into orbit was too expensive, but now it's becoming more reasonable.

Building out the infrastructure from the Earth, to low Earth orbit, and then to the orbit of the Moon, NASA along with many international partners is contracting and negotiating the building of a small man-tended space station called the Lunar Gateway. It will be a stopping-off point en route to landing on the surface of the Moon or Mars. It's a nodal point for refueling and for accumulating

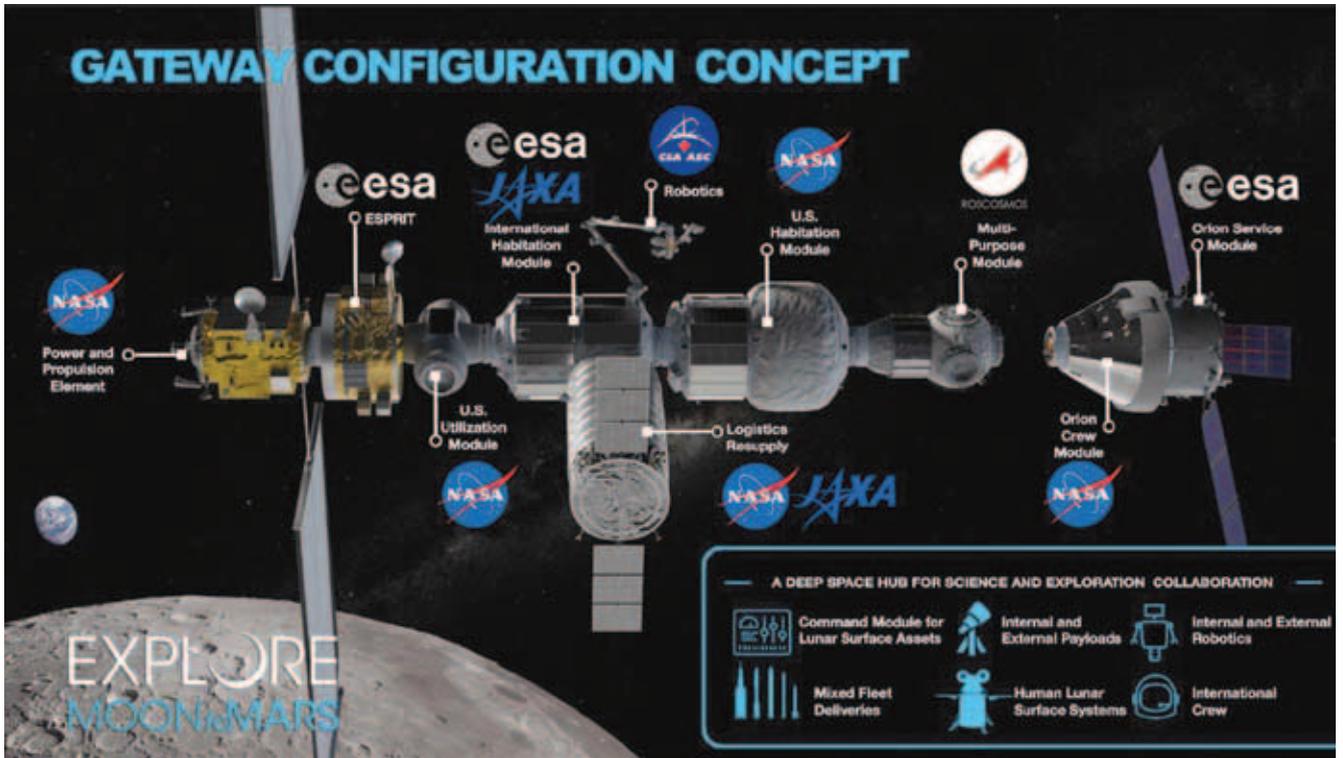
various modules, parts and equipment for landing on the Moon and returning from the Moon back to Earth.

Three weeks ago, NASA signed contracts with three contractor teams for three different lunar landers. The Blue Origin National Team, which includes Lockheed Martin and Northrop Grumman, has a design proposal



Credits, left to right: SpaceX, Dynetics, Blue Origin

NASA has selected three companies for \$1 billion in contracts to design lunar landers, "one of which will put the first woman and the next man on the Moon by 2024." Left to right: SpaceX's Starship; Dynetics' Human Landing System; and Blue Origin's Integrated Lander Vehicle.



NASA

A configuration concept of the planned Lunar Gateway, indicating a potential division of labor among contributing international partners.

which bears many similarities to the original Lunar Modules of Apollo—but on a larger scale.

A very unusual lander design is that proposed by Dynetics. Instead of having an ascent stage and a descent stage, as had the original Lunar Modules, this design has two extra drop tanks—like military aircraft that have extra tanks for fuel under the wings for long-distance flight. These fuel tanks can be dropped off, and then when the vehicle reaches the surface it has less weight, and can take off without the extra weight of the empty drop tanks. It has eight small engines to minimize the spray of lunar dust, and it puts the crew very close to the ground, unlike the other two designs.

The third contract is for a modified version of SpaceX's next big project: the super-heavy, fully, and rapidly reusable Starship rocket system. To minimize lunar dust, the descent/ascent engines are located three-quarters of the way up the height of vehicle. This vehicle is so tall that it will have to have some type of elevator. I don't know how that will work. But these things are all under investigation during the next ten months of the competition. But there's a lot of activity, and as we

get the credit system and the physical backing for this kind of activity, it will be rapidly expanded in all directions.

Next month the United States will be launching the *Perseverance* rover to Mars, an updated version of the *Curiosity* rover still roving there. It will also have aboard a little Martian helicopter called *Ingenuity*. Also in July, China has scheduled the launch of its *Tianwen-1* rover for Mars. The Mars orbiter *Hope*, built in Colorado and sponsored by the United Arab Emirates, will be launched on a Japanese rocket this summer.

We are still fundamentally behind where we need to be to make operations to low Earth orbit and to the Moon the kind of thing that we're used to as we fly across the ocean. We're making advances, but we're still far from where we need to be.

To summarize: We've got all kinds of work going on, and potential beyond. We have to get to it. We need LaRouche's Four Laws; we need the credit policy; we need the tax policies; we need the policies to encourage the development of the entrepreneurs who exist out there, but who do not have the credit or backing to test out their ideas.

Unleashing the Productive Power of Creativity

by Richard Freeman

This is the edited transcript of Richard Freeman's June 6 conference presentation. Not all of the speaker's graphics are reproduced. Subheads have been added.

The world confronts an existential crisis. We have the immediate need to stop the spread of death from the COVID-19 disease and from famine, in Africa, Ibero-America, and sections of Asia. David Beasley, who is the Executive Director of the UN World Food Program, has sounded the alarm, saying that in these areas they face "multiple famines of biblical proportions that could result in 300,000 deaths a day" or 2.1 million deaths per week. Presently, Africa, Ibero-America, and sections of Asia don't have an infinitesimal fraction of the hospitals, hospital beds, ventilators, electricity generation, water supply, irrigation systems, or agricultural equipment to avert what will be, unless we intervene, extinction.

This is what motivated Helga Zepp-LaRouche to call for this program of 1.5 billion new, productive jobs. This catastrophe offers an opportunity, as often happens in catastrophes. There are 30,000 manufacturing plants that have shut down since 2002 in the United States. They should be, and could be, re-opened. Look at how many millions of unemployed people we have. If we do that, and add new capacity to meet and overcome this underdevelopment in these continents, and we follow Lyndon LaRouche's plan to do this, in that process we will create 1.5 billion new productive jobs in the advanced sector and in the developing world in a reciprocal way, the greatest development program in the history of the world.

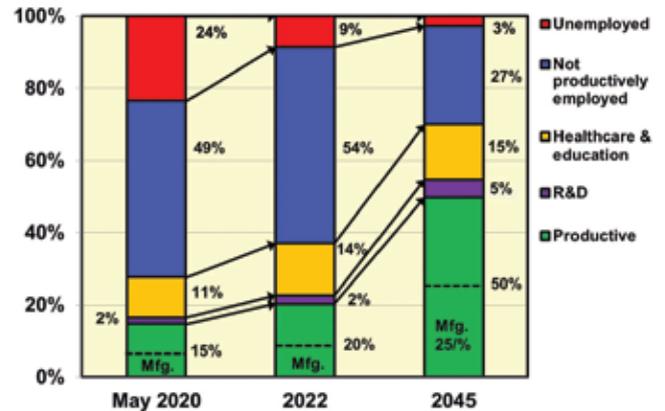
In doing that, the United States will create 60 million productive jobs domestically. This development in the United States, given what our capacity can be, will be the fulcrum to make the 1.5 billion productive jobs worldwide possible.

So, we must treat this as any great mission. In this process, the present speculative financial system, which spews out Malthusianism and halts all development, must be torn down. The British Empire must be torn down. In the United States, we must end 50 years of physical decay, which we're seeing something about on the news every night, because that is a primary issue

FIGURE 1

Transforming the U.S. Labor Force

(% of total)



that is on the minds of every citizen who lives in any urban center and walks around for 30 seconds.

Let us look at a snapshot of the United States. **Figure 1** shows U.S. manufacturing employment. Manufacturing workers are those who make human existence possible; they are part of the productive labor force. Agriculture is another part, as are transportation, construction, mining, and utilities. These activities alter nature for man's advancement. Manufacturing and agriculture could be considered the two most important. Let's see how we're providing for ourselves.

In 1998, there were 17.6 million manufacturing jobs. We had the financial crisis in 2008. By 2010, we're down to 11.5 million manufacturing jobs. By 2020, we are at 12.9 million. So for ten years, we added all of 1.4 million jobs; that's 140,000 manufacturing jobs a year. That is a catastrophe, not a recovery. We're not even back to 2008 or 1998. By the standards of our mission, this is far, far short. This was the last 25 years.

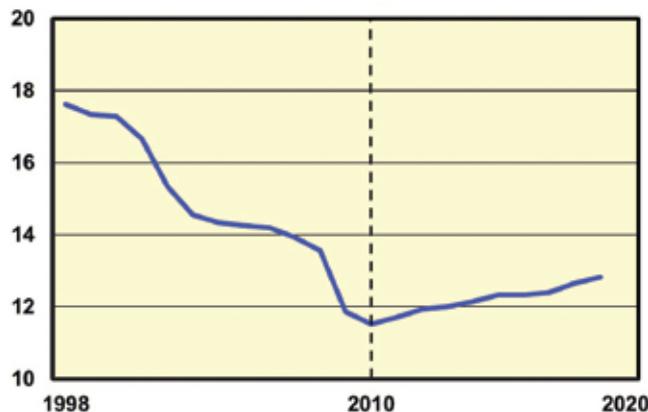
The Next 25 Years

Let's take the next 25 years. **Figure 2** is in the 1.5 billion jobs report. You can see 2020, and you can see 2045. Within this period, which is a quarter century, we are using the standards demanded by Lyndon LaRouche. If you're going to have an economy that's going to grow at a real rate of development, you need

FIGURE 2

U.S. Manufacturing Employment

(millions)



50% of the workforce being productive—you can see that in the green. Five percent is in research and development.

