

EIR

Executive Intelligence Review

November 21, 2014 Vol. 41 No. 46 www.larouchepub.com \$10.00

Science Drivers To Promote the Common Aims of Mankind
The Untold Story of 9/11: Veterans Day with Bob Graham
Integrating the Nile Basin with Modern Transport

**China at APEC: West Should
Join Us on the New Silk Road**



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EIR (ISSN 0273-6314) is published weekly

(50 issues), by EIR News Service, Inc.,

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

(703) 777-9451

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#40683579

Postmaster: Send all address changes to EIR, P.O.

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

EIR

From the Editors

Although the media in the trans-Atlantic world is doing its best to suppress the news, writes Helga Zepp-LaRouche in our *Cover Story*, “the world has fundamentally changed in the past three weeks.”

China and the other BRICS countries have been forging ahead, since their summit in Brazil in July, putting together a new world economic order that prioritizes the common aims of sovereign nations, especially the development of infrastructure and science. The BRICS interventions continued at the Asia Pacific Economic Cooperation (APEC) forum in Beijing during the first week of November, and the G20 summit in Brisbane, Australia, on Nov. 15-16. The Western media portrayed Russia’s President Putin was “an isolated figure,” perhaps intimidated by such affronts as host Australian Prime Minister Tony Abbott’s threat to “shirtfront” him (Abbott apparently remembered that Putin has a black belt in judo, and restrained himself). But as our cover photo shows, the real news was no such isolation of Putin, but the new moves by the BRICS that we report in this issue.

Chinese President Xi Jinping’s emphasis on the “inclusiveness” of his New Silk Road policy and the institutions the BRICS countries are putting into place is vividly illustrated in our *Feature*, “Integrating the Nile Basin with Modern Transport.” Hussein Askary and Dean Andromidas provide a blueprint of Africa’s requirements for a triad of infrastructure: road, rail, and maritime transport. The legacy of Africa’s colonial past—railroads that go only from the mines to the ports to expedite imperial looting—is finally beginning to be overcome, with China playing a leading role.

Our *Science* section addresses the energy and infrastructure requirements of the 21st Century, with speeches from the Schiller Institute’s Oct. 18-19 conference in Frankfurt on “The New Silk Road and the New Paradigm for Mankind.” Speakers from the United States, China, Germany, and Malaysia pointed to the solutions for mankind’s energy requirements, through fission and fusion power.

The key missing element is support from the United States for these development policies. In *International* we document the aggressive actions by Obama and his NATO allies to encircle Russia and China militarily, to block the emerging new world order. But there are new signs of fight: In *National* we report on domestic opposition to Obama’s unconstitutional war policy in Iraq and Syria,

Cover This Week

Leaders of the five BRICS nations—Putin (Russia), Modi (India), Rousseff (Brazil), Xi (China), Zuma (South Africa)—join hands at the G20 summit in Brisbane.



Press Information Bureau of India

4 China at APEC: West Should Join Us on the New Silk Road

By Helga Zepp-LaRouche. The rapid pace of positive change in the world, since the July summit of the BRICS countries in Brazil, took another qualitative step forward at the summit of the Asia Pacific Economic Cooperation (APEC) forum last week in Beijing. Chinese President Xi Jinping's agenda not only dominated the dynamics of the summit; at the G20 summit in Brisbane, Australia, on Nov. 15-16, the new leading role of the BRICS countries is also in sharp contrast with the outdated model of trans-Atlantic member states, including President Obama's promotion of geopolitical confrontation.

5 One Man's Collapse...

Undoubtedly, today's top news was that the Chinese economy collapsed!

7 LaRouchePAC Webcast: Global Sea-Change

An excerpt from the Nov. 14 webcast, featuring a review of recent economic initiatives by the BRICS countries.

National

9 A 'Symbiotic Pathology' Threatens U.S. Survival

Sen. Tim Kaine (D-Va.), in a Nov. 12 speech in Washington, identified a "symbiotic pathology between Executive overreach and Congressional abdication," over the question of the constitutional authority to declare war.

12 The Untold Story of 9/11: A Veterans Day Luncheon with Senator Bob Graham

Senator Graham was the featured speaker at a Veterans Day event in Naples, Fla., where he was joined by leaders of the 9/11 families, *Broward Bulldog* editor Dan Christensen, and constitutional attorney Tom Julin.

15 Release the 28 Pages, Expose Saudi 9/11 Role

An interview with former Sen. Bob Graham, co-chair of the Congressional Joint Inquiry into 9/11.

18 New York City Schiller Celebration Challenges U.S. 'Wall' of Pessimism

The Schiller Institute held a celebration Nov. 8-9, commemorating the three-fold occasion of the 25th anniversary of the Fall of the Berlin Wall, the 255th birthday of Friedrich Schiller, and the 30th anniversary year of the Schiller Institute.

20 Ramsey Clark: If You Are Marching, You Better Be Singing'

International**22 Exposing the Big Lie:
U.S., NATO Maneuvers
Show Intention for
Global War**

While the Western media scream about Russia's and China's alleged provocations for war with the West, U.S. and NATO military maneuvers over the past month reflect just the opposite. It is the West, dominated by British geopolitical thinking, that is preparing for war, even nuclear war.

Feature**24 Integrating the Nile
Basin with Modern
Transport**

The fourth and final part of a series by Hussein Askary and Dean Andromidas on the Nile Basin and East Africa, aimed at showing the tremendous potential for peace and prosperity in Africa, and also that the shovels are now in the ground, and beginning construction of great projects, for the first time in decades.

Science**38 Science Drivers To
Promote the Common
Aims of Mankind**

This concludes our publication of selected speeches from the Schiller Institute's Oct. 18-19 "New Silk Road" conference in Frankfurt, Germany.

**39 Jason Ross: Lunar
Helium-3 for a Fusion-
Powered Future**

Jason Ross works in the United States with the LaRouchePAC Science Team.

**47 Wangsou Wu: Nuclear
Power and the New Silk
Road**

Dr. Wu is Dean of the School of Nuclear Science & Technology at Lanzhou University, China.

**50 Toni Kästner:
Germany's Next Fifty
Years**

Toni Kästner is the chairman of the Fusion Energy Foundation in Essen, Germany.

**53 Chandra Muzaffar: A
Greeting from Malaysia**

Chandra Muzaffar is the president of the International Movement for a Just World in Malaysia.

Editorial**55 China's Gift to
Mankind**

China at APEC: West Should Join Us on the New Silk Road

by Helga Zepp-LaRouche

Nov. 14—The rapid pace with which the world has changed positively since the summit of the BRICS countries in July in Brazil took another qualitative step forward at the summit of the Asia Pacific Economic Cooperation (APEC) forum last week in Beijing. Xi Jinping's agenda not only dominated the dynamics of the APEC summit; at the G20 summit in Brisbane, Australia, on Nov. 15-16, the new leading role of the BRICS countries (Brazil, Russia, India, China, and South Africa) will also contrast with the outdated model of trans-Atlantic member states.

President Obama's economic strategy, which had just caused a resounding electoral defeat for the Democrats in the mid-term elections, had actually been that the Trans-Pacific Partnership (TPP), which excludes China, would dominate the APEC summit, and the Chinese version, the Free Trade Agreement for Asia and the Pacific (FTAAP), which would be open to all, would not even be discussed at the summit, and neither would the Asian Infrastructure Investment Bank (AIIB) or the New Silk Road. Instead it was the inclusive FTAAP—which even the by-no-means pro-Chinese Peterson Institute in the United States had referred to as the superior model—that turned out to be much more attractive to the APEC states.

What China is offering with its various economic initiatives—the New Silk Road; the Maritime Silk Road; the Silk Road Development Fund, for which it has put up \$40 billion in capital; \$20 billion more in loans at low interest rates, which China extended during the subsequent ASEAN conference in Myanmar for

projects of the Maritime Silk Road; and above all, the increased economic integration of the BRICS countries, and their cooperation in high-technology areas such as nuclear energy and aerospace—all this has far outstripped the U.S. policy, which offers nothing more than to be the “partner” that forces increased military spending for geostrategic alliances, and a policy in the interests of the banks.

A Public Offer

At the final press conference given by Xi Jinping and Obama, China's President demonstrated that his inclusive policies for the benefit of all are a much better approach than Obama's policy of geopolitical confrontation. Xi simply urged the United States to participate in the AIIB and the Silk Road Fund, because both are inclusive concepts. Xi said:

“I also introduced to President Obama China's initiatives of establishing the Asia Infrastructure Investment Bank and the Silk Road Fund. How to develop infrastructure is the main bottleneck obstructing economic development. China has initiated the AIIB to offer support and facility to regional infrastructure development. These proposals and initiatives are open and inclusive in Asia; they are not exclusive. We welcome the active participation of the United States and other relevant countries, so that together we can promote and share prosperity and peace in the Asia Pacific. We recognize the positive actions both have taken in helping African countries.”

President Obama's answer is still awaited.

For their part, the Western media, in political lock-step, have concealed the large number of positive initiatives, and instead has indulged in hallucinatory coverage that deliberately deceives their readers and viewers about the supposedly imminent economic collapse of the BRICS countries. (See box.)

The Russia-China-India Partnership

Through the course of the APEC summit, the Presidents of Russia and China further consolidated their strategic partnership. Putin and Xi are fully agreed, ac-

cording to unimpeachable sources, that they will pursue their war-avoidance policy with absolute determination. Far from being isolated by Western sanctions, Russia's relationships have deepened, especially with China and India, to the best ever.

The comprehensive agreement between Russia and China last May, including the 30-year gas and pipeline agreement, is being extended. Putin announced in a TASS interview immediately before the G20 summit, that during his recent visit to China, the Rosneft oil company reached an agreement to extend a 10% stake in the Vankor oilfield project to a major Chinese com-

One Man's Collapse...

Nov. 13—Undoubtedly, today's top news was that the Chinese economy collapsed!