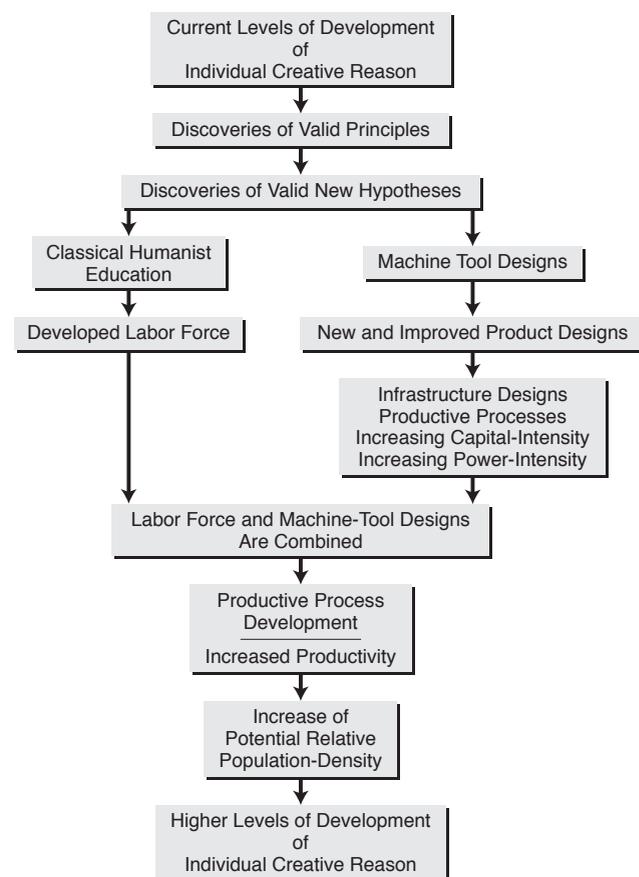
What this will do, just to identify the outline: the productive labor force will grow in this 25-year interval by 60 million workers, to a level of 91.5 million—a tripling. The science and technology sector will grow to 9.1 million workers—a tripling. And the manufacturing labor force will grow to 45.7 million workers—a 3.5-fold increase. One point immediately should strike you. If we increase the manufacturing labor force by 3.5 times, the productive level of the economy will grow by 3.5 times. So, we'll already be 3.5 times bigger. But that's only the first level. It's the spillover breakthroughs from fusion power, space exploration, and so forth, assimilated by the labor force that will actually make the 2045 economy 10 to 12 times more productive. *That's* the economy we want to live in; that's the one we're going to build.

This is increasing the power of humankind. *That* is power. Power is not how strong your muscle is; power is not your ability to intimidate other nations by threatening them with nuclear weapons. Power is the power of the mind. And what we are looking at is the machine tool principle, as Lyndon LaRouche developed it—and this was a critical idea, because he developed it after an intense period of work from 1948 to 1952. It's the idea that mankind, to exist, driven by curiosity, develops successive revolutions in fundamental principles of science.

We take these successive revolutions, and physically incorporate those revolutionary principles in machines; that's the way our creative mind intersects the

FIGURE 3

How the Machine Tool Design Principle Works



physical economy. Those machines, called machine tools, enable us to build other machines. By the designs of machine tools, we change the designs of the other machines, and those other machines now reflect the scientific revolution. This is a successive process with many such discoveries going on. This increases the productivity of an economy. And if the ideas that man's mind develops are revolutionary, then the economy is revolutionized.

The Machine Tool Principle

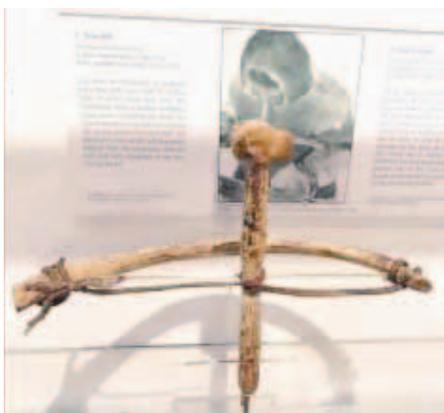
Let's look at a chart that Mr. LaRouche used to illustrate the machine-tool principle, **Figure 3**. There are two sides to this chart. It starts with a certain level of culture, a certain level of power of reason of the human mind. Then, we have a discovery of a new hypothesis, as you can see there. It splits. The labor force, through Classical humanist education and science and development, assimilates these ideas, and becomes a more cognitively developed labor force. On the other side, the

FIGURE 4a
Painting of Egyptian Bow Drill



Wikimedia Commons

FIGURE 4b
Bow Drill Found by Archaeologists



Creative Commons

drawing of a machine called a bow drill, which was painted on a wall in Egypt. You can see the person has a bow, like a bow and arrow, and around that piece of wood, which is like a spindle, you will see that the bow-string has been lapped around, but with a twist; and as this person pushes the bow forward, the drill will spin in one direction, and as he pulls it back, it will spin in the other di-

machine-tool design makes new products and improved design. It increases the capital intensity and the power intensity. At the end of this process, where they rejoin—it says, “Labor force and machine tool designs are combined.” This creates a new productive development and it’s a higher-level development of individual, creative reason.

So we have increased the development of individual creative reason, which is the purpose of the economy: to increase the *power of the individual* in successive developments, culturally and every other way. And then we have the next phase of development. That’s getting at the concept of power.

I want to introduce you to a couple of machines. **Figure 4a** is a

rection, drilling a hole.

Figure 4b is an actual physical bow drill, which was recovered. What would someone, using this for eight hours a day, be able to accomplish? Well, maybe eight holes drilled, ten holes drilled; that’s if his arm didn’t get too tired.

Figure 5 shows us foot power. This is a grinder, and you will see at the bottom, if you look at his feet: he’s pedaling.

Figure 6 is a mill. Water goes through this mill, where there are two water wheels. And we’re moving past the physical labor of man, to use water. This mill will grind wheat into flour. You see a chute for the wheat berries, and on the bottom, stones, which are called millstones; you grind the wheat between those stones to create the flour, from which you can make bread. This is an advance. You’re limited, however, by

FIGURE 5
Foot-Powered Grinding Machine



Wikimedia

FIGURE 6
Water-Powered Grist Mill



Wikimedia

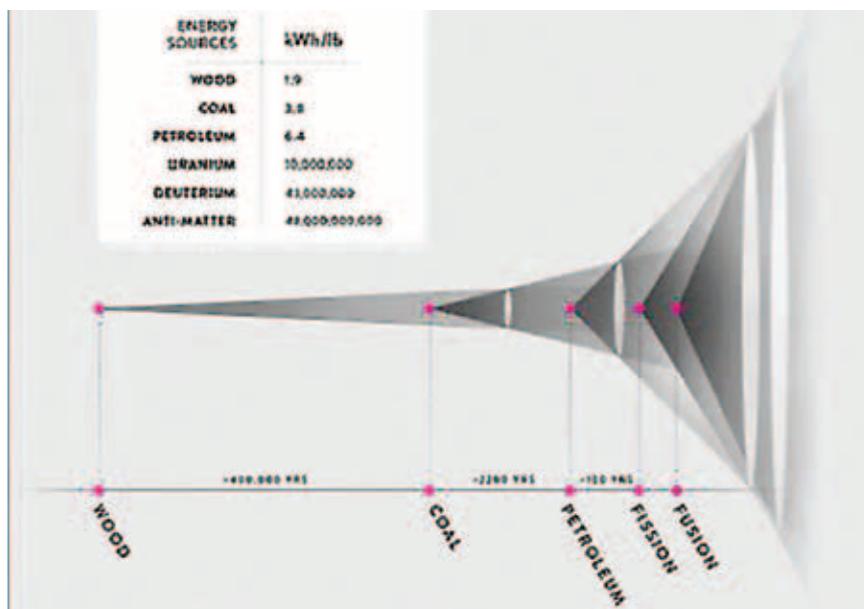
the amount of water that flows in the stream—if the water is low, or you have a drought, it doesn't work as well as you might want.

Figure 7 shows us the development of the machine-tool principle combined with the power source—combining the machine-tool principle with energy flux density. You can see wood as a fuel source, and when we get to the level of coal, we have a cone that expands outward. When we get to petroleum, you can see it expands further; fission and fusion, even further. This is a series of characteristic hyperbolic cones, and these are levels of development. You will see at the top that 1 lb. of wood will produce one kilowatt-hour (kWh); coal 3.8 kWh. And you can read the others—uranium, 10 million kWh and so forth.

Now, we're going to introduce a higher form than just water, and foot power, and so forth: We're going to use coal to make a heat-powered machine.

In these plants, where you start to use machines of a more advanced design, you can see belts. You have a heat-powered machine that produces heat; heat is used to produce steam, which turns a turbine to cause a shaft to rotate—you're not producing electricity yet, but you're connecting the rotating shaft by means of belts to every one of the machines in the shop; you're using the machine to actually turn other machines.

FIGURE 7
Relative Power Densities for Various Fuels



21st Century Science & Technology/Liona Fan-Chang

The Power to Build

Take the case of a basic slab, an steel ingot shown in Figure 8a. This will go into the machine-tool, and I wish I could show you the way different cutting gears and other tools shape it, twist it, on a lathe-like structure; but what you get at the end of the machining is a large boring blade Figure 8b, such as the blade used by the Swiss in a boring machine to bore a tunnel through the Swiss Alps. It was a 35-mile distance, cut through to connect Switzerland to Italy via a high-speed rail line.

Now, what's the accumulated power of this arrangement?—and we're moving now not just from the power of the machine tool, but we're looking at what it produced in another machine. Compare an advanced machine tool to the bow drill. How many times more powerful is it? I did some rough jottings, and I calculated that the machine is about 1,200-3,000 times more powerful than that bow drill. This is power: Man's mind continuously improving. This is *civilizational* power. This marks the development over about 2,700-2,800 years from what the power of a civilization was then, to what the

FIGURE 8a
Large Steel Ingot



CC/Ray Jones

FIGURE 8b
Large Rock Boring Machine Blade



Wikipedia/Wolfgang Meinhart

power of a civilization is now through the machine-tool principle.

This same boring machine could bore underneath New York City, or Philadelphia. Or part of New York City, like the South Bronx; or Paris. Because we have to take these older cities and renovate them, put in modular electricity and infrastructure and water systems. And we have to be able to get under them while we keep the city on top and rebuild the city on top. And that's a *critical* issue that we are facing right now in the streets. People may not enunciate it, because they may not know that they need such a machine-tool concept, but that's the power of civilization.

Take your mind back to Figure 2, Transforming the Labor Force. When we get to this new level of economy, not only will we have 3.5 times more workers, but we're going to have a far more productive economy. Keep that in mind.