Bloomberg News, CNBC-TV, Reuters, and others, could not contain their passions regarding this spectacular development. As Miguel de Cervantes once famously (and ironically) showed, anyone who fails to see this dramatic collapse must be a Jew or a Converso. Look closely at the figures the Chinese authorities had to admit today, and surely you'll see it:

Factory production in China rose 7.7% from a year earlier, through October. U.S. factory production, through September, rose 3.3% in a year; and in Europe, industrial production was 0.5% higher in September than in the previous September.

Retail sales are up only 11.5% for the year to date in China—when everyone had expected 11.6%!—compared to a robust 3.8% in the United States and 2.3% in Japan.

Fixed capital investment in China grew from January to October, by a very disappointing 15.9%—again, we all had expected 16.0%. In the U.S. economy, the corresponding “capex,” or capital expenditures, rose by 3.4% in the year to September. And Europe—poor Europe! Everyone knows the banks there just won't lend businesses any money, so how can they make capital investments? It's not fair to include them in the comparison. For the record, though, it's 1.0%.

China's electricity output grew by 2.0% in the year through October. In the United States that mea-

sure has fallen by about 0.5% in each of the past four years.

GDP in China is growing at about a 7.4% annual rate in 2014, with some gloomy forecasts putting it as low as a shocking 7.0% in 2015; U.S. GDP, by contrast, is aiming to surge above 3% growth in 2014, for the first time in four years. And Europe—we'll find out tomorrow, but Europe, having grown by 0.2% in the second quarter, is hoping not to join Japan in a “triple-dip” contraction.

Economic infrastructure investment—this is the true sign of how bad the crisis is in China—they're increasing it willy-nilly in a desperate attempt to stave off collapse. China's domestic infrastructure investment will be roughly the equivalent of \$1.1 trillion this year, and over \$1.2 trillion when “out-bound” foreign infrastructure projects are included. Figures for Europe are not readily available, but Germany, for example, has had a total net infrastructure investment below zero for a decade.

The United States is following the “very slow but steady” course of about \$225 billion/year for infrastructure, but China, in a panic, is really goosing it. As Bloomberg describes their plight: “Since October, the NDRC [National Development and Reform Commission], has been actively approving infrastructure projects, which is a clear attempt to stabilize growth. The NDRC, China's top economic planning body, accelerated approvals for \$113 billion of infrastructure projects, China National Radio reported last week. The 21 projects, including 16 railways and five airports, were approved between Oct. 16 and Nov. 5.”

—Paul Gallagher

pany. The Chinese were given seats on the corporation's management, and there will be joint marketing of oil—in the Chinese currency, the yuan. China also provide financing for other projects, in rubles and yuan, rather than in dollars.

The historically already close relationship between Russia and India is developing no less intensively. The scheduled visit of Putin to India in December is being prepared by Deputy Prime Minister Dmitri Rogozin, under the name “Strategic Vision Agreement,” and it will include cooperation in space, large industrial projects in India, the expansion of nuclear energy, the aviation industry, and a free-trade agreement between India and the Eurasian Customs Union. Both sides stressed that the Russian-Indian relationship is carved in stone.

At the third German-Indian investment forum in Berlin Nov. 12-13, representatives of the Modi presented to the astonished audience the Indian Prime Minister's plan to create 1 million new jobs *per month* over the next ten years (!), to keep his campaign promises to the voters, of whom 80% were under 25 years of age; they are young and optimistic, and want to hone their skills so as to advance their nation.

Modi's staff has already selected 100 locations where, with the agreement of the residents, 100 modern cities (!) will be built, with modern infrastructure connections, water, electricity, schools, medical centers, etc., which will be part of a certain division of labor where some will specialize as transportation hubs, others as chemical factories, research laboratories, or agro-industrial complexes. All of these new cities would be linked to one another by high-speed rail, highways, and interstate infrastructure projects, offering dozens of millions of people a way out of their current poverty.

The whole country, and especially the young generation, is totally thrilled with the Indian space program, including the Mars program. Modi plans to host many working groups and scientific competitions to involve students and school children in tackling the challenges.

The misguided pessimists who believe they could force Russia to its knees by sanctions have, on the contrary, helped to strengthen the Russia-China-India strategic triangle. Furthermore, the BRICS countries' orientation toward development and scientific optimism has become a magnet for many other developing countries. The evil intention has boomeranged, and it is a nice irony in that this should all become clear in Australia, where the Queen is head of state, of all places.

Europe Begins To Stir

Meanwhile, in Europe there is an underground revolution underway. On the surface, everything seems just as it was before: German Chancellor Angela Merkel, French President François Hollande, and Italian Prime Minister Matteo Renzi are completely on board with the dangerous game against Russia being played by President Obama, British Prime Minister David Cameron, NATO, and the EU. They continue their support for the government in Kiev, which is riddled with Nazis, and the continued provocations against Russia could draw the continent into a war of annihilation. This is despite the fact that German industry, for example, is finding it much more difficult to replace its lost trade with Russia—if it finds such replacements at all—than Russia is finding it to replace its German partner.

But slowly—hopefully not too slowly—voices are being heard that point to the madness of the current policy of confrontation. Such different representatives of the old guard as [former German Foreign Minister Hans-Dietrich] Genscher, [former Soviet President Mikhail] Gorbachov, and Henry Kissinger are demanding a restart of policy towards Russia. Former French Prime Minister Jean-Pierre Raffarin, currently, the main coordinator of Franco-Chinese relations, said it even more positively: It is completely wrong not to participate in the large Chinese project that concerns us directly, the New Silk Road Economic Belt, which, by the way, ends in Lyon, France.

Raffarin just returned from a week-long visit to China, where he met with President Xi and participated in a very successful trade forum. Thus a French-China economic forum scheduled for Dec. 3-5 will be held in a positive climate of Franco-Chinese relations.

A Fundamental Change

Although the conformist media and imperial satraps are desperately trying to suppress it, the world has fundamentally changed in the past three weeks. Obama is not only to blame for the disastrous defeat of the Democrats; his arrogant intransigence has stoked the anger of both Democrats and Republicans, to the point that the question of impeachment is a constant topic of discussion. If he makes good on his promise to try to bypass Congress on the immigration issue by an Executive decree, this could be the last straw for the Republicans.

Military leadership circles are in barely concealed resistance to almost all Obama's ventures, and are con-

vinced that he is not only the worst President in the history of the United States, but that the incompetence of his closest staff members even makes the Presidency of Jimmy Carter shine in a golden light. For the Democrats, the Rubicon to impeachment may be crossed if Obama refuses to remove Valerie Jarrett and her clique of interventionists in the near future.

The BRICS, and most of the APEC countries, have long ago drawn their conclusions that Obama's star has already sunk, and are therefore organizing a new system of economic cooperation on the basis of a completely new paradigm, namely the interest and welfare of all. Everything—world peace, our future, and the very existence of mankind—will depend, on persuading the United States and the nations in Europe, in a timely manner, to respond to the offer of Xi Jinping, who has urged all nations to participate in the New Silk Road and the new credit system of the AIIB.

After the not-surprising embarrassments of Jean-Claude Juncker, the new president of the European Commission, we have had it up to here with the EU and its “values.”

Translated from German by Susan Welsh

LaRouchePAC Webcast

A Global Sea-Change

The regular Friday [LaRouchePAC](#) on Nov. 14 featured this review by EIR's Dennis Small of recent economic developments involving the BRICS countries (Brazil, Russia, India, China, South Africa) and their allies. Lyndon LaRouche had characterized these as “a global sea-change,” away from the bankrupt trans-Atlantic financial system. Here is an excerpt from Small's remarks.

There are so many developments over the course of this week, that it's almost hard to keep track of them. And I would like to make a wager with most of you viewers out there, that you will not have even *heard* of most of the things that I'm about to tell you. And *that* should raise some serious questions in your mind. Maybe that has something to do with the stinking pessimism that Mr. LaRouche referred to, as being a continuing, ongoing problem in this country.

That's one prefatory remark. The second prefatory remark I'd like to make is, we need to cut through a little bit on the alphabet soup here. You have the TPP, you have the FTAAP, you have the AIIB, and people throw these things around like, “Well, the TPP of Obama is really sort of just like the FTAAP of the Chinese, it's just a couple of letters re-arranged,” like a Scrabble game or something like that. That is *not* what's involved here.

Obama's Trans-Pacific Partnership (TPP) is classic British free-trade genocide. It's using and wielding their control over a speculative financial system, to destroy the entire planet. Forget the acronyms—that's their policy. The FTAAP—the Free Trade Agreement of Asia Pacific—is an entirely contrary policy. It's a policy designed around a credit system, an American System-type credit system, where huge volumes of credit are issued, not for speculation, not for legalizing drugs, not for the purpose of gambling casinos, not for derivatives, not for all of this insanity—but rather for actual infrastructure development ... for the kind of science-driver, as in China's lunar project, which is the most essential thing, the most crucial thing for actually driving an economy forward. *Classic American System economics*, coming from China. And *certainly* not coming from the Obama White House.

Let me give you another quote, this one from Chinese President Xi Jinping, as to what China's intention was, their thinking, around the APEC meeting. He said, “We must create APEC as a platform for building a system of integration, a policy platform for increasing our mutual exchanges, a platform for preventing the rise of protectionism and for deepening our technical collaboration, and a platform for advancing our mutual cooperation.” And in another set of remarks, he said, “The development prospect of our region hinges on the decisions and actions we take today. We are duty-bound to create and fulfill an Asia-Pacific dream for our people. That dream is about staying ahead of global development and making a greater contribution to the well-being of mankind.”

So this is clearly conceived as a policy for all of mankind.

Now, with that overview, let's quickly run through some of the developments that occurred over the course of this last week, and you might begin to get an inkling of why Mr. LaRouche is saying there is a global sea-change underway.