The Power of Fusion

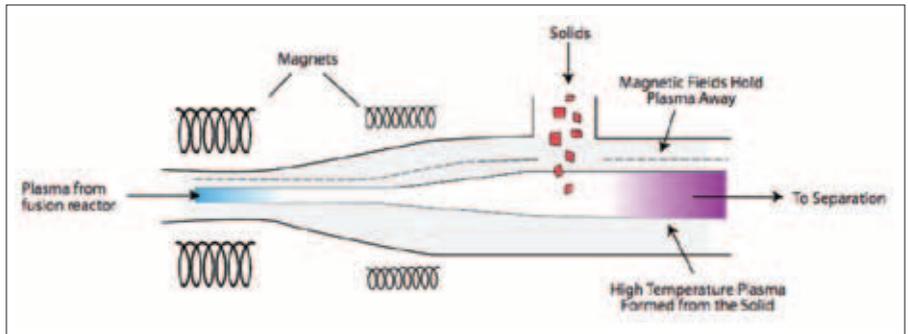
Let's go to the fusion process. Nuclear fusion reactions produce great heat, commensurate with the heat of the Sun, but the critical feature is not just the heat; it's the ionized gases in a magnetic field—that's plasma, known as the fourth state of matter. Interestingly 95-96% of all matter in the universe is in a plasma state.

A plasma has within it solitons, it has various vortices, which are singularities, but simultaneously, overall, it's highly organized; the plasma functions as a system. I want to list two applications of fusion energy, beyond the use of fusion to generate electrical power. These provide some of what we can look at that goes beyond more basic machines.

The first is the fusion torch. A fusion torch will ionize anything. You could take a cubic mile of garbage or of earth, and a fusion torch will break it into its constituent elements.

The following is from a [video](#) on the fusion torch, produced by LaRouche PAC.

Inside a fusion reactor, the fusion plasma consisting of an ultra-hot ionized gas, reaches temperatures of tens and hundreds of millions of degrees. Some of this plasma can be funneled off



USAEC/Bernard Eastlund & William Gough

Schematic of a fusion torch processing solid waste.

as a direct process medium for industrial purposes. The plasma will first be taken through a connection zone to isolate it from the plasma of the reactor, and remove high-energy neutrons from the process plasma.

It is then moved to what is called the interaction zone. With the ultra-high heats and energies of fusion plasmas metal ores or any other known material fed into the fusion torch, are not merely melted, but are immediately shock vaporized and become part of the plasma, as separate, ionized elements, and electrons.

This, now low-temperature plasma, full of the elements which made up the ore or other material, is discharged from the fusion torch to a separation chamber, so that the individual materials can be separated from one another and recovered.

Once in a plasma state, various methods can be used to select the desired elements and isotopes, based on their atomic, as opposed to chemical properties. The plasma separation process utilizes the unique resonating frequency, or cyclotron frequency of specific elements to selectively separate them. As the plasma, spiraling around the guiding magnetic field is passed through a chamber, it is zapped with a very specific electromagnetic frequency, precisely tuned to the resonant frequency of a selected isotope. The targeted ions are energized, widening their orbits just beyond the width of a series of collection plates at the end of the chamber. The rest of the non-energized materials simply pass through.

So that's one of the applications of the fusion process. The second application is a high-velocity rocket

engine. The Artemis Moon-Mars program will get us back to the Moon, but to get to Mars, we're going to have to use this application. We must get beyond liquid and solid chemical rocket fuels, and that means we have to get to fusion reactions as a propellant. A chemical rocket burns liquid hydrogen and liquid oxygen, and the vapor that comes out is an exhaust, and that exhaust determines your speed to a very important extent. The exhaust of a chemical rocket is traveling at 3,000 meters per second. But the exhaust from a fusion-powered rocket travels at 100 million meters per second, which is 30,000 times faster. So that's what we're going to need.

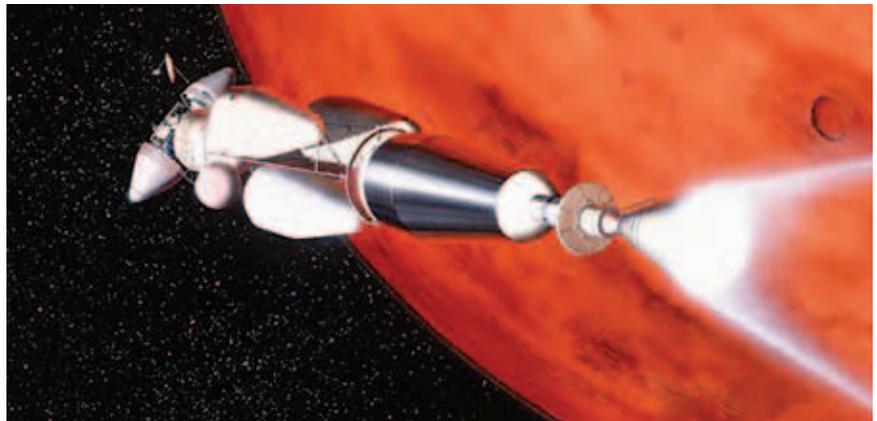
And when we get to space, when we get to Mars, we should actually build a smaller-scale fusion torch, because that's going to allow us to separate out things on Mars. We can't just sit there and simply dig all this stuff by hand; we need that torch for Mars' development.

Let me talk about the petawatt laser, which is used in one branch of fusion research to trigger the fusion reaction. It provides laser pulses at a quadrillion-watt level peak power, and it does it in pulses of one-quadrillionth of a second. This is on the order of 2,000 times the power of the *entire* United States energy grid. *That's a resource!* This has great potential—and it uses the same amount of energy your 60-watt light bulb uses in 3 seconds.

Unimagined Power to Create

If we have this petawatt laser, if we have the fusion torch, which redefines mining, and if we have a fusion energy engine for rocket ships going to Mars, by 2045 in the United States this labor force's productive power will be 10-12 times greater. If each worker is hooked up to this process, each worker, himself or herself, as part of the whole, can become perhaps 25 times more productive. If we were to multiply this increased productive power by 3.5 times more manufacturing workers by 2045, we could have an economy that's 30, 40, or 50 times more productive.

And that's what we're going to create. It's not there yet, it's not a blueprint. But man's mind, which is the power for achieving what we're talking about, will do it.



NASA/Pat Rawlings (SAIC)

Artist's conception of a fusion rocket orbiting Mars.

Now, to draw this together: We're going to develop this; we're going to take those 30,000 plants that have closed and open them. They are filled with literally millions of machine tools; some of them are rusted, some of them are ancient, but some of them we can use and we're going to put new ones in there. And we're going to put probably anywhere from 5 to 10 million workers to work in those plants. If we do this in the United States, in China, in India, and in Russia, Japan, and Germany, we will start to effectively address the urgently required industrial development of Africa, of Ibero-America, of parts of Asia.

But we will not just do that, we will start to develop those countries. Basic things will come first, such as cement and bricks, that's the easiest thing to start with, because you don't want to lug those around the world. We could then build steel plants in those countries in about 18 to 20 months on a crash basis.

You want to work with those populations with the technologies which they input; but then develop their powers of labor, so that they will then develop the machine-tools, they will then develop nuclear fission, they will then develop nuclear fusion. They will develop all of these powers themselves. If we do this, simultaneously in the so-called advanced sector and the developing world, and reciprocate back and forth, with a Four Power New Bretton Woods, we will *have the new paradigm*. We will have the development of mankind. We will be transmitting power to these countries—not just giving them bread or water—we're giving them power! And the whole world will be driven by this power: That's a new development. That's what Lyndon LaRouche was pointing to, for his entire life.

III. Making the Universe Happy

HUMAN CREATIVE POWER

The Distinctive Characteristic of the Urgently Required New Renaissance

by Janet G. West

The Schiller Institute's April 25–26 International Conference, titled "Mankind's Existence Now Depends on the Establishment of a New Paradigm!" featured four panel discussions, the third panel, reported on here, "Creativity as the Distinctive Characteristic of Human Culture: The Need for a Classical Renaissance," included a wealth of music, for which we suggest that our readers go to the [video](https://www.youtube.com/watch?v=cy0uh-BYs7s) available at <https://www.youtube.com/watch?v=cy0uh-BYs7s>. Reports and speaker transcripts of the other panels are available in the May 1, May 8, and May 15 issues of EIR.

June 10—The Schiller panel discussion, focussing on creativity per se, had the effect of a Classical chorus, both in the musical, and the dramatic senses. Representatives of diverse backgrounds and diverse educational, political, and cultural expertise, offered in turn, provocative and elevating presentations regarding music, drama, and culture in general, and how they are intertwined with politics and economy. They all participated in "imparting and receiving profound and impassioned conceptions respecting man and nature."

Like the opening of Beethoven's *Symphony No. 2*, moderator Dennis Speed introduced the panel with a challenge to all of us, to "celebrate the idea that creativity is intelligible," and because it is intelligible, "it can be wielded against any problem faced by the human race...."

Speed asked: What if evolution was designed by the Universe to be directed by human ingenuity and creativity through musical harmony, as a more perfect mode of progress, rather than Darwinian selection? To answer that, we may be forced to give up old and ineffective axioms, embracing a new understanding of

actual human nature, upon which our species' survival may depend.

In this year of celebration of Ludwig van Beethoven's 250th birthday, we rightly celebrate the immortality of the human species, and through that, we may discover the import of our individual human existence.

The development of human creativity, Speed argued, is not only called "science," but also "music."



Schiller Institute

John Sigerson and Margaret Greenspan.

Both of these aspects of the human soul are celebrated in Beethoven's *Ninth Symphony*, based upon Friedrich Schiller's poem "An die Freude," the "Ode to Joy."

To organize and prepare the minds of the audience for the inspiring ideas to come, tenor John Sigerson, accompanied on the piano by Margaret Greenspan, opened with a performance of Beethoven's song cycle "An die ferne Geliebte" ("To the Distant Beloved"). Nothing could have been more appropriate, since we were then in the early days of the coronavirus lockdown, when so many felt boxed in, unable to be with their loved ones.

Throughout the remainder of the conference, Beethoven's haunting refrain was ever-present:

*Denn vor diesen Liedern weicht
Was geschieden uns so weit,
Und ein liebend Herz erreicht
Was ein liebend Herz geweiht!*

Then to these songs shall yield
What has kept us so far apart,
And a loving heart attains
What a loving heart has sanctified!

A video from the late, but ever-present Lyndon H. LaRouche, Jr. underscored this conception. What put him into conflict with most "experts," LaRouche explained, was his insistence that we have neglected to immerse our young people in the genius and creativity of artists such as Leonardo da Vinci, in classical music, architecture, drama—all of the noble ideas that ennoble the mind—and it is the lack of these ideas today that has deprived society of the capability to do scientific work at the level required for future human existence.

The principles of scientific endeavor and artistic expression, LaRouche has always insisted, are *identical*, and their practice is complementary: Very few genuine scientists are not also accomplished Classical musicians, or artists. It is completely natural for scientific and artistic creativity to be thus connected; it nourishes the human soul.

Music is therefore intelligible: It's hard work—but it's *intelligible*, it's communicable—and you can start with young children, teaching them to sing, and then to play beautiful music. And in that way, we can create great scientists.

Helga Zepp-LaRouche, in harmony with LaRouche's comments, presented ideas from Friedrich Schiller's *Aesthetical Letters*. Every human being, she said, has the potential to become a Beautiful Soul—*eine schöne Seele*. As Schiller defines it, a Beautiful Soul is one in whom the idea of Freedom and Necessity, Duty and Passion, are one. And the path to accomplish this—true genius—is through aes-



Schiller Institute
Helga Zepp-LaRouche

thetical education. The political situation, Schiller argued in the wake of the miserable failure of the French Revolution, can only be improved by the aesthetic education of the individual, the ennoblement of the character of the individual.

A video of the late William Warfield, renowned bass-baritone and former advisory board member of the Schiller Institute, reciting two poems by Paul Laurence Dunbar, demonstrated that one of the best methods for conveying the intelligibility of poetry is through "singing" it, not necessarily in a literal sense, but in the phrasing and emphasis.

Dr. Eugene Thamon Simpson presented a superb exposition of the development of Spirituals into art songs. When the famed Fisk Jubilee Singers, founded in 1871, toured the stages of Europe in 1873, it marked the beginnings of this transformation. Simpson recounted how Antonín Dvořák's friendship with Harry Burleigh and others during Dvořák's stay in New York City, inspired Burleigh to classically arrange a large number of Spirituals, while Dvořák himself composed his symphony, *From the New World*, with its haunting melody which later became a Spiritual in its own right, "Goin' Home."

Contrary to the attitude of many whites, who tried to shame and ridicule blacks for singing spirituals, Dvořák, and later Hall Johnson, made arrangements of hundreds of Spirituals, elevating them to art songs. More and more Classical singers demanded these arrangements, to be performed at prestigious venues in America and abroad.

Spirituals began to be developed as the basis for symphonic compositions, and Classical compositions were incorporated into Spirituals.

Be Creative: Make the Universe Happy

Schiller Institute Music Director John Sigerson presented a challenging discussion of "The Physical Power of Classical Poetry and Music." He opened with the idea that since we are in the Year of Beethoven, one of the greatest challenges as yet unresolved, is to be able to not only transmit Beethoven's music faithfully in the Classical tradition, but to surpass his most powerful



Courtesy photo
Dr. Eugene Thamon Simpson

compositions, the Late String Quartets.

It is not, as many might imagine, simply a matter of mastering the *style* of Classical music (and the case is similar for Classical poetry), but the musical expression must uplift the listener; it's not a matter of style, but of *purpose*. Our current culture is in the muck of hedonism and existentialism, and thus would-be composers of great art must be willing to submit themselves to a struggle, to shape the intended *physical effect* of their own creations.

Sigerson illustrated this point through the work of those two great musicians, Max Planck and Albert Einstein, who were, of course, also gifted theoretical physicists. As the fruit of their struggle, they discovered the quantized nature of electromagnetic energy. Although both were dissatisfied with their final theories—they struggled to reconcile the quantized and wave natures of electromagnetic energy from a higher unifying principle—that dual nature is also expressed in music, because a note is not a “thing,” but is situated in a larger geometry. How can this be?

Sigerson concluded by encouraging the young poets and composers of today (who may also be working in a scientific field), to “dedicate your life to changing your own axioms if need be, even your most cherished ones, if you find that those axioms are preventing you from discovering a means of crafting your compositions to become a physical cause in the universe. Are you, for example, certain that what you have created will, in fact, inspire action resulting in increases in the rate of growth of humanity’s relative potential population-density? Or put more simply, along with Friedrich Schiller: “Will your audience become better people as a result of experiencing your work?”

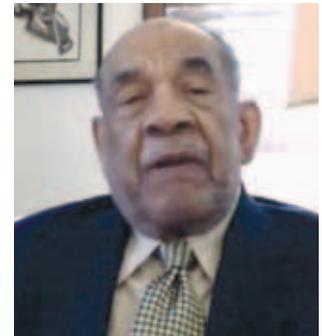
Dr. Willis Patterson, professor emeritus of voice, and former associate dean of the University of Michigan’s School of Music, Theater and Dance, spoke “On the Universality of the Folk Song, or the Presence of Classical Music in Folk Music.” The folk song can provide clarity, relief, and the need for improvement in the comfort and understanding of and with each other, especially in these perilous times.

Dr. Patterson said that Negro Spiritual-derived



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John Sigerson



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Dr. Willis Patterson

music, such as blues, soul, and gospel music, with its tradition of improvisation and creativity, is America’s “Classical music.” He gave a personal account as to how, as a young black man growing up, his knowledge of the history of slavery, discrimination, and segregation in America (and other so-called “developed countries” of the world) deepened and grew, through his mastery of Spirituals and work songs. His character and confidence grew with his artistic expression, informed by the suffering that affected him and many of his contemporaries. His appreciation and expertise in singing German *Lieder* also increased, and spoke to him with the same soulfulness of the Spiritual.

He urged the increased international appreciation of different cultures’ folk music—to express the ideas of Friedrich Schiller’s “Ode to Joy.”

Aesthetics Transform Politics

Teng Ji Meng, Professor of American Studies at Beijing Foreign Studies University, began his presentation by discussing a letter sent by China’s President Xi Jinping to eight professors teaching Chinese aesthetics at the Central Academy of Fine Arts, in which Xi emphasized several important notions, the two most important being Virtue and Art, but also including patriotism and altruism.

In China, Professor Teng said, this aesthetic education, particularly the emphasis on Virtue, has been very deeply rooted in the Chinese school curriculum, from primary schools to the universities.

By Virtue is meant having the ability and the skill-set to communicate, to be compassionate, and to love one’s people. And, by Art is meant the art of meaningful connection of people with their community, their ruler, and the world beyond.

Another important value, he said, is that of Altruism. China has expressed this in its relations with other



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Teng Ji Meng

nations: In the 1960s, China was already exporting food, medical teams, and engineers to many countries in Africa, which helped to mitigate the spread of malaria and to build up infrastructure like railroads.

China has also been committed to the Confucian principle of saving lives, especially in giving deep respect to the elderly, and in healing people afflicted with the coronavirus as quickly as possible.

Professor Teng concluded by reiterating that these Confucian ideals translate into contemporary Chinese politics, and into President Xi's commitment to a world in which we work together for the commonly shared future of all mankind.

Diane Sare and Leah deGruchy

Diane Sare, founder of the Schiller Institute NYC [Chorus](#), and Leah deGruchy, wrapped up this wide-ranging panel with a presentation “On the Employment of Chorus in Politics.”

What is the nature of government? If we are a government “of the people,” then why doesn't our government function properly? And what is the standard for “functioning properly”? What has happened to our understanding of who we are as human beings, that individuals feel alienated from mankind, and that they have lost their sense of the relationship of mankind to the Universe? We must begin by looking at the shortcomings within ourselves.

To address these questions, deGruchy presented a novel and insightful analysis of the famous scene from William Shakespeare's *The Merchant of Venice*, in which Shylock demands his “pound of flesh” in payment for a bond. Portia enters the scene, as the Classic Chorus, in her soliloquy, “The quality of mercy is not strained...” (both in Act 4, Scene 1). This challenges the audience to resolve a horrific *legal* demand of a penalty of a “pound of flesh” from a higher principle.

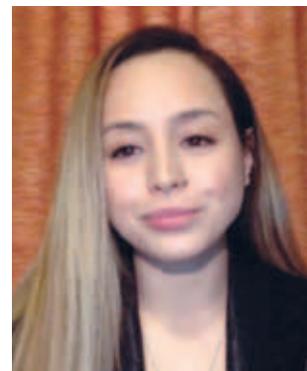
This notion of a higher principle, Sare followed up, is found in Schiller's concept of the role of the Chorus in great drama: It must transport us from the actual, to the possible. The Chorus can lift us up above the deeply tragic and emotional dramas played out daily with the deaths and suffering from the coronavirus, so that the mind is still free to act, and not simply react or become overwhelmed.

This notion was intertwined with the concept of mercy in a beautiful and profound way: that one cannot expect mercy without giving it; that in asking for mercy, we show the most profound strength—a strength which is often confused with weakness, namely humility.



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Leah deGruchy

Through humility, we learn patience and compassion for the failings of ourselves, and of our fellow man; and in extending mercy, we uplift those around us to be better than their destiny.

In the musical Chorus, such as in Beethoven's masses, we see the development of an idea through the dialogue between the chorus and soloists. To assist in invoking the quality of mercy in the participant, the mass begins with “Kyrie eleison”—“Lord, have mercy!”

In conclusion, Sare asserted that we must be able to bring this beauty to audiences, thereby enabling them to participate in the immortality of mankind, if we are to overcome the current crises.

The Future

A Greeting was received from Gregory Hopkins, tenor and music director of the Harlem Opera Theater and a long-time collaborator of the Schiller Institute. He recounted some of his personal history, and how Schiller had both enriched his life and his sense of identity as an artist. He concluded by identifying the elevation of the Spiritual as the root of all American music.

In her closing remarks, Helga Zepp-LaRouche urged each and all to try something new, to try addressing another person's creative mentality, and work to bring out what is best in that person. You must never just react to someone with, “Oh, I can't stand that person,” rather, you have to transform your emotions toward a higher degree of *agapē*, of love for what is really human in the individual. She told the audience, “Therefore, I think the question of *agapē*—and mercy is a derivative of *agapē*—is something one can decide. I just would like to leave it at that; we can debate it at some other time. But I'm absolutely certain that if we want to make a cultural renaissance, we have to turn on our *agapē*.”

APRIL 27, 1987

Art As Science: The Case of Music

by Lyndon H. LaRouche, Jr.

The editors of EIR are happy to publish here, for the first time, an article by Mr. LaRouche written on April 27, 1987 as part of a series of articles on the same subject. On October 6, 1986 there had been a massive raid on EIR's office and Mr. LaRouche's residence by the very same forces that are today involved in an ongoing coup attempt against President Trump. Mr. LaRouche was then targeted for elimination by the British Empire forces that had deemed LaRouche's collaboration with President Reagan on the Strategic Defense Initiative (SDI) intolerable.

In western Europe and the Americas during this century to date, what is widely accepted as "modern" and "popular" art, is consistently nothing but ugly rubbish, painting, music and poetry most emphatically so. In part, this state of affairs is symptomatic of civilization's growing decadence, and symptomatic also of the importance which a decadent culture's art-forms attribute to the trivial and to the novelty of the merely eccentric. This state of affairs it not merely a reflection of the unwholesome spirit of recent times. It is also a consequence of modernism's virtual extinguishing of the principles of composition known to the Classical painters, poets, and composers, a suppression dating since, most notably, the introduction of the irrationalist fad known as Romanticism, beginning the 1815–1849 period.

In this memorandum, we restate, as summary, what we have discussed on several earlier occasions, one aspect of modernism's suppression of knowledge of

Classical art, what was done to Classical music. We shall attempt to show, we hope, more effectively than earlier, that the issues go far beyond the issue of music as such, touching upon the most profound questions of morality and scientific method.

To show those uninformed of the fact, that such an arbitrary, politically decreed change in musical standards did occur, the simplest illustration with which to begin the exposition, is reference to imposed changes in pitch, and then continue from that to some closely related matters.