1. At the APEC meeting, China announced an additional \$40 billion fund for the New Silk Road, available for all the countries participating in it.

2. China announced that they would be tripling their direct foreign investment abroad, up through the year 2020—that's only six years from now—to bring the total to \$1.25 trillion. In other words, they're investing in other countries, as well.

3. At the ASEAN meeting, which followed a day or two after the APEC meeting, China announced that they were providing another \$20 billion for the New Silk Road, this time for ASEAN and related nations.

4. China and Russia announced at the APEC meeting, a second major gas pipeline deal. They announced also, cooperation around controlling flooding of the Amur River, and a hydroelectric project related to that. And they also announced that they were discussing cooperating on space travel; in particular, the Chinese invited the Russian cosmonauts to visit the space station which the Chinese are in the process of developing, and the Russians in turn invited the Chinese taikonauts up to the International Space Station.

There's a little problem here, however, which is that since the United States under Obama refuses to have anything to do with China, Chinese taikonauts will not be able to go to the American part of the International Space Station, but only to the Russian part! But since the United States under Obama has also destroyed any ability to get up there or get back, we're simply writing ourselves out of what the forefront of scientific knowledge of humanity is, up to and until we get Obama out of the White House.

5. On the general prospect of Chinese-Russian relations, the President of Rosneft [oil company], Igor Sechin, said the following: "Everything that is happening in the direction of cooperation with the People's Republic of China is of strategic importance. We must step up our cooperation with China in all possible directions."

6. A very prominent Russian politician, from the Rodina Party, involved in scientific work in Russia, a gentleman by the name of Mikhail Delyagin, gave a presentation where he said that the Russian Duma needs to adopt "something analogous to the Glass-Steagall law" in the United States. In other words, there are people in Russia who are actively discussing the need for a kind of reform in that country, of the kind which Franklin Delano Roosevelt, in 1933, brought to the

United States, and the kind of law which is needed today if the United States is to be saved from the speculative cancer.

7. China and South Korea at the APEC meeting signed a free-trade agreement. So South Korea is cooperating.

8. China and Australia plan to sign such a free-trade agreement next week.

9. China and Japan are breaking through many of their tensions; there was meeting between President Xi and Japanese Prime Minister Shinzo Abe. There's much more to be done on that front, but there's progress being made.

10. China-Philippines. There was a meeting between President Xi and [President Benigno] Aquino. Again, difficulties between the two countries, but resolving them in the interest of cooperation and development.

I think you're getting the idea. China and Thailand, backing the Free Trade Agreement for the Asia-Pacific. China and Indonesia: Indonesia's joining the Asian Infrastructure Investment Bank (AIIB). China and New Zealand: New Zealand, of all countries, part of the British Commonwealth—they want to join the AIIB, too. They know which way the wind is blowing. Russia and Iran, building eight new nuclear plants [in Iran]. India, through a spokesman in Germany, announced that India under Modi plans to create—listen to this—*1 million new jobs per month, for the next ten years...*

Turning to the Americas. Chile, absolutely on board with China's FTAAP; China is their number-one trading partner. Peru, also part of APEC; President Ollanta Humala on his way back from the APEC meeting, stopped in Russia, signed deals with the Russians for, among other things, help in constructing a major tunnel for rail to get from one side of the Andes to the other. And finally, Mexico, which had a lot of difficulties on this front over the course of the last week, having cancelled at the last minute a deal for railroads with China, nonetheless, Mexican President Enrique Peña Nieto did meet with Xi Jinping when he was in China. They signed 14 agreements for \$7.4 billion, including \$5 billion from China for development of energy in Mexico.

So that's just a sampling of the kind of process that happened over the last week, in the part of the world economy that's moving forward.

A ‘Symbiotic Pathology’ Threatens U.S. Survival

by Nancy Spannaus

Nov. 17—“A symbiotic pathology between Executive overreach and Congressional abdication,” identified by Sen. Tim Kaine (D-Va.) in a Nov. 12 speech at the Woodrow Wilson Center in Washington, D.C., threatens to destroy the United States in the very short term. Specifically, this symbiosis is leading toward a lethal escalation of the Obama Administration’s war in South-west Asia, as well as confrontation with Russia and China; both policies could result in nuclear war.

The pathological players are the lawless, narcissistic President Obama, on the one side, and the pro-war fascist wing dominating the Republican Party, on the other. The only hope for the United States, and the world, is that a grouping of American patriots comes forward to dump *both* these players, and restore constitutional government and principles in the country. Under such conditions, the United States could be brought into an alliance with the anti-war, pro-development global coalition being led by the BRICS nations, and a lasting war avoidance policy based on cooperation around high-technology development could be put in place.

The War in Iraq and Syria

The U.S. policy and deployment in Iraq and Syria, in the war against the Islamic State (IS/ISIS/ISIL), is one of the major items on Congress’s agenda during the current lame duck session. President Obama himself, on the day after the election, announced his intention to send an additional 1,500 troops to Iraq, bringing the total number to 3,000 in his current illegal, undeclared

war. A bill authorizing expenditures of \$5 billion for this deployment is expected to be submitted by the Administration.

What is not clear, however, is whether the Administration intends to submit an Authorization for Use of Military Force (AUMF) for the war in Iraq and Syria during the lame duck session. During a hearing at the House Armed Services Committee on Nov. 13, Secretary of Defense Chuck Hagel said he didn’t know specifically whether the White House was going to send up an AUMF for Congressional approval. In fact, there is every reason to believe that Obama—relying on the insane pro-war sentiment that dominates the Republican Party majority in both Houses of the new Congress—will wait until the new Congress convenes on Jan. 3, 2015, as House Speaker John Boehner has called for.

Should he wait for the new Congress, Obama could count on warhawk Republicans such as Senators John McCain (R-Ariz.) and Lindsey Graham (R-S.C.), as the Republicans will take control over the Senate. Both have excoriated the President for failing to pursue an even more rabid policy of regime change globally, not only with Syria, but also against nuclear power Russia.

There are ongoing discussions between Congress and the President on what to do about an AUMF and the course of the war. Several resolutions have previously been introduced into the Congress, calling for authorization of the use of force, with varying restrictions. What has *not* been done, despite an overwhelming vote July 25 by Congress that Obama should “not deploy or



Sen. Tim Kaine: When Congress doesn't debate, "you not only violate the Constitution, but you force people to risk their lives without a consensus that the mission is in the national interest." Rep. Walter Jones asked Defense Secretary Hagel and JCS Chairman Dempsey to provide written opinions on how the war would end and what the U.S. hopes to accomplish. Rep. John Garamendi: "Bottom line here is the obligation that we have under the Constitution to declare war."



maintain United States armed forces in a sustained combat role in Iraq without specific statutory authorization for such use," is to challenge the President on his defiance of that vote—his ongoing war deployment in Iraq and Syria.

That deployment is, in fact, an impeachable offense.

Voices of Sanity

Yet precious few Republicans, many of whom are willing to talk about impeachment, are raising their voices against expanding the Iraq war policy. In the lead is Sen. Rand Paul (R-Ky.), who has declared unequivocally that "this war is now illegal," and demanded that Congress fulfill its duty to act. On the House side, the lead voice is Rep. Walter Jones (R-N.C.), who co-sponsored the July 25 resolution, and has opposed the Executive branch's usurpation, by both Republican and Democratic Presidents, of Congress's constitutional responsibility to declare war.

Representative Jones took a slightly different tack in his questioning of Secretary of Defense Hagel and Chairman of the Joint Chiefs of Staff Gen. Martin Dempsey at the Nov. 13 House hearing referenced above. He characterized President Obama's strategy in Iraq as resembling that of then-Secretary of Defense Donald Rumsfeld in 2002-03, in that it got the U.S. into a war that wasn't nec-

essary (and also under false pretenses—ed.). Jones also reminded Hagel that, as a Senator, Hagel had opposed Rumsfeld's war in 2002, and also the "surge" in 2007.

After citing James Madison on the exclusive authority of Congress to declare, and judge the causes of, war, Jones went on to say that he hopes Congress "will look seriously at what is our responsibility."

Then Jones asked Hagel and Dempsey to provide, in written statements for the record, their opinions

on how this war would end and what end the U.S. hopes to accomplish. "Please explain to the American people and to this Congress how this war is going to end someday, whether we are advisors or we're fighting. And I hope to God we're not fighting, and I hope we do not give the President a new AUMF," Jones said.

"But this, again, looks like we're going down the same road that Secretary Donald Rumsfeld told us we had to do, we *had* to do, and yet we had no end point to that as well."

No Legal Authority for War

Barack Obama, even more flagrantly than George W. Bush, claims that he can launch war on his own authority, and has done so repeatedly—from Libya, to Syria, and even to Russia, which he has attacked through sanctions and supporting "color revolutions"—against all standards of international law.

Apparently believing that an illegal war started by a Democratic President is more acceptable than an illegal war started by a Republican one, the Democratic Party has generally given Obama a free ride. The only other explanation of its behavior is cowardice.

Senator Kaine, however, has become increasingly outspoken against the President, with whom he previously had a close relationship. Kaine's Nov. 13 speech

at the Wilson Center featured a sharp attack on both the President's unconstitutional war in Iraq, and the deadly abstention by Congress on the issues of war and peace.

After describing the constitutional requirement and the legal importance of Congress—not the President—deciding whether to commit the nation to war, Kaine said that in his view, “from about mid-August to now, there has not been legal authority that is sufficient to authorize this mission.... We have been engaged in a war that is not about imminent defense of the United States, without legal authority ... there is currently no legal authority to support the action against ISIL unless and until Congress comes in, has the debate, and votes. That's why I've introduced a resolution in the short term. We should deal with it right away.”

Kaine then went into his discussion of the “symbiotic pathology between Executive overreach and Congressional abdication that has put us in a situation where Presidents like President Obama—and you can go all the way back—are more prone to start things unilaterally, without Congress.”