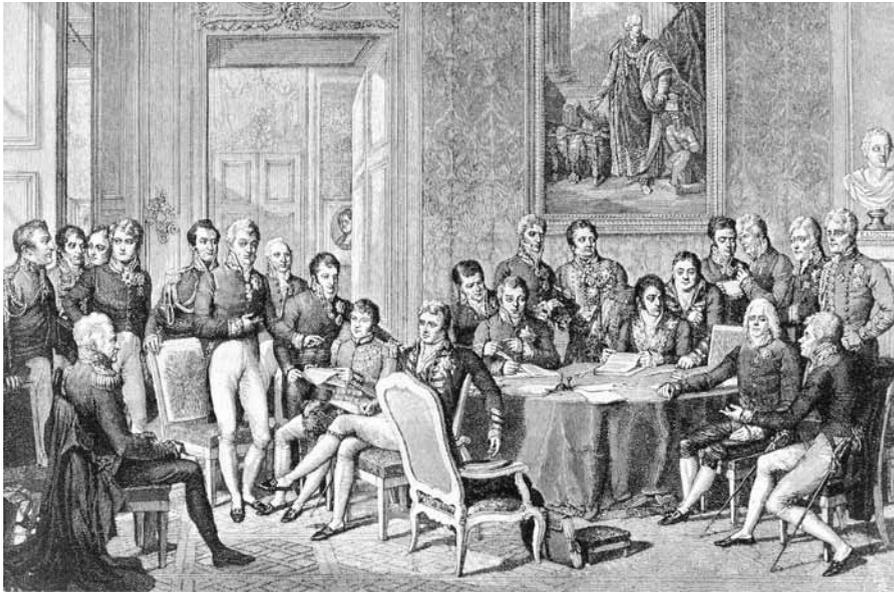


Portrait by Elias Gottlob Haussmann, 1748
Johann Sebastian Bach (1685-1750)



Portrait by Joseph Karl Stieler, 1820
Ludwig van Beethoven (1770-1827)

It is clear from a combination of evidence, that the principal Classical composers, from J.S. Bach through Beethoven and beyond, based their compositions either on a well-tempered scale, or an equal-tempered rough approximation, in which the value of A above middle-C was approximated at some frequency between 427 and 432 cycles per second. The musical instruments constructed during the eighteenth and early nineteenth centuries demonstrate this; the songs written by these com-



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The 1814-15 Congress of Vienna determined the shape of Europe after Napoleon's defeat at Waterloo. A contemporary engraving by Jean Godefroy, after a painting by Jean-Baptist Isabey.

posers contain crucial internal evidence which is even more conclusive to this effect.

During the proceedings of the 1815 Congress of Vienna, the effort was made to impose the British, higher pitch of the Russian Czar's military bands upon western Europe. About 1849 onward, the construction of keyboard and wind instruments was altered, to enforce a higher pitch. A higher pitch was politically enforced by the Austro-Hungarian Empire beginning 1885, and a number of other radical alterations in conception of singing were introduced early during the present century. Also, during the latter half of the nineteenth century, a false definition of the musical scale and pitch were introduced from Britain, chiefly by aid of the hoaxster Wilhelm Helmholtz, together with an attempt to eliminate the principles of beautiful singing extant since no later than the fifteenth-century Golden Renaissance.

Gradually, these politically motivated changes in

sians, once again, and by their Cini Foundation accomplices at Venice's San Giorgio Maggiore.

The controversies involved did not begin in 1815, nor was Classical composition crushed out of existence by 1849. Although professional butchers perform



CC/Wolfgang Moroder

The Benedictines of Venice's San Giorgio Maggiore have consistently been sworn enemies of truth and beauty in music, and sworn enemies of Saint Augustine.

Chopin, Schumann, and Brahms as "Romantics," these persons were Classical composers in a way which absolutely distinguishes their methods of composition, and required approach to performance, from the contrary approach of a Berlioz, Liszt, Wagner, *et al.* (Similarly, some academic fanatics even insist that Heinrich Heine was a Romantic poet, although Heine's writings define him as the most knowledgeable and ruthless opponent of Romanticism and its method.) The special significance of the way in which Romanticism was imposed, politically, top-down, upon all of Europe over the course of the nineteenth century, is that this involved a determined and concerted effort to destroy even the memory of the

musical values and methods, those introduced first by the Romantics, and those later by the Modernists, were imposed upon performers by a well-organized musical "mafia" controlling the concert halls. The music schools bent to the political and economic pressures. The absurdities arbitrarily imposed upon concert performance and teaching were drilled into successive generations of music students, each generation more ignorant than the last of the knowledge essential to competent performance of the Classical masters. Today, standard pitch is being moved from an already distorted A=440, imposed on music politically earlier, to musically impossible heights of an A=450, as demanded by the Rus-

most elementary principles of Classical musical composition and performance.

Today, that effort has largely succeeded, if not yet entirely. With diminishing numbers of exceptions, the rudiments of Classical musical knowledge are vanishing among the ranks of professionals, and the audience for Classical musical culture has all but disappeared, relative enough to the state of affairs two decades ago.

Admittedly, the effort was not entirely successful. A minority among gifted performers, mastering the original editions of Classical scores, without Romantic and Modern editings (or, Arturo Toscanini's hoaxes), have reproduced the original with great power and insight, sometimes after decades of reworking their repertoires in search of a true performance of the composer's intent. Yet, in the main, the musical schools and run-of-the-mill professional musicians today, know nothing of the most elementary principles of music, although the conceit in their laboriously acquired ignorance is seemingly limitless.

For various reasons, the leaders of musical development in Europe during the late eighteenth and early nineteenth centuries, were Italians and Germans, with Germans becoming dominant for special historical reasons. So, the attempt to eradicate Classical musical composition was launched chiefly from inside Germany. Two key political figures of Germany were the leaders of this assault, Immanuel Kant and Berlin law professor Friedrich Carl von Savigny. Kant's *Critique of Judgment* was the launching-point for the destruction of all Classical art; Savigny carried Kant's beginning to its limit, and provided the political rationale used to crush Classical art almost from existence.

The influence of handed-down frauds, as putatively professional musicianship, cannot be combatted merely by introducing afresh what has been suppressed. Credulous professional musicians and others will automatically reject the truth, because they have committed so much of their personal identity to a miseducation in the matter. The miseducated will not begin to learn, until they are not merely made aware of the monstrousness of the frauds they accept as authority, but until they are so much disgusted by the knowledge of how they have been miseducated, that they are motivated by a deep



Fra Luca Pacioli (c. 1477-1517)

Painting attributed to Jacopo de' Barbari, 1495

sense of shame to correct this error. Thus, without showing them that they are mere dupes of hoaxes set afoot by Kant and Savigny, most notably, no improvement among most contemporary musicians were likely to occur.

However, before turning to Kant's and Savigny's roles in destroying Classical art, we must step back a moment, to identify what it was that these two scoundrels sought to destroy.

The Science of Aesthetics

Since no later than Classical Athens, the idea of beauty in art, whether in architecture, sculpture, or music, was associated with the recognition that living processes were characterized by a different harmonic ordering in their forms than non-living ones. It was also recognized, that the harmonic orderings of form of living processes were consistent with certain constructions based on the circle. The unified design of the Athens Acropolis as a whole, and the elaboration of the principles of musical harmony in Plato's *Timaeus* dialogue, are illustrations of this.

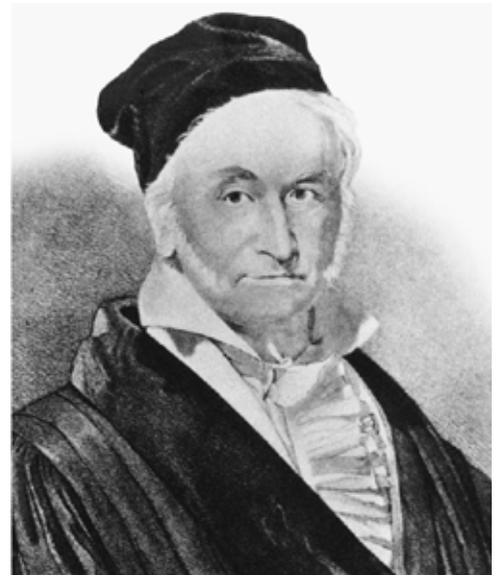
The essence of aesthetics is, that life is beautiful and death is ugly. The discovery that living processes have distinctive harmonic orderings of form, distinct from non-living ones, is the fundamental principle of Classical aesthetics in all forms of art.



Nicholas of Cusa (1401-1464)



Johannes Kepler (1571-1630)



Carl Gauss (1777-1855)

This conception of Classical aesthetics was radiated throughout medieval Europe through the influence of the writings of St. Augustine, shaping aesthetics in music, in the plastic arts, and in the composition of poetry. France's great cathedral at Chartres is an example of this. The sonnets of Petrarch are another example of this. Europe's adoption of the octave well-tempered musical scale is a consequence of the latter's concurrence with Augustine's influence.

These principles of Classical aesthetics were most richly developed in Italy during the Golden Renaissance, with Leonardo da Vinci and his great successor Raphael the dominant figures for modern reference. Leonardo's principal collaborator during the Milan period, Fra Luca Pacioli, was crucial for Leonardo's advances in Classical aesthetics. Pacioli reconstructed the proof of the uniqueness of the five regular, platonic polyhedra, reported in Plato's *Timaeus*. Pacioli, Leonardo, and their collaborators demonstrated conclusively, on the basis of Pacioli's reconstruction of that geometric proof, that all living processes were characterized by an harmonic ordering of form congruent with the Golden Section of the circle.

With one qualification, this harmonic characteristic of living processes holds true today. Except in the very, very large (astrophysics) and the very, very small (microphysics), any process whose form is harmonically ordered in congruence with the Golden Section, is either a living process itself, or is something constructed by a living process. The well-tempered musical scale is so harmonically ordered.

The conclusive proof that the well-tempered scale is the only natural scale for music, was supplied by the founder of modern mathematical physics, Johannes Kepler. Although Kepler studied music in Italy, and was familiar with as much musical principle as was known at that time, his proof of the unique naturalness of the well-tempered scale was based on astrophysics, rather than music as such. We shall come soon enough to the decisive bearing of this fact on the nineteenth-century efforts to destroy Classical musical composition.

Kepler's calculations are not perfect ones. It was not until the work of Carl Gauss, during the first half of the nineteenth century, that our mathematical physics was developed sufficiently, both to prove conclusively that Kepler had been correct in every principle of his hypothesis, and to enable us to understand the calculations more precisely. As a first approximation, Kepler's physics was correct, whereas the contrary physics of all of his detractors, such as Galileo, Descartes, and Newton, was absurd on all points of difference with Kepler.

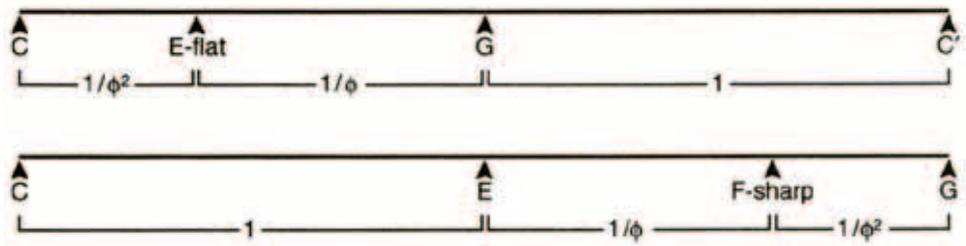
Kepler started from several major discoveries in physics and theology by Leonardo's major predecessor, Nicholas of Cusa. This included Cusa's solution to the problem of Archimedes' efforts at quadrature of the circle, and Cusa's formulation of the solar hypothesis adopted as a starting-point by Kepler. Kepler incorporated the crucial discoveries of Pacioli and Leonardo, including the continuation of aspects of Leonardo's work by Albrecht Dürer. From this standpoint, Kepler

considered the mass of astronomical data, and said, in effect: For this to make sense, there must be a definite, lawful ordering in the composition of the solar system which these observations must fit. He formed the hypothesis, that the planetary orbits of the Solar System were harmonically ordered in a manner congruent with the Golden Section.