“How dare we,” Kaine said, “ask people to risk [their lives and sanity in war] if we're not willing to do our job to have a debate in front of the American public and then put our thumb-print on the mission and say, ‘This is in the national interest’? What, we're afraid of having that debate? We don't want to say it's in the national interest, but still go risk your life? That seems to me to be the height of public immorality.... What could you do that would be more publicly immoral than ordering people to risk their lives without having a discussion about whether the mission is worth it or not? That's what's really at stake, and, when you don't have Congress have the debate, you not only violate the Constitution, but you force people to risk their lives without a consensus that the mission is in the national interest.”

During the question-and-answer period at the Wilson Center, Kaine intimated that, if Congress did not get a vote on the war authorization, he and “some others” would take what action they could to stop the war.

The illegality of the war was also challenged last week by Rep. John Garamendi (D-Calif.). In the House Armed Service Committee hearing, Garamendi asked General Dempsey whether the United States is engaged in a war in Iraq and Syria. When Dempsey answered, “Yes, we are at war with ISIL,” Garamendi said, “Since that is the case, would you, Secretary, please provide in writing the most recent legal authority for the United

States to conduct such a war?” He went on to note that there had been talk about the War Powers Act, but that this seems to be no longer the case, as we're now past the 90 days within which that Act requires the President to seek authorization from Congress, and the U.S. is still at war.

“Bottom line here,” Garamendi said, “is the obligation that we have under the Constitution to declare war.... We ought not wait until the next Congress.”

- Who Wants War?

According to Sen. Chris Murphy (D-Conn.), in a statement on MSNBC Nov. 11, “There's a growing recognition on both sides of the aisle” that an AUMF debate “must happen.” Murphy himself thinks this must occur in the lame duck session, because “it's impossible at this point to ignore the constitutional imperative,” and because “it is incumbent upon us as a nation to make sure that we ... never go into war divided.”

According to a *Politico* story of Nov. 14, Senate Foreign Relations Committee Chairman Robert Menendez (D-N.J.) is working with the incoming chair, Sen. Bob Corker (R-Tenn.), to draft a bill authorizing the war.

Meanwhile the international political climate is being shaped to try to assure that war goes ahead to the specifications of the British Empire—with a new beheading by IS, and the leaking of stories about the Obama Administration's convergence with the policies of Turkey and Saudi Arabia, toward escalating war against Syrian President Bashar al-Assad (who has the only credible on-the-ground fighting force to confront IS). *EIR*'s sources report, however, that no decision has yet been made on such a policy shift, and the military command strongly opposes it.

Nor can a decision for war, made between Obama and the warmongering Republicans, be separated from the overall British imperial policy of confrontation against all nation-states—and especially the strengthening alliance of the BRICS. All-out war in Southwest Asia would mean war against Syria and Iran, as stepping stones to attacks on Russia—as Moscow well understands.

Real American patriots are needed to break this “symbiotic pathology,” before it's too late. The only way to destroy IS is for the United States to ally with Russia, China, Syria, and Iran—and simultaneously break the control of the British Empire's game. That means dumping the policies of Obama and the war-hawk Wall Street Republicans now.

A Veterans Day Luncheon With Senator Bob Graham

by Matthew Ogden

NAPLES, FLA., Nov. 11—Today, Bob Graham, former U.S. Senator (1987-2005), Governor of Florida (1979-87), and former co-chairman of the Congressional Joint Inquiry into the Sept. 11, 2001 terrorist attacks, was the featured speaker at a Veterans Day event here. Graham was joined by investigative journalist Dan Christensen of the *Broward Bulldog* to deliver a thorough account of the untold story behind 9/11, and the ongoing Executive Branch coverup of the truth about who the true sponsors of those attacks were.

The event, which was attended by approximately 200 people, at the Naples Sailing & Yacht Club, was organized by Loreen and Matt Sellitto, whose son Matthew was a victim of the 9/11 attacks. Terry Strada, the widow of Tom Strada (who was killed in the World Trade Center) and co-chair of the 9/11 Families United for Justice Against Terrorism (JASTA), introduced Graham and Christensen:

“They are here to tell you the untold story of 9/11. It is both riveting and frightening. And no matter what you think you may know about that day, I promise you, by the end of this program, you will learn so much more.”

Strada stressed in her introductory remarks, that the only strategy by which the so-called war on terrorism can be won, is by cutting off the funding of terrorism at its source. Without taking that action, all other efforts will ultimately be futile. She told the audience:

“9/11 was a brutal act of terrorism. We must recognize that as long as there are well-funded radical Islamists vowing to destroy us, we will never be safe. No matter how many of their leaders we eliminate,

airstrikes we launch, sanctions we execute, or boots on the ground we deploy, if we do not stop the flow of money going to the terrorist organizations like al-Qaeda and ISIS, we will never be safe. This is where the story of 9/11 as most of us know it, ends, and the untold story begins. It is with great pride and personal honor, that I introduce a hero of mine, a man who works tirelessly fighting for the truth to be told, former Senator Bob Graham.”

The Saudi Role Exposed

During his remarks, Senator Graham stated his belief that had the truth about the sponsors of 9/11 not been suppressed by two successive Presidential admin-



LPAC

At a Veterans Day event Nov. 11, in Naples, Fla., Sen. Bob Graham (seated), joined by (standing) Terry Strada (left), leader of the 9/11 families; and Dan Christensen, investigative reporter (center), to present a dramatic account of the suppressed story behind the events of Sept. 11, 2001.

istrations, the threat the nation and the world now face from ISIS would never have arisen.

Graham introduced the story of who financed the attacks of Sept. 11, 2001 by posing the question to the audience as to how it would have been possible for the 19 hijackers to carry out such an operation without a vast and deeply embedded support network inside the United States.

“There continue to be some untold stories, some unanswered questions about 9/11. Maybe the most fundamental question is: Was 9/11 carried out by 19 individuals, operating in isolation, who, over a period of 29 months, were able to take the rough outlines of a plan that had been developed by Osama bin Laden, and convert it into a detailed working plan, to then practice that plan, and finally to execute an extremely complex set of assignments?...

“The two chairs of the 9/11 Commission, Tom Kean and Lee Hamilton, have said that they think it is highly improbable that those 19 people could have done what they did, without some external support during the period they were living within the United States. I strongly concur....

“Where did they get their support?”

Graham went on to describe some of the facts that the Joint Inquiry did uncover about the support network that existed in one location, San Diego, Calif., detailing the case of Omar Bayoumi, whose activities prior to 9/11 strongly indicate that he was working on behalf of the government of Saudi Arabia to provide assistance to one cell of the hijackers, coordinated directly through the Saudi Embassy in Washington.

The Sarasota Case

The work of the Joint Inquiry had concentrated on the case of San Diego, but that is not the only location where evidence of the Saudi role has surfaced. Graham introduced his fellow speaker, investigative journalist Dan Christensen, by stating that Christensen’s work over the past five years in pursuing similar leads in the case of a Sarasota cell involving Saudis and the hijackers, confirms that San Diego was not an isolated case, but only one piece of a pattern.

Christensen walked the audience through a riveting step-by-step recounting of his battle against unceasing stonewalling by the FBI, to win release of 80,000 pages of documents pertaining to the connections between a prominent Saudi family in Sarasota and several of the 9/11 hijackers, including Mohammad Atta, pilot of the

plane that hit the North Tower of the World Trade Center. This was a lead that the FBI had never even brought to the Congressional Inquiry’s attention, but serves to confirm that everything the Joint Inquiry found in the case of San Diego was indeed part of a national pattern.

Tom Julin, a Miami-based First Amendment attorney, discussed his efforts alongside Christensen to sue the FBI, forcing them to finally release these 80,000 documents—which previously the Bureau had consistently denied even existed—to a Federal judge in Florida, who is currently reviewing them. (This lawsuit included a sworn affidavit by Senator Graham, accusing the FBI of impeding a Congressional investigation—an extremely serious charge.)

Julin also described another initiative he and Christensen are undertaking, utilizing a procedure called a Mandatory Declassification Review, to submit a request to an interagency advisory board to declassify the 28 pages. This effort is also still pending.

In conclusion, Graham indicated a number of other leads which still remain open, but which investigators, including himself, have been prevented from pursuing.

“Let me just wrap up with a few other of the untold stories. In addition to what we know in Sarasota, and what we know even more in San Diego, there were other places where hijackers spent significant amounts of time, such as Paterson, N.J.; Falls Church, Va.; and Palm Beach County, Fla. We have been trying to find out, [whether there were] investigations similar to what we know took place in Sarasota, in those three areas, and, if so, what result.

“We have run into exactly the same stonewall, even on the question of, did they investigate an area such as Palm Beach County where Atta and the leadership of the hijackers lived for an extended period of time? It’s unbelievable that there wasn’t an investigation, but it’s equally unbelievable that the FBI won’t even say ‘yea’ or ‘nay’ that there was such an investigation. So, there are gaps of factual knowledge about what happened that I think would open additional windows.”

Why the Cover-Up?

Graham went on to say that the question which is the hardest for him to answer, is why the United States has been so soft on the Saudis. He asked, “Why have we allowed them to go without public awareness of their complicity?” He stated that it was easier for him to answer that question during the Bush Administration,

seeing as how the Bush family had a long association with the House of Saud, going all the way back to George W. Bush's grandfather Prescott Bush. But, he stated:

"The more difficult thing, and I say this as a Democrat, is, why has the Obama Administration continued this soft treatment of Saudi Arabia? My speculation is that they have felt that the Middle East is so fractious and violent at this time, that Saudi Arabia would be a source of stability in an otherwise very shaky region of the world. I personally completely disagree with that assessment."

Graham emphasized that with Congress now considering whether to authorize war against ISIS, exposing the truth about Saudi Arabia's role in 9/11 is more urgent than it's ever been. He stated that he believes that ISIS is merely the latest ramification of Saudi Arabia's efforts to export Wahhabism, an extremist form of Sunni Islam, and that:

"The failure of the United States to publicly disclose what Saudi Arabia has done in the past, has been taken as a signal to the Kingdom that they have impunity, they can do virtually anything they want to, and there won't be any reaction, at least from the United States. And the consequence of that immunity has been that

Saudi Arabia essentially established al-Qaeda—and ISIS—fits almost the same pattern. *It [ISIS] is the child of Saudi Arabia, and continues to be substantially supported—financially, militarily—by Saudi Arabia.*

"I personally think that the national security of the United States will be served when we let the American people know what happened, and I think there will be a public reaction that will cause the United States to no longer give to the Saudis this impunity that we have in the past. So, in addition to the reasons that the American people deserve to have the historic record set right, and the families who have suffered so much deserve to have justice—and they will get justice when the facts of the Saudi involvement are known—and our own long-term national security, all argue for dispelling some of these unknowns, and unanswered questions, and unknown stories.

"Let the American people know what happened, and then let the American people be involved in shaping what our future towards justice and our own security should be."

Battle To Release the 28 Pages

This event represents a crucial part of the drumbeat nationally to declassify the 28 pages, which, if revealed, would disclose to the American people some of the facts which verify what Senator Graham and Dan Christensen summarized in their remarks. This campaign bears directly on the future peace and security of the United States and the world, as we confront the ever-increasing threat of chaos and war emanating from the Middle East. Rather than merely reacting to events, Congress must be forced to ask the question: What is the source of this violence, and how can it be rooted out?

Bipartisan efforts in Congress by Congressmen Walter Jones (R-N.C.), Stephen Lynch (D-Mass.), and Thomas Massie (R-Ky.) continue to build, as their bill, House Resolution 428 calling on the President to release the 28 pages, gains co-sponsors. There are currently 21 sponsors of H.Res. 428, almost equally split between Republicans and Democrats. The necessary next step in this process is to recruit a Senate sponsor to introduce a companion resolution into the U.S. Senate.

The larouchepac.com website features a "[28 Pages](#)" developing story page where one can find the latest in this ongoing fight, and how to join the campaign to ensure that the truth about who sponsored the attacks on the United States on Sept. 11, 2001, and who is continuing to finance terrorism today, is released for the American people and the world to see.

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Release the 28 Pages, Expose Saudi 9/11 Role

The following interview was conducted with former Sen. Bob Graham in Naples, Fla., by LaRouchePAC's Matthew Ogden, on Nov. 11. Senator Graham served as co-chair of the Congressional Joint Inquiry into 9/11 (see above). The subject of the interview is the urgency of declassifying the redacted 28 pages of the Congressional Joint Inquiry's report to expose the role of Saudi Arabia in financing not only the attacks of Sept. 11, 2001, but also in continuing to finance ISIS and related terrorist organizations today.

*Investigative reporter Dan Christensen of the **Broward Bulldog**, as well as Miami-based First Amendment attorney Tom Julin participated in the interview. Christensen and Julin have been instrumental in combating persistent stonewalling by the FBI in pursuing crucial leads pertaining to connections between a prominent Saudi family, and a cell of 9/11 hijackers in Sarasota, Fla., prior to the 9/11 attacks.*

Matthew Ogden: Senator Graham, you've stated that releasing the 28 pages is not only a matter of setting the historical record straight and bringing justice for the families and the victims of 9/11, but also has direct bearing on the foreign policy of the United States today, as well as preventing any future 9/11s from occurring, God forbid. For example, you said in your recent interview with the CBC in Canada, that perhaps we never would have reached the point at which we're now facing the threat of ISIS, had the Saudis been exposed for their role in the original attacks of 9/11.

In light of the fact that it's now been announced that there will indeed be a vote on a new AUMF [Authorization for Use of Military Force] concerning our efforts to combat ISIS, can you speak to the urgency of, not only every member of Congress who will be casting a vote on this matter reading the 28 pages immediately, but also, the necessity that they be declassified and released to the public to inform the public debate among the American people generally?

Senator Graham: The chain that I see, is that what



LPAC-TV

Sen. Bob Graham, interviewed by LaRouchePAC, stated, "I believe the most significant initial step that can be taken to dampen the ability of Saudi Arabia to feed the fire of extremism, is to let the American people and the world know what the Saudis have done, and are doing."

has happened over the past 15 or 20 years, is a series of organizations starting with al-Qaeda, now ISIS, which have been the product of an extreme form of Islam, supported by the enormous wealth of Saudi Arabia. If we are going to deal with this, and more than just the consequences, we've got to go to the root cause. And I believe the most significant initial step that can be taken to dampen the ability of Saudi Arabia to feed the fire of extremism, is to let the American people and the world know what the Saudis have done, and are doing.

I believe that that would result in substantial global condemnation of the Saudis, and is the best hope that they would stop their feeding of extremism. We can crush ISIS—that's within the military capability of the United States and the Europeans and other allies—but, it will be a Pyrrhic victory if shortly thereafter another group emerges, because it has been fed in the same trough that brought us al-Qaeda and ISIS.

Why the Obama Administration Cover-Up?

Ogden: You've said previously that although the close relationship between the Bush family and the House of Saud maybe sheds some clarity on why the Bush Administration decided to classify the 28 pages, the question remains as to what the Obama Administration stands to gain by continuing the Bush Administration's coverup. Can you share with us any thoughts you



Dan Christensen, editor of the *Broward Bulldog* (speaking), and Tom Julin, an attorney who specializes in the First Amendment (right), joined Senator Graham for an interview with LaRouchePAC. They are shown here addressing a Veterans Day event in Florida.

might have as to what might be the reasons for Obama to perpetuate this coverup, even though he's repeatedly pledged to do otherwise?

Graham: To me, that's an enigma. There was a history with the Bush family and the kingdom of Saudi Arabia that gave you at least some basis of reasonable speculation as to what might be the motivation for treating Saudi Arabia with such soft hands. Why the Obama Administration continues that policy is a mystery.

One explanation may be that we have decided that it's better to deal with the enemy that you know than the enemy that you don't know, and that we don't want to disrupt Saudi Arabia and further deepen the entanglements in the Middle East. Personally, I think, if that's the reason, it's a shallow reason, because what it's really doing is, it's allowing for these entanglements in the Middle East to not be just the result of a single leader like Osama bin Laden, or an organization like ISIS, but rather to become a broader and broader and more permeating influence of extremist Islam throughout the society in the Middle East.

Ogden: We know that there were numerous members of the Senate in 2003 who spoke out for the declassification of the 28-page chapter of the Joint Inquiry when it was originally published. Many of those members are still serving today—Senator Shelby, for example, as well as Nancy Pelosi in the House. Seeing as these members of the Senate were so vocal then, why

do you think there has been so much reluctance to move on getting a companion resolution to H. Res. 428 introduced into the U.S. Senate today?

Graham: Well, members of Congress have a lot of things on their plate at any given time. One possibility is that time has moved on, and other issues are now concentrating their attention. That's one of the problems with the delay in the release of this information. There is the tendency that, as an event—even an event as searing as 9/11—recedes in people's memories, and is replaced by newer events, it gets forgotten.

'Keys to the Kingdom'

Ogden: Let me ask a question that refers to the fiction book that you published, *Keys to the Kingdom*.¹ In that book, your character Carol Watson is pursuing an investigation of a weapons-for-oil deal between Saudi Arabia and the British company BAE. I believe this was called Al-Yamamah, or the Dove. And it is indicated by Prince Bandar, former head of Saudi intelligence and Ambassador to the United States, that in the past, money generated from this deal was used to create an off-the-books slush fund to provide financing for the creation of the mujahideen in Afghanistan and other covert operations. When this Al-Yamamah deal was brought under investigation in Great Britain, the probe was shut down under the Official Secrets Act by then-Prime Minister Tony Blair.

Graham: That is, the investigation that would have disclosed the relationships between BAE and the Saudis was shut down, not the continued relationship.

Ogden: Exactly, and the relationship continues today, for all we know. My question is, why do you think that Tony Blair and others inside Great Britain would have gone to such lengths to prevent this crucial lead from being fully investigated?

Graham: Well, in addition to some of the same reasons that I suggested might be why Obama has been so

1. For a review of Graham's book, see *Fact or Fiction? What Senator Graham Really Knows*, *EIR*, Jan. 18, 2013.

soft on the Saudis, they might apply to the U.K. as well. Plus the fact this was a very large defense contract for BAE—it was in the tens of billions of dollars for the sale of British fighter jets to the Saudi Air Force—and Blair might have felt that he didn't want to disrupt the economic benefits and the jobs that were coming from the BAE-Saudi relationship. But again, we're dealing with speculation. If we had access to the full information, we would be dealing with truth.

The Sarasota Connection

Ogden: Let me ask one question to Mr. Christensen. Your publication, the *Broward Bulldog*, has done a lot of breakthrough work with your FOIA suit for the FBI documents with regards to the Sarasota families and connection. And I understand that you're also now pursuing a similar thing with the 28 pages as a parallel avenue with the Congressional bill [HR 428]. Is there anything you can say about your efforts, and the outcome of both past and future efforts that the *Broward Bulldog* is undertaking?

Dan Christensen: Well, there are no outcomes yet. Everything is pending. There are two: there's the Freedom of Information Act lawsuit, and then there's a procedure called Mandatory Declassification Review. Our attorney, Tom Julin, discovered this process; I had never heard of it before. I think Tom would be best to explain how this procedure has gone on for over a year now, I believe.

Basically, the Justice Department and FBI blew us off completely, and now it's before an interagency panel that will ultimately make the decision. But Tom has told me, after he's done considerable research about this, that this is not a rubber stamp panel; is that correct?

Thomas Julin: That's right.

Christensen: What's their history, and is there a decent chance they may suggest or recommend to the President to declassify?