The stunningly conclusive empirical proof of the correctness of Kepler’s solar hypothesis was discovered by the young Carl Gauss at the turn of the nineteenth century. Kepler’s construction of the planetary orbits required an inherently unstable planetary orbit lying between the orbits of Mars and Jupiter. Kepler supplied the orbital harmonic values for this missing planet. Gauss proved that the asteroid Pallas, then just discovered, conformed to Kepler’s harmonic values for the missing planet, suggesting that the asteroids are the rubble of a demolished planet with those harmonic orbital values, or, wandering material which had been entrapped in such an orbit.

The fact that a scientific hypothesis not only measures the lawful ordering of known objects with highly significant accuracy, but also proves the necessary former existence of something not known, and that this necessary existence is later discovered, having the prescribed values, is of the nature of the strongest kind of proof possible in scientific work.

For example, in the mathematical-physics method of a Galileo, Descartes, Newton, Laplace, or Maxwell, it were impossible to have shown that such an orbit of a missing planet must necessarily have existed. This by itself is sufficient to prove, that although the mathematical method of these latter might be able to describe some features among observed astrophysical phenomena, that method is capable only of description of such phenomena, and is incapable of defining the lawful principles underlying such events. So, Gauss’s discovery that the new astronomical object, Pallas, was an asteroid of Kepler’s missing-planet orbit, not only discredited totally the contrary opinions of Galileo, Descartes, and Newton, but also proved that their method can tell us nothing, beyond mere partial description, of the lawful ordering of the universe. Des-



The frequency values of these two basic series of musical tones are ordered according to the Golden Section.

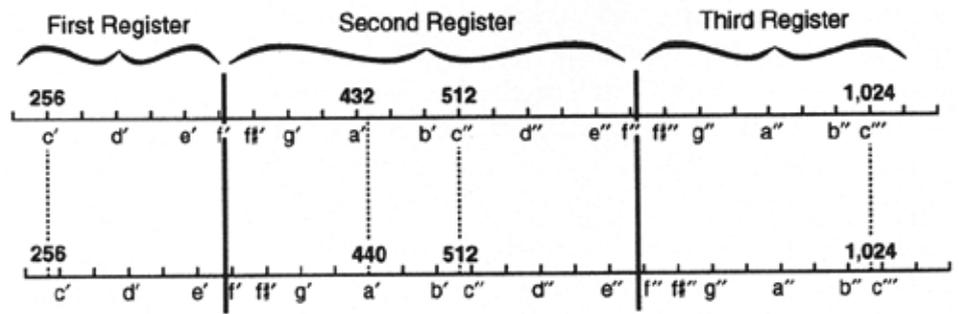
cartes’ and Newton’s method itself was thus proven empirically to be intrinsically unscientific.

The main line of development of German eighteenth and nineteenth century mathematics, is traced from Leonardo and Kepler, through Desargues, Fermat, Pascal, and Leibniz, through the 1794–1814 French École Polytechnique and the nineteenth-century collaborators and successors of Gauss. (The contrary line of development is essentially Descartes, Newton, Laplace, Cauchy, *et al.*, through Clausius, Kelvin, Helmholtz, Maxwell, *et al.*) We need only consider here the line leading into Gauss. It was on the basis of this line, and of the extended influence of Kepler’s work, that the well-tempered system of J. S. Bach was established.

As Kepler emphasized and elaborated repeatedly, the natural musical scale is based on the harmonic ordering which permeates and governs the laws of astrophysics. These are laws of the type established by Kepler, and not the supposed laws of a Cartesian discrete manifold. For example, Helmholtz demonstrates his utter incompetence, when he insists on the direct opposite. Whereas Kepler proved, in fact, that the laws of astrophysics are the same as those harmonic laws governing living processes, Helmholtz insisted that the “natural” musical scale is one derived from the rectilinear pseudo-harmonics of non-living objects. Helmholtz’s scale might be consoling to such deluded rocks as might imagine themselves to be the self-evidently existing highest species of the universe, but only the well-tempered scale accords with the lawful ordering of the universe.

The fuller musical implications of this could not be adequately understood until Gauss enabled us to begin to understand the physical reasons for the shift of register in the soprano voice, in passing from F to F-sharp in a well-tempered scale with A at between such approximate values as 427 and 432. To understand what this empirical fact means, we must master Gauss’s elabora-

tion of the arithmetic-geometric mean. The practical significance of the role of the arithmetic-geometric mean in soprano register-passage, is first, that the physics of the well-tempered scale requires that this occur at precisely that place in the scale; conversely, the well-tempered scale is properly set to fit F-sharp to that soprano register-shift.



At $A = 432$ or below (top scale), the soprano register shift occurs between F and F#; at $A = 440$ or above (bottom scale), it is forced downward to between E and F, thus changing the musical meaning of a Classical song in a way contrary to the composer's intention.

The relative significance of middle-C, is that none of the note-intervals between middle-C and C above middle-C are defined in terms of powers of 2. Although there is an attempt to do this in using the equal-tempered scale as a rough approximation for well-tempered, the equal-tempered and well-tempered intervals are not the same. Agreed, the corresponding notes in different octaves are nominally simple multiples of one another, but the absolute values of all of those tones are values of complex functions, whereas only the C's of the octaves are definable as values of linear functions (i.e., correspond to ephemeral values at which the "imaginary" component of the variable is ostensibly zeroed).

Voice-singing is the basis for all Classical musical composition, and the conceptual basis for instrumental performance. Instruments were designed to fit the well-tempered requirements and register-passage of the human singing voice, taking into account such facts, as that it is impossible to sing a Classical song or choral work correctly at $A=440$, and absolutely not at $A=450$ —at least not without torturing and prematurely ruining the singer's voice. Faced with $A=440$, the soprano would naturally pass on the F, rather than the F-sharp, thus changing the musical meaning of a Classical song in a way contrary to the composer's intention.

When the F-sharp soprano passage was allowed, and not allowed, at various points in the history of European music, is not yet determined satisfactorily. Some medieval superstition cooked up the notion that the C/F-sharp interval was "the devil's interval," and that interval was therefore something that neck-wary composers and performers might wish to avoid. The composer so influenced would be obliged, reaching the F, to leap over the F-sharp, to reach the soprano's second register on the G, for example. (Mozart was apparently

the one to free music from the last vestiges of the influence of such horror of "the devil's interval.") Such shibboleths are what they are, and their unfortunate history has no bearing on the appropriateness of the musical-scientific significance of the F-sharp passing.

The Classical composer's song, in particular, is written in such a way, that each note lies within a definite singing register for the chosen singer (soprano, tenor, alto, baritone, bass), such as below, on, or above the F-sharp for the soprano. Thus, we cannot transpose such a song arbitrarily from one key to the next, without destroying the song's performance in most cases. The way in which a voice-register shift divides a completed thematic statement (musical equivalent of a poetic line or couplet), is an integral musical part of that statement. To shift key-signature freely, by transposition, in one case out of ten, changes the location of that division of the thematic statement, such that it is not the same thematic statement as the original.

True, we can transpose from the soprano to baritone voice, such that the baritone singer's thematic statement divides the statement in the same way as the soprano's, but in a different key. However, this, although satisfactory for the baritone's own part, imposes errors upon the part of the keyboard instrumental or orchestral accompaniment.

The conventions of Classical composition, including choice of key-signature, are derived from this feature of composing for the human singing voice. Apart from the important distinction between minor and major keys, the leading significance of a composer's choice of key-signature, is that it represents a different division of the thematic statements in respect to singing-voice registration than were the composition quoted in C major or C minor.

This carried over into construction of eighteenth

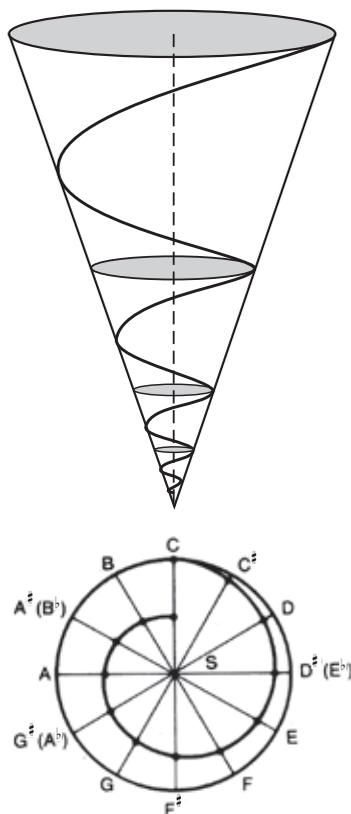
and early nineteenth century keyboard instruments, which tended to be built to shift register in congruence with the singing voice, and so forth and so on. The point stressed, is that instrumental composition was based on the implications of singing-voice register. This is significant to such effect, that orchestral performances of Mozart and Beethoven cannot be accomplished with strict musical competence using modern instruments. The same is true for keyboard performances of Mozart, Beethoven, Schubert, Chopin, Mendelssohn, Schumann, *et al.* Their keyboard compositions were written for the characteristics, including those of registration, of the instruments for which they composed, such as the fortepiano. The modern pianoforte intentionally eliminates those characteristics, to such degree that muscular tricks and otherwise

exotic procedures might be employed in a not really successful attempt to replicate the composer's intent.

Before turning to Kant and Romanticism, one additional point should be stressed.

The unit event in musical composition, is not the individual tone, but rather the intervals connecting tones. The musical aspect of a composition lies between the notes, not on them. What the performer must do with the individual tones, is to construct the interval associated with those tones in the intended fashion.

It is a related point, that, strictly speaking, instrumental and orchestral chords do not exist in music, at least not as self-evident species of isolated events. Did you ever know a singer who could sing a chord, except as an arpeggio? A chord is a chorus of individual voices, which defines implicitly a corresponding number of singing voices in the composition. It is the intervals defined by the progression of the singing voices which is primary, and the existence of a particular chord merely something which reflects such movements of intervals



A self-similar, or logarithmic spiral on a cone, projected onto the cone's base. The result is a mapping of the well-tempered, twelve-tone musical scale.

among the voices of the chorale.

A contrary view has been fostered, by aid of emphasis upon a musical misunderstanding of the pianoforte, and the delusion that what might thus be demonstrated from the standpoint of the misguided instrumentalist, is an adequate standpoint from which to demonstrate musical principles empirically. Contrary to popular impression, keyboard instruments are to be played as either orchestras, chamber ensembles, or choruses, or some combination of these. To do this requires much more physical skill, as well as musical insight, than is displayed by the "Klitschklinger," but such are the penalties of becoming a serious keyboard performer.