Julin: They're an advisory body to the President; and this is after you've gone through all of the administrative attempts to have the pages declassified. The FBI would not do it, the Justice Department would not do it, and then it goes to this interagency panel that has representatives from [the Department of] Justice, the State Department, from the intelligence community, from the National Archives.

They meet on a bi-monthly basis to review requests for declassification, which is part of the Executive Order that establishes the declassification process. And

they have a pretty good record of giving independent analysis as to whether classification is still required. They then make a recommendation to the President; they can say yes or no. It's not reviewable by the courts, just an advisory body to the President. And we're expecting a decision by sometime this Winter—that's what the staff has told us is the likely scenario. But there are no rules, there's no timetable. They can do whatever they'd like to do.

The Next Step

Ogden: One final question for Senator Graham: Where do we go from here? What's the next thing that the American public has to do?

Graham: I think we need to continue to aggressively pursue all of the options that have as their end result the release of information so that the American people know the truth. In addition to the Congressional legislation to declassify the 28 pages, and the administrative review that Tom Julin and Dan Christensen have just described, there also is a third channel, where the President has asked the Director of National Intelligence, Mr. [James] Clapper, to do a review of the 28 pages and make a recommendation as to whether they should be declassified. So, all three of those are possible means to achieve the objective of the release of the 28 pages.

I'd like to underscore that the 28 pages, while they are important and will be very illuminating, are only a part of the information that, to date, is being withheld. There's the experience in Sarasota, where there are very strong indications of a tie between three of the hijackers and a prominent Saudi family, but we don't know the details, because thus far, the FBI has stonewalled the release of that information. There were major blocks of time in which several of the future hijackers lived in different places in the United States, such as Falls Church, Va.; Patterson, N.J.; Palm Beach County, Fla., and we know very little about what happened in those places. Were there people there, like the ones that we suspect were in Sarasota, and know were in San Diego, who were supporting the terrorists in those areas?

So, those are all parts of what we don't know. I think when we do know the full facts—unless it's delayed so long that the only people who care about this are historians—it will cause a major reassessment of our relationship with Saudi Arabia, and a strategy for how to deal with this wave after wave of extremist organizations.

New York City Schiller Celebration Challenges U.S. ‘Wall’ of Pessimism

by Dennis Speed

Nov. 17—The New York-New Jersey chapter of the Schiller Institute on Nov. 8-9 celebrated the three-fold occasion of the 255th birthday of “Poet of Freedom” Friedrich Schiller, the 30th anniversary year of the Schiller Institute, and the 25th anniversary of the fall of the Berlin Wall. That 25th anniversary—largely uncelebrated in the U.S. and barely mentioned by the Obama White House—was also the year of the birth of “the World Land-Bridge,” a physical-economic policy created by Lyndon LaRouche in response to the great opportunity provided to humanity by the fall of the Wall.

The event, in Manhattan, was attended by 150 people, representing dozens of different cultures. It centered on three presentations, bracketed by musical offerings. Institute founder Helga Zepp-LaRouche delivered the keynote by video, after which Leni Rubinstein of the Schiller Institute and former U.S. Attorney General Ramsey Clark spoke. These were followed by presentations by representatives of the Foundation for the Revival of Classical Culture, and LaRouchePAC.

The New York/New Jersey Schiller Institute Chorus opened the event with three verses of the 200-year-old “Star-Spangled Banner,” followed by a masterful performance of the Adagio and Fugue from Bach’s Violin Sonata in G minor by 16-year-old Yaegy Park. A standing ovation greeted her setting of the high poetic-emotional tone, which was maintained throughout the performance.

The core presentations followed, each one building on that which had immediately preceded it.

‘Divine Sparks’

Zepp-LaRouche’s message concluded: “So therefore, reflecting on the 25-year anniversary of the fall of the Wall, when the system came to its end, we are now in a similar situation. The free-market economy is about to blow up completely. We are at an absolutely crucial transition of world history, and we absolutely must not

again miss the great chance.” (See *EIR*, Nov. 14, 2014 for the complete transcript.)

Rubinstein’s presentation concentrated upon the principled unity of the idea of 1989, with Schiller’s great idea of 1785: his poem “Ode to Joy.” “Beethoven worked for decades on the idea of Schiller’s poem—‘*Freude, schöner Götterfunken*,’ ‘Joy, beautiful, Godly sparks.’” Beethoven came back to this again and again, Rubinstein said, until he found that he could make a whole symphony, and build up through the first movements to the last phase, where human voices come in, in a celebration of mankind. This is what Schiller represents, and this is what our Institute represents—the whole Ninth Symphony, but, particularly, this celebration of mankind at the very end.

And if you think about the Ninth Symphony, you think about the World Land-Bridge: “*Seid umschlungen, Millionen!*”—“Be embraced, ye millions”: “*Alle Menschen werden Brüder*”—“All people will become like brothers,” because we are one humankind.

Rubinstein continued: “Helga talked about the World Land-Bridge as a universal image of mankind. And if you look at this globe of ours, this is our garden, which is completely inhabited by mankind collaborating with each other around mutual development principles. This is an image of an anti-imperial, anti-oligarchical world. And for the first time in the history of mankind—I’m not exaggerating—for the first time in the history of mankind, we have the possibility for making this a reality, that this becomes the new era of mankind, where we also, as human beings, will have become different.”

Rubinstein’s presentation was followed by two compositions by Johannes Brahms, musical settings for two Schiller poems, the second of which was performed live: “*Dem dunkeln Schoss der heil’gen Erde*” from Schiller’s poem “The Song of the Bell,” and the “*Nänie*,” performed by the Schiller Institute Chorus under the direction of John Sigerson.



Schiller Institute

Schiller Institute members gathered at the statue of Friedrich Schiller in Central Park, following their Nov. 8-9 conference, and placed a garland at the poet's statue.

Ramsey Clark's impromptu remarks captured the spirit of the aspirations for freedom, expressed in the demonstrations of 1989, but warned the audience that the drumbeat for general global war, using the most vicious weapons of mass destruction, threatens to overtake all of humanity (see transcript below).

Classical Culture

Ending the first half of the program were presentations by Lynn Yen, founder and executive director of the Foundation for the Revival of Classical Culture, who described the group's progress over the past three years, the mission it has taken up in the last year, to restore the Classical tuning pitch of A=432 HZ. A graduate of the Foundation's Summer program, 19-year-old baritone Carlos Arcos Marwyn had, near the beginning of the event, performed the Italian art-songs "*O del mio amato ben*" and "*Caro mio ben*," along with 84-year-old baritone and music teacher Harry Thompson, who sang selections from Handel's *Messiah*, Mendelssohn's *Elijah*, and the African-American Spiritual "Honor, Honor," as arranged by composer Hall Johnson. Several audience members remarked at how thoughtfully moved they were to see and hear the two singers in succession. "It caused me to realize how timeless and per-

manent great music can be," said one person.

Following Lynn Yen, 16-year-old José Vegas, a member of the Foundation's Music and Science Summer Program, gave a passionate presentation on real education vs. ramming facts into students. He reported his experiments in teaching his peers elements of Plato's *Meno* dialogue. He also referenced the importance stressed in his Summer studies of 17th-Century scientist-philosopher Johannes Kepler.

Vegas and other Foundation students have been taking their ideas and geometric constructions out on to the streets of New York City in recent weeks, and educating passers-by. During the intermission/dinner break, which followed, many attendees visited the students' pedagogical displays, which featured their constructions of the five Platonic solids and their various stellations.'

The second section was especially notable for a dramatic reading of Edgar Allan Poe's story "The Masque of the Red Death" by actor Dikran Tulaine, and for the performance of three musical selections: "I Remember the Wondrous Moment," a poem by Alexander Pushkin set to music by Mikhail Glinka, and performed by bass-baritone Frank Mathis in honor of Russia's contributions throughout history to creating and preserving the U.S. Republic; "*Soave sia il vento*" from Mozart's opera *Così fan tutte*, performed by the trio of Michelle Fuchs, soprano; Jessica Tremblay, alto; and Frank Mathis, bass; and Beethoven's famous quartet from the opera *Fidelio*, "*Mir ist so wunderbar*," with Fuchs, Tremblay, Mathis, and tenor Scott Mooney. Greetings to the conference from various international and national quarters were also read.

The following day, Nov. 9—the 25th anniversary of the fall of the Wall—Schiller Institute members hosted a tribute to the poet at the Schiller and Beethoven statues in Central Park. The Schiller statue was the first to be placed in Central Park in 1859, on the occasion of the 100th birthday of the poet. There was music, a brief presentation, and the placing of a garland on the Schiller statue.

‘If You Are Marching, You Better Be Singing’

Ramsey Clark was Attorney General during the Johnson Administration 1967-69. He was instrumental in the passage of the Voting Rights Act of 1965 and the Civil Rights Act of 1968. He worked on the legal defense of Lyndon LaRouche and his associates when they were railroaded to prison in the 1980s.

Good afternoon. Words seem, if not useless, feeble, after music, as we have just heard it. I have a little saying by the chair where I sit most of my time, when I’m sitting. It says: “Without music, life would not be worthwhile.”

I’m not sure that there would really *be* life without music, because I think it’s a big part of life—maybe the best. It rarely gives you a headache, like thinking. It *can* give you a headache, too—some I’ve heard—it’s just the decibels, if not the rhythm. I’d like to think that music is a major road to peace. If we would listen to music together, we would find our souls at peace with each other, I think. But we listen separately, when we listen, and probably not often enough.

The constant presence of the harshest violence—I started to say, throughout all my adult life, but I went into the Marines when I was 17, so it started before I was an adult—it’s the most demeaning thing to the character of humanity, and raises the question about the worthiness of our character, which determines our conduct, whether we understand it or not.

And we have—when I say “we”—institutions that we live with, that we are responsible for, however remote our ability to affect them seems to be—those institutions threaten life on the planet. With all the means we have now for total destruction, we’ve still got some of our most imaginative—imagination can be harmful as well as helpful—scientists, looking for better means of mass destruction; our military research and development is always anxious for

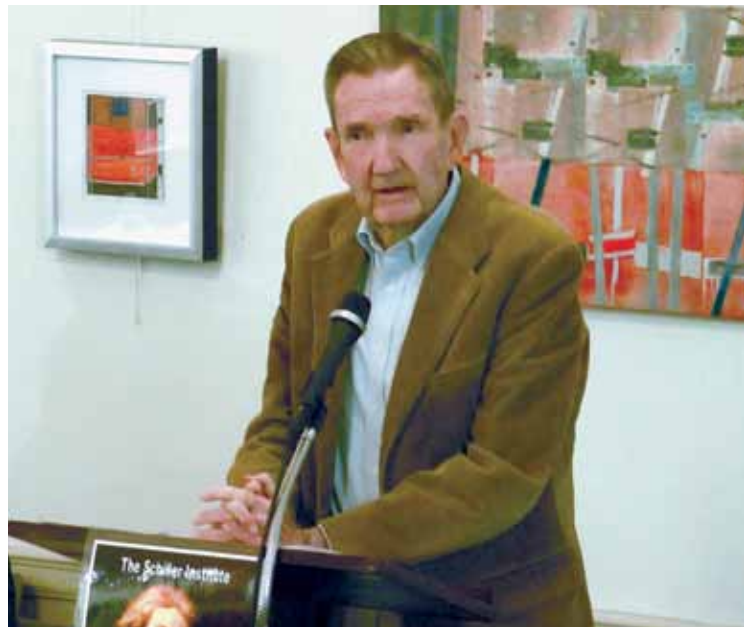
new weapons that can wipe out a new sector of our brothers and sisters and children, that we have decided, or circumstances have caused us to believe are our enemies, and we can see the extremes to which it goes.

From Iraq to ISIS

There is a clear connection between our destruction of Iraq, beginning in January of 1991, and the capacity of a group of people that we know as ISIS for a total disregard of any humane sensitivity: You not only kill, you kill to hurt; you kill to hurt as hard and painfully, and broadly and widely and indiscriminately as you can. You kill to kill. It’s almost a disease.

But it’s a disease that comes from a long period of cultivation, or however diseases come to be, of dehumanization. We watch—I use ISIS because it’s in the forefront right now—but it seems you want to seek what you might call the cruelest, the most inhumane, the most unacceptable, form of death, of killing, perhaps in the belief that terror can cause conformity, or at least destroy resistance, the capacity for resistance. But we’ve been at it for such a long time, thinking that by the creation of more effective means of mass destruction and violence—

If we took all the money we put into the means of killing people, and that we spend on it, and put it into



Schiller Institute

Ramsey Clark: “I’m an optimist. That’s one of the reasons that people don’t take me very seriously. But I’d rather not be taken seriously than refuse to believe that we shall overcome.”

health, or education, or things that are good for children, it'd be quite a different world. But our military expenditures go on, and our scientists still seek cheaper means, more effective means, more widespread techniques, of *killing people*. And, we have to wonder—God bless our children, they are amazing—you think they're going to be little demons if they look at what we do. But there's still hope with our children that they can rise to the spirit of humanity that has always promised the possibility of peace; I mean real peace, where you simply refuse to hurt somebody else, individually or collectively.

And for some time now, attention has to be paid, because our capacity for destruction is, if not total, very, very close to it, and we are still trying to find ways for making more promising, as to the totality of whoever it is we've decided are our enemies. We need to address the presence of the acceptability of solving problems by force.

[What] we need to recognize as the greatest threat to human values and human life, is militarism. And I say that as a person who, at the age of 14, just a few weeks before my birthday, on Dec. 8, 1941, went all the way downtown—it was seven miles to Los Angeles—and tried to join the Marines. And they booted me out: “Get out of here, kid!! We got a war.” And I was saying, “I want to be part of it.” “Get out!” So I had to wait until Dec. 18 of 1944, actually, when I became 17.

I know we, here, talk about peace, desire peace, believe in its possibility, but we haven't yet brought together the sharp focus in our thinking, in our capacity to organize people, to even stop research and development for better forms of mass destruction. And that has to become a priority. It doesn't have much fun and appeal to it, but it's the only way we are going to end the capacity of technology to destroy life on the planet, before we destroy ourselves.

And, the way is clear: It's through the human heart, the human mind, and the realization that we love each other—and I find this [event] very lovable—or we'll die. Not a peaceful death, in the midst of loving friends, but by violence, and proud of the cunning that enables us to devise such wonderful means of mass destruction; that we can take out half a people, or half a continent, or finally the essential elements that we found on this planet when we arrived, for a good life, with love and music in our hearts. For somewhere within, music is the key to love, and the key to joy, in life.

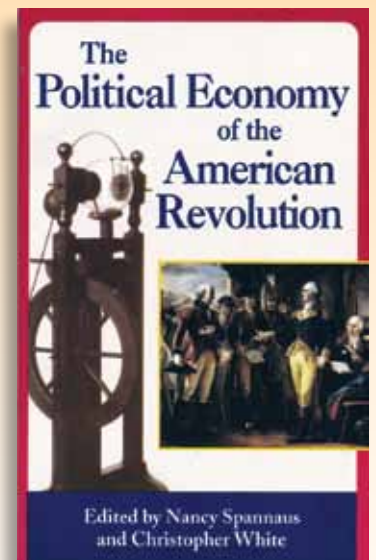
We're on the Brink

And we're on the brink. We don't see the massive wars, although they are lurking, but we see a new and significant element that sees killing, just killing, as an end in itself. And that has been created by the value systems of societies that have not only endured, but celebrated war after war. The moral worth of a people can probably be better determined by the size of the military budget in the country where they live than by any other, because it says, “We'll kill you to have our way.”

I'm an optimist. That's one of the reasons that people don't take me very seriously. But I'd rather not be taken seriously than refuse to believe that we shall overcome. I saw us marching toward that in race relations. It was *beautiful*, and it showed the possibility of marching and singing. And if you're marching, you better be singing, because otherwise you would probably be carrying a big gun. We *can* overcome, but we are in a race between education and catastrophe. And catastrophe is closing in.

And on that optimistic and happy note I say, let's sing our way to peace.

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EXPOSING THE BIG LIE

U.S., NATO Maneuvers Show Intention for Global War

Nov. 18—While the Western media scream about how Russia and China are allegedly carrying out provocations for war with the West, U.S. and NATO military maneuvers over the past month reflect just the opposite. It is the West, dominated by British geopolitical thinking, that is preparing for war, even nuclear war.

Take Steadfast Noon 2014, a nuclear-strike exercise held in late October in northern Italy. The exercise coincided with a Strike Evaluation nuclear certification inspection at Italy's Ghedi Torre air base, and with the sharpest rise in tensions between NATO and Russia in decades. Also of note is that, for the first time, the maneuver included a NATO member from Eastern Europe, namely Poland, which participated with F-16s—and at the same time that Poland announced its intention to rebase thousands of its troops closer to Russia and Ukraine.

Then there's Valiant Shield 2014, a U.S. Navy, Air Force, and Marine Corps exercise conducted off the island of Guam, to practice "defensive counter-air missions, strike missions, suppressions of enemy air defenses, maritime interdiction, air-to-air refueling and command and control operations." The explicit aim of this exercise was to rehearse the techniques of Air-Sea Battle, an operating concept developed for war with China.

So, who's preparing for war? That is a question which the Russian and Chinese governments have already answered in their own minds—and begun to take the relevant flanking and defensive measures to stave

off the threat. However, until the bankrupt British oligarchy is deprived of its power—especially over the actions of the man with his finger on the nuclear button in Washington—there is no guarantee that these provocations will not touch off a conflict that could end in the incineration of billions.

Delusions of Power

Barack Obama openly expressed the delusional state of mind of the West and NATO during a speech to a group of students in Australia Nov. 15. "As the world's only superpower [sic!], the United States has unique responsibilities that we gladly embrace," Obama said. "We are leading the international community in the fight to destroy the terrorist group ISIL. We are leading and dealing with Ebola in West Africa, and in opposing Russia's aggression against Ukraine, which is a threat to the world, as we saw in the appalling shootdown of MH17—a tragedy that took so many innocent lives, among them your fellow citizens."

Does Obama actually forget that Russia and China, not to mention India, are also nuclear powers? Does he think he can get away with the lies that the U.S. is leading the effort against Ebola in Africa, when that credit goes to Cuba, or that it has *not* been established that the Russians were responsible for the downing of MH17? These are dangerous statements of unilateralism that push the world further toward nuclear war.

Nor should anyone dismiss them as mere words. Through the entire course of Obama's Presidency, those

words and intentions have been matched by relentless NATO expansion, and military doctrinal changes, such as the adoption of a Prompt Global Strike aimed at using non-nuclear means to overcome certain defensive technologies developed by Russia and China.

To underscore his hostile intent, Obama chose to have a special meeting with Japan's Prime Minister Shinzo Abe and Australia's Prime Minister Tony Abbott at the G-20 summit, dedicated to "deepen the already strong security and defense cooperation" among the three nations, including "maritime security building." Such a meeting can only be seen as a hostile message to China.

This meeting occurred despite new U.S.-China military agreements reached by President Obama and Chinese President Xi Jinping at APEC, agreements proclaimed as means of avoiding confrontation between the two. Yet, a Pentagon spokesman confirmed on Nov. 12 that the agreements don't cover U.S. surveillance flights off the coast of China, something which the Chinese have complained about repeatedly.

Ukraine at the Brink

The much-publicized lying rhetoric against Russia, and President Vladimir Putin personally, for alleged aggression in Ukraine, pales beside what the Western-backed Nazi government in Ukraine is doing on the ground, to try to provoke total war.