All these musical considerations have a precise, electrodynamic significance in Gaussian physics. Gaussian physics is based on geometrical constructions

rooted in a conic self-similar-spiral form of action. For example, one octave corresponds to a single complete turn of the spiral around the cone. So, if we draw the proper choice of line along the side of the spiral, this will intersect all of the C's, another the D's, and so on.

Construct a self-similar spiral on a cone. At 360 degrees of rotation of the spiral around the cone, mark a point, and draw a line along the outer surface of the cone, from the apex through this point. All the tones which lie upon the intersection of this line with the spiral, are C's of the relevant octave. Now, locate the complex-value points of the F and F♯, and proceed similarly for each. Using the same method, as for the octave, define the E-flat, and, relative to the G, the E. And so on.

The result is the well-tempered, twelve-tone scale. All musical tones lie precisely on these values, and none possible in between. In other words, if one defines the audible spectrum, from approximately 16 cycles upward, we have the following result. At each point a

well-tempered tone appears in this spectrum as a whole, there is a spike in the graph. These spikes, like discontinuities in the continuum of continuously rising frequencies, have the mathematical-physics character of true physical singularities in Gauss-Riemann physical space-time. Musically, these spikes correspond to the spectroscopy of singing and hearing a well-tempered scale.

This spectroscopy, and other, related considerations, warn us that the teaching of an absolute, “perfect” well-tempered scale to young children, through solfège without the atrocity of “movable do,” ought to be regarded as an essential part of developing their musical intelligence. Placing the unique value of an interval, uniquely identified, in the mind, is so important a part of musical intelligence, that musical aptitude must be impaired without this training. It is to be stressed, that the comprehension of readily recognizable intervals, relative to a fixed absolute value of C, in this way, is the objective to be attained.

All harmonic intervals are thus represented by angles of rotation of the spiral, in moving from one note of the interval to the next. These representations are physically valid ones, which have a definite significance in Gaussian electrodynamics. This is most agreeable, since we know that sound is propagated electro-dynamically rather than in the usual sense of acoustics, but that is a subject in its own right.

Beauty, as Classical aesthetics since ancient Athens has defined it, is of forms rigorously defined by the fundamental, Keplerian laws of astrophysics, provided we qualify this by stating that Kepler provides the first approximation of this. So, the elementary principles of music, such as the well-tempered scale, and the notion of interval as primary, rather than individual tone, are absolute truths of the universe, which existed before the first musician other than the Creator Himself—putatively the stone-age composer, Ugh Wa Hoo.

This also signifies, that there are certain principles of musical composition which could not be violated, without making the result a relatively depraved or outrightly ugly one. This is no bar to creative originality in musical composition, as the traceable line of development from Bach, into the later compositions of Mozart, and the internal development within the successive phases of composing by Beethoven, suffice to illustrate the point. However, there is never anything arbitrary separating an innovation from the preceding level of

compositional practice. The lawfulness of music not only permits, but demands creative progress; however, each such innovation is shown to be a valid one as it enlarges the scope of musical laws without purporting to invalidate any of them.

As a matter of illustration of this point. Near the end of his life, J. S. Bach composed his *Musical Offering*, which became the point of reference for a series of Classical composers after him, notably Mozart, Beethoven, Schubert, and Chopin. This topic, as it appears in an ordered succession in the relevant compositions of Bach, Mozart, Beethoven, Schubert, and Chopin, describes a line of development, a series of successive musical discoveries based on Bach’s *Musical Offering* as the point of origin. All such works return to and reaffirm the original conception of Bach, which is provably a central conception of lawfulness of the twenty-four key well-tempered system. Yet, new dimensions of lawfulness are elaborated, as creative scientific discoveries, along the pathway.

This is what Kant set out to destroy.

The Philosophy of I. Kant

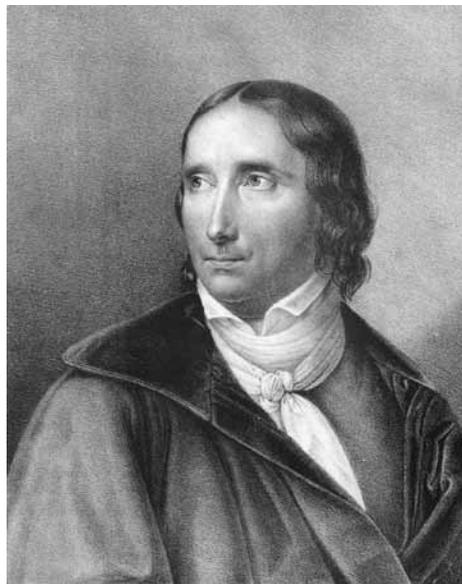
In his *Critique of Judgment*, Kant makes two principal, interrelated assertions. First, that the process by which the human mind effects original scientific discoveries, is not a kind of ordered process knowable to the conscious human mind. Second, for kindred reasons, Kant asserts that there are no knowable principles governing the ordering of creative artistic composition, which might be knowable to the conscious human mind. To this second point, Kant appends the axiom of nineteenth-century German Romanticism, that there are no rational criteria of truth or beauty in aesthetics, that what is deemed pleasurable in aesthetics is, from the standpoint of scientific method, an arbitrary whim of the *Zeitgeist*—“If art is popular with those social strata which are putatively the arbiters of good taste, it is true art for that time.”

This was later carried to an extreme by Hegel’s accomplice at Berlin, professor of law F. Carl Savigny.

Savigny is significant in law on three counts. First, that he adopted Roman imperial law, and demanded the eradication of the natural law traditional to western European civilization since St. Augustine, the natural law upon which the U.S. Declaration of Independence and Federal Constitution were premised. Second, he reconciled the model of Roman Law with the arbitrary hedon-



Steel engraving by J.L. Raab, 1781, after a painting by Döbler



Immanuel Kant's assertion that there are no knowable principles governing the ordering of creative artistic composition, and therefore no rational criteria of truth or beauty in aesthetics, was later carried to the extreme by F. Carl Savigny (right).

nistic irrationalism of the Franco-Swiss Romanticism of Rousseau, Robespierre, de Stael, *et al.*, then being introduced to Germany. Third, Savigny has been the single most influential influence in corrupting the law practice of western Europe and the Americas over the course of the past century and a half.

In that context, Savigny decreed that in art, religion, and statecraft, no rational principle corresponding to the notion of science was tolerable. Hence, he decreed the hermetic separation of *Naturwissenschaft* (natural science) from *Geisteswissenschaft* (matters pertaining to human nature).

Before continuing with Savigny's dogmas and their influence on art, we must interpolate some observations on this separation of natural science from the study of human behavior. There are two aspects of this to be considered. The first is more readily accessible to the reader; the second is more profound.

Human existence has two empirical aspects, the existence of the individual within society, and the existence of society in the large over successive generations. To sort this out, we must begin with the existence of society, and then locate the individual within society. This suffices to demonstrate how the laws of natural science measure the behavior of the human mind.

The existence of society over successive generations, is a matter of the difference between successful

reproduction of that society, and failure. Successful existence of society is immediately a matter of production of those physical changes in the state of nature essential to successful maintenance of present and later generations. This cannot be successful for very long without technological progress. All societies which have systematically avoided technological progress, such as the two Roman empires, western and eastern, have undergone an internal collapse of production and population-levels, leading to their collapse and even, in some cases, to extended periods of cultural

degeneracy of the survivors, as in the instance of degenerated societies often mistakenly called "primitive."

Man acts upon nature so, and nature responds so. This cause-effect relationship is a matter of physical laws. So, the question of human behavior becomes a matter of the appropriateness of the development of policies and thought of societies to the physical laws to which the success of society's reproduction of itself is subject. A process of development of opinion, which is out of correspondence with this implication of physical laws, defines an insane society, which must be so judged by these objective standards.

The question of the relative sanity or insanity of entire societies, so situated, is a question of its culture, the way the society thinks, and reaches policy-decisions governing its practice. How the society behaves in every respect, is a reflection of those same criteria of judgment employed to develop policies pertaining to the society's biological reproduction over successive generations. It is those same criteria of judgment which determine the society's preferences in such included matters as jurisprudence, structure of political institutions, and art.

The actual development of society, as scientific and technological progress illustrate such development, originates in the creative mental powers of the individual member of society. Although the society fosters the development of such individual potentialities, and pre-

conditions the means upon which individual creative activity draws, the act of creativity is an individual's action. So, the creative individual is indispensable to the successfully perpetuated existence of society, and the creative individual's development is dependent upon the society and its development in the large.

So, the macrocosm, the society in the large, and the microcosm, the individual member of the society, are interrelated to form a single subsuming function. So, the larger macrocosm, the universe, is interdependent with the relative microcosm, the society, and so also the individual with the universe. So, the microcosm, the current state of the universe, is interrelated to the macrocosm, the subsuming, continuing process of creation, and so the individual with the continuing process of creation.

Just as the society's behavioral dispositions must be appropriate to the physical function upon which depends the society's biological existence, so the individual's contribution is dependent upon the same kind of sanity which the society as a whole requires. If the underlying assumptions of individual judgment are skewed relative to physical laws, as Kepler implicitly defines the proper meaning of "physical law," then the individual is relatively insane. The development of society depends upon the production of sane individuals, who are sane in this specific sense.

Hence, the attempt to separate *Naturwissenschaft* from *Geisteswissenschaft* is not merely absurd, but morally insane and destructive of the society. The very idea of effecting such a separation, as a prevailing policy of practice in the society, dooms that society to extinction if such a recommendation is continued for long enough.

Contrary to the delusions of many, the human mind cannot be neatly separated into departments such as music, personal life, science, public policy, and so forth. The human mind is a unity, such that the ontological and methodological assumptions affecting one facet of experience permeate all. If these ontological and methodological assumptions are defective, even though the victim be more or less unaware of the existence of such assumptions, the entire mind is defective. One cannot be defective in musical disposition, without this being reflected in various ways in all aspects of one's personal behavior.

Hence, if one's view of something so intimate as music is an irrationalist one, then one's view of everything is tainted by a specific color of insanity.

This brings us to the more profound consideration, bearing on the proper definition of "physical science." Here, we address the core of the issue between the eighteenth-century Christian theologians and the so-called "materialist enlightenment." Is the fault, that the "materialists" purported to explain everything "scientifically," as poorly informed theologians have argued, or is the fault that the Cartesian standpoint in scientific work is not only fatally flawed, but contrary in implications to the requirements of a sane society?

For most people, the name of "mathematical physics" today is associated with a kind of deductive logic analogous to what used to be the commonplace, school-book Euclidean geometry taught in secondary schools. A system of axioms and postulates is adopted, and everything else in that logical system is constructed by means of formal-logical deduction. Taught higher mathematics, and mathematical physics today, are strictly derivatives of that kind of formal-logical deduction. Insofar as Kant or Savigny might assert that that sort of mathematical physics was incompetent respecting subjects of human behavior, the assertion appears to be a defensible one.

The notion of physics accessible to such a deductive form of mathematics is a derivative of the system of Descartes. This is known to Classical scientific literature as the representation of the physical universe as contained entirely within a "Cartesian manifold." Or, we are more likely to say today, a "discrete manifold." In a "discrete manifold," the existence of either living processes or the astrophysics of Kepler, is impossible. Since mathematicians do exist as living processes, their mere existence suffices to prove the incompetence of their advocacy of such methods in mathematical physics.