While claiming to still adhere to the September Minsk agreements, the Kiev government is escalating its military offensive, and moving to economically cut off eastern Ukraine from pensions and other government payments, according to an RT report. In the press conference he held before leaving Australia, Putin sharply criticized that Nov. 14 decision, noting that even during the height of the Chechen crisis, when Moscow was in armed combat with the rebels there, Russia did not cut off transfer payments, because of its "moral obligation to the common people."

According to a statement issued Nov. 15 by the People's Council and the Federation of Trade Unions of the Luhansk People's Republic, as reported by Sputnik news, Kiev is also shelling hospitals, kindergartens, power sources, and other civilian locations in eastern Ukraine. A Nov. 14 report by the UN Office for the Coordination of Humanitarian Affairs states that the intensity of the fighting in eastern Ukraine is at the highest level since the ceasefire in September. It estimates the number of internally displaced people to be more than

460,000, while more than 508,000 people have fled to neighboring countries.

Meanwhile, in Kiev, negotiations to form a coalition government in the wake of the recent parliamentary elections are underway. According to an Interfax-Ukraine wire dated Nov. 15, the coalition agreement under discussion explicitly puts the country on the path to NATO membership.

The draft agreement says that, among other things, "the Military Doctrine should contain the term 'potential enemy' and clearly determine criteria for recognizing a certain state or a group of states as a potential enemy." In addition, the draft coalition agreement suggests amending the laws on the foundations of domestic and foreign policy and on the foundations of national security, including "the annulment of Ukraine's non-aligned status, the resumption of a political course toward integration into the Euro-Atlantic security space and membership of the North Atlantic Treaty Organization, and also the restoration of Ukraine's national sovereignty over the territory of Crimea as one of the strategic goals."

Can any honest person say that this Ukrainian government, put into power by a coup, and riddled with Nazis, is not an intentional provocation and threat against Russia?

A Way Out?

Despite NATO's provocations, Russia has refused to take the bait for military action, preferring to try to maintain diplomatic ties and keep negotiations underway, while pointing out that the measures being taken by the West are more destructive for their own economies, than Russia's. But Russia is also increasing its own readiness for defense, as indicated by its announcement of expanded air surveillance flights, military modernization, and joint maneuvers, particularly with China.

The current visit by German Foreign Minister Frank-Walter Steinmeier to Russia shows that some in Germany still seek to step back from confrontation as well. It is also reported that it was Germany, along with Austria, Cyprus, and Greece, that prevented the European Union from going ahead with expanded sanctions against Russia Nov. 17.

Ultimately, however, the policy of confrontation has to be stopped at its source—London, and its junior partners in Wall Street, whose control over the U.S. Presidency threatens the globe.

Integrating the Nile Basin with Modern Transport

by Hussein Askary and Dean Andromidas, Part IV

This is the final part of a series of four articles on the Nile Basin and East Africa, whose purpose is to show the great potential for peace and prosperity in Africa, and also that the shovels are now in the ground, and beginning construction of great projects, for the first time in decades. Parts I-III were published in the Sept. 5, Sept. 12, and Oct. 10 issues of EIR (<http://www.larouchepub.com/eiw/index.html>).

Beyond the need for an international emergency response to the horrendous Ebola epidemic in West Africa, what is needed to prevent the reemergence of such epidemics, famine, wars, and mass-migrations, is a permanent and comprehensive development approach. In East Africa and the Nile Basin, we are seeing a new process come into being, after the long, dark night, with developments in Egypt, Ethiopia, and now, further south to the other nations of the Nile Basin (see Parts I-III).

But this process has to be sustained and backed by international action, before it is killed in the cradle, as the great dreams of African independence and development were killed and drenched in the blood of the African peoples and their best leaders in the 1960s. The civil wars, famines, epidemics, and genocide that followed were the result of the strategic denial of technologies and medicines to Africa by the trans-Atlantic system.

Simultaneously, Africa was bleeding human resources to Europe, and having raw materials exchanged for weapons, and financial resources smuggled by dictators and warlords to British and Swiss banks and financial institutions.

With the emergence of the “new, just world economic system” that Lyndon LaRouche and his international movement have been fighting for, now, through the actions of the BRICS nations (Brazil, Russia, Indian,



In East Africa and the Nile Basin, we are seeing a new process come into being among the nations along the mighty Nile River. Here, the Nile runs through the center of Cairo.

China, and South Africa), Africa no longer need be shackled to its former colonial masters and their contemporary institutions of slavery, such as the International Monetary Fund (IMF), the World Bank, and such green genocidal organizations as the World Wildlife Fund (WWF).

One Unit of Action

Regional integration has been part of Africa's strategy for economic transformation since the 1960s, and concrete agreements have been adopted, including the Lagos Plan of Action (1980) and the Abuja Treaty (1991). But that transformation has never materialized. That is about to change. The African Union (AU) is the natural entity for physical and political integration. However, the regional structures have to be integrated into the AU vision, based on physical-economic considerations, rather than ideological, religious, ethnic, political, and even monetary ones.

An economic development policy has to enhance the region's capacity to create what LaRouche has termed a rising "physical-economic unit of action." In his "The One Is the Origin of Its Parts" (*EIR*, Jan. 11, 2008), LaRouche stated, "The unit of action is a relative rise, or lowering, of the potential relative population-density of the respective, or combined systems as inter-

acting wholes. The unit of action is essentially 'Vernadskyian,' which is to say, both a cultural and physical increase, or decrease of the potential relative population-density, as per capita and per square kilometer of the relevant national, continental, or global systems as wholes. The relevant mode of action is the quality of the individual human mind which distinguishes the human mind from the beasts, and places mankind categorically as acting, primarily, in terms of the Noösphere, rather than merely the Biosphere."

Infrastructure in general, and especially transport infrastructure, plays a decisive role. This report will identify the triad of transport infrastructure projects needed, including road, rail, and maritime areas in the greater Nile Basin.

Creating a Powerful North-South Axis

The Nile Basin and the related East African region are part of a potentially powerful north-south axis of development that can serve to link the two most developed countries that lie on opposite ends of the continent: Egypt and South Africa **Figure 1**.

This axis can be divided into three sections. The northern region includes Egypt, Sudan, South Sudan, and Ethiopia. While guarding the eastern boundary of the Nile Basin, Ethiopia overlooks the Red Sea, Gulf of Aden, and the Indian Ocean, but direct access to those seas is blocked by Eritrea, Djibouti, and Somalia. Ethiopia hosts the source of the Blue Nile at Lake Tana.

The second part of this axis is East Africa, with Kenya and Tanzania on the Indian Ocean, and Uganda, Democratic Republic of Congo, and Rwanda on the interior. This region forms the so-called Eastern Rift, which hosts the African Great lakes, the largest of which is the misnamed Lake Victoria, the source of the White Nile.

The third section is the western flank of southern Africa, including Zambia, Mozambique, Zimbabwe, and South Africa itself.

The Nile Basin/East Africa region, with an abundance of water, fertile land, minerals, hydrocarbons,

FIGURE 1
The North-South Axis of Development: Egypt-South Africa



FIGURE 2
The 10 Nations of the Nile Basin Initiative



Wikimedia Commons

untapped potential for hydropower, and large, young populations, is positioned to become a major economic force in the 21st Century. At the moment, however, its resources need to be reorganized, standardized, and unified, to get the maximum benefit from each of the individual resources.

For example, using a “multi-modular transport system” would increase and optimize the productivity of all these societies, as wasted time, energy, and human resources will be eliminated. A multi-modular transport system is a combination of two or more transport means—land, rail, sea, and air—creating an integrated transport chain in which the advantages of each of these are utilized.

Transshipment terminals are characteristic of this system, giving it speed and efficiency, as the cargo, for

example, a container (not bulk cargo, such as oil, wood, and grains), is loaded from a ship, onto a train or a truck, in the least time, and with the least effort. Containers can be tracked from a distance by the receiver and sender through digitalized electronic systems. This requires standardized sizes for the containers, lifts, and rail gauges, to allow trains to pass through different terminals and countries, etc. Containers carrying foodstuffs can be refrigerated, along with storage and handling terminals, a crucial factor in the transport of agricultural products in this part of the world, where many products are spoiled on the way to the markets.

None of this is available now in the Nile Basin, except to a limited extent in Egypt, where international transshipment is handled. Egypt has a special position, as it will form a land-bridge with Eurasia, as part of the

Maritime Silk Road through the Suez Canal, and a maritime connection with Europe on the Mediterranean. Egypt is also connected by land to Asia through the Sinai Peninsula.

Colonial Legacy

The existing transport systems in the region were designed in the colonial era to link countries' mineral and agricultural wealth with overseas markets, rather than interlinking these countries. Railways that were used by the British and other colonialists to loot the region have different gauges, not only between the countries, but even within the same nation in some cases. But even these limited railways have been largely abandoned for lack of maintenance and investment.

In Kenya, only half of the original 2,730 km of railways are operational. Railways are the most cost-effective mode of transport for moving bulk cargo for long distances over land, and are well suited to container traffic between ports and cities. The ten countries of the Nile Region (**Figure 2**) combined have a total railway network of 23,059 km, compared with India at 115,000 km and China at 103,000 km of railway track, as of 2013. Burundi and Rwanda have no railroads at all.

Most railway systems in the region are inefficient, have long transit times, and operate far below their capacity. The narrow 1.067-m gauge is the most widely used, except in Egypt, where the standard 1.435-m gauge has been used. The railways are generally single track with limited axle load and low speed. None of the national rail systems are designed to cross borders.

As a consequence of all of these obstacles, shortcomings, and the colonial legacy, political integration among the nations of Africa has been prevented.

Landlocked

The fact that most nations in the Nile Basin are landlocked has hampered their economic development and integration with other regions. On top of genocidal economic and military policies, the economies of especially the Upper Nile region have been hamstrung by the fact that most of the transport within and among these nations is carried by truck, on poorly built and maintained roads. This has made transport