The question of the functional relationship of physical science to *Geisteswissenschaft*, is a matter of defining physical science's method in an adequate way, a way free of the axiomatic absurdities of formal-logical deduction and the "discrete manifold." We must proceed as Kepler did, to premise the fundamental laws of the universe on the elementary empirical fact that living processes, including mankind, exist within that universe.

Therein we see the gross error of assumption underlying the Cartesian "Enlightenment."

The really existing universe requires a kind of mathematics opposite to the formal deductive method. This needed mathematics is that of Cusa, Leonardo, Kepler,

Leibniz, and Gauss. This is a mathematics based on a “non-Euclidean geometry,” a geometry which prohibits use of axioms, postulates, and formal-deductive method. This is called variously a “synthetic geometry” or a “constructive geometry.” For emphasis, we might say, a “radically constructive geometry,” prohibiting methods borrowed from formal-logical deduction or any other consideration external to a self-contained process of derivation solely by construction, starting with circular (isoperimetric) action as the only self-evident form of physical existence.

Circular (isoperimetric) action is not a sufficiently developed notion of circular action. Action does not occur within Euclidean space, but rather in a matter-space-time continuum, such that neither matter, space, nor time can be meaningful conceived apart from inseparable unity with the other two. The fact that development occurs in the universe, suffices to demonstrate that the universe is expanding in this sense. Thus, the least action occurring in a matter-space-time continuum is, rather than simply circular isoperimetric least action, of the form of an expanding conic, self-similar-spiral action, in which the measure of “action” is development.

The characteristic projection of such conic self-similar spiral action upon the discrete manifold of ordinary perception is harmonic orderings congruent with the Golden Section. So, from the standpoint of Kant’s avowed adversary, Gauss, we understand Kepler’s hypothesis in the proper frame of reference today.

The conflict between the Cartesian and Gaussian forms of mathematical physics is commonly expressed by the formalist’s insistence that the universe as a whole is entropic, winding down in the sense of a mechanical time-piece. In the physics of Kepler and Gauss-Riemann, the universe is elementarily negentropic, developing to ever higher ordered states of existence, as well-tempered Classical polyphony demonstrates such a principle of the human creative mental faculties.

The source of this difference is not physical evidence as such. The source is two opposing interpretations of the physical evidence, the effect of superimposing either the formal-deductive or constructive-geometric forms of mathematical comprehension upon the way in which the physical evidence is selected, arranged, and represented. The argument that the physical evidence suggests universal entropy, is not based on the physical evidence as such, but the deductive mathematician’s

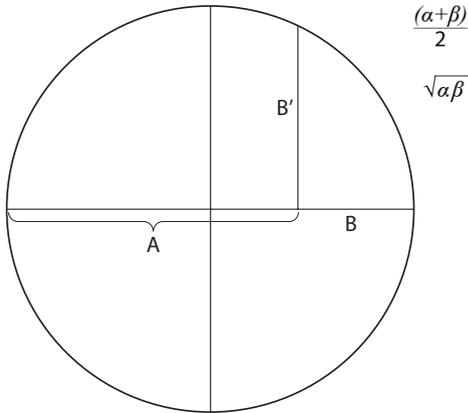
misrepresentation of that evidence.

Commonly, when this observation is presented, someone asks, “Explain that to me.” It soon appears, that what is requested is the explanation of a synthetic-geometrical proof by construction in the language and methodology of a formal deductive mathematics! The habit of thinking that proof must be clear in terms of reference of a deductive analysis of the discrete manifold, is so strongly conditioned that even once the falsity of the deductive method is conclusively demonstrated, the former university student demands that that be proven within the range of terms allowed by—deductive analysis of the discrete manifold!

Perhaps, it is impossible for all but the rarest few to grasp the methodological implications of such refutations of deductive method, until they themselves have reworked their mathematics education, by working their way through Kepler, and accompanying this with progress to the rudiments of Gauss’s mathematics by way of working through texts such as Jacob Steiner’s (elementary) *Synthetic Geometry*. Their proper response should be, not “Explain this to me,” in deductive terms, as they usually do, but rather, “What program of study must I go through, to clear the cobwebs of deductive thinking from my habits of thought?”

In matters of logic, Savigny was a slob. The fact that the fanatically deductive Kant is the source of formal authority for the assertions of Hegel and Savigny, comes to our assistance. Kant’s premise for denying that an ordering of creative discovery is knowable to human consciousness, is nothing more than the fact that negentropy does not exist in any possible deductive representation of a discrete manifold.

Contrary to Kant’s cited first assertion, from the *Critique of Judgment*, it is possible to be conscious of an ordered process of reasoning underlying every valid sort of creative discovery. This is demonstrated by Bernhard Riemann’s extension of Gaussian mathematics of physical space-time, as is already indicated as to principle, although only in a preliminary way there, in Riemann’s 1854 “On The Hypotheses Which Underlie Geometry.” We have already indicated here, as in various locations published earlier, that the rigorous determination of aesthetical values, as to form, is subsumed by the Gauss-Riemann mathematics of physical space-time, as the Golden Section’s generation of a characteristic of living processes images in the discrete visual field is determined in this way.



All living processes are characterized by an harmonic ordering of growth congruent with the Golden Section. Shown right: A cross-section of a nautilus shell.

The problem is, that our educational systems have failed to make clear the fact that what we see as visual space, is not the real universe, but only a projection of that real universe on a three-dimensional screen. So, inadequately educated persons demand that the definitions of laws of the physical universe be limited to explaining how one mere shadow of reality causes changes in another mere shadow of reality. This is to stress, that what we ought to mean by “laws of the universe” do not lie within the mere shadow-world of sense-perception, but in the higher world which generates as reality what our senses see as mere shadows.

There is more. Insofar as we think of laws as something like the so-called Laws of Newton, or even a merely algebraic interpretation of Kepler’s Laws, these kinds of apparent laws are not permanent, but are themselves subject to change. The real laws of the universe are those which govern which possible changes in locally apparent laws may occur. We sometimes describe this higher order of ontological reality, and its higher laws, as the “transfinite.”

This higher domain of Gauss-Riemann physical space-time is not a mystical, merely abstract existence. Rather, it is the primary location of what is ontologically real; it is the world of inadequately educated persons’ sense-certainty, which is the merely abstract, the mere shadow-world. However, it is necessary to develop one’s mind in an adequate degree, in the proper direction, to be able to comprehend this, as one learns to comprehend anything worth learning.

Thus, what we have identified as the specific, characteristic feature of the incompetence of deductive

physics is the sophistry, mere cant employed by Kant *et al.* to say “I can’t” think creatively. On this profession of Kant’s own incompetence in physics, hangs the entirety of Savigny’s dogma of hermetic separation of *Naturwissenschaft* from *Geisteswissenschaft*.

Although most musicologists are as ignorant of Kant’s and Savigny’s specific influence, as the poor savage is of the

nature of the cholera infection he is suffering, the professional musician’s ignorance of the connection does not make the infection less infectious, less disastrous, less real.

It was out of Kant’s and Savigny’s influence, that political actions were taken to cause the spread of the Romantic fads in music, including the shift in pitch from C=256 to the Russian unmusicalities of A placed between 440 and 450. From this source came the delusion so popular among professionally miseducated musicians today, that the principles of music are limited to what modern opinion sees as passed down within the hermetic framework of “art for art’s sake,” “music as a secretion peculiar to professional musicians,” or the insanity of the search for “absolute music.”

In place of rationality in aesthetics, Kant substituted the irrationality of changes in popular tastes. Savigny generalized this for all aspects of *Geisteswissenschaft*, to locate the authority for legal opinion in a capricious *Volkgeist* (popular opinion), a more brutishly irrationalist form of Hegel’s *Weltgeist*. To be more precise, Savigny located the discernment of the current moods of the *Volkgeist* as a faculty of the arbiters of popular opinion. In effect, in art, some current fad is a new form of art, superseding earlier standards of composition and performance, merely because the arbiters of popular taste decree it to be in vogue.

Once this rabid irrationalism is tolerated, the study of music is degraded to efforts to define common threads among Classical composition and the sundry Romanticist and Modernist fads which had been heaped like manure upon the Classical since the po-

litically motivated ukases of the 1815 Congress of Vienna. That which implies that Wagner is intrinsically bad, as Classical standards require such judgment, is said by some to be “wrong,” because Wagnerian Romanticism was decreed among the accepted phases of the *Volkgeist*’s tastes in music. A=440 is acceptable, because prevailing taste accepts it. A=450 is also acceptable if musical taste decree this, too. Voice register is outlawed, if the arbiters say that register does not exist, but merely resonance. And so on and so forth.

This reached its natural culmination in the Nazi doctrine of *Volkgeist*, the “Triumph of the Racial Will,” itself a direct copy of Dostoevsky’s dogma of the collective Russian will of those of the “sacred blood and soil of Holy Mother Russia.” It is naturally the dogma of fascists, as Arturo Toscanini was in musical fact, and of Russians and Marxists generally. What is called preferred musicological dogma today, is simply fascism, as Heinrich Heine foresaw the fascistic implications of Kantian influence in his own *Religion and Philosophy in Germany*.

It is notable that this same *Volkgeist* dogma is the essential feature of the existentialism of Nazi sympathizers Carl Jung, Martin Heidegger, and Karl Jaspers,

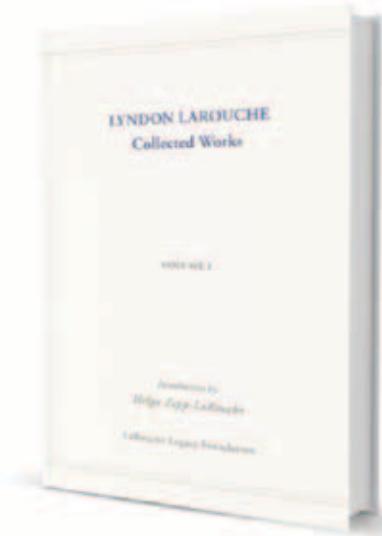
as expressed by the anti-Catholic heresy of Tübingen’s late Karl Rahner and the “Liberation Theology” movement. The radicals’ preference for the horizontal “people’s church” of totalitarian Nicaragua, over the “verticalism” of the Papal leadership of the bishops, is precisely the same thing as Kant and Savigny—and both Stalin and Hitler, who differed essentially only racially, in that the one was a Georgian super-Muscovite and the latter an Austrian theosophist.

Nonetheless, although the greater part of musical theory taught in professional schools today, is mere brutish irrationalism designed to confuse and thus destroy the minds of the music student, the fact that this indoctrination is consistent with the intrinsic irrationalism of Liberalism generally, and American pragmatism more immediately, is cause for the credulous music student to find nothing wrong in the irrational dogmas of the academic instructor. Irrationalism of this sort, has been made to seem “common sense,” and thus the student is insensible of the fact he is being subjected to a hoax when he encounters the same kinds of explication in the teaching of musicology.

Such is the moral depravity and anti-scientific irrationalism which has come to be generally tolerated in this decadent age.

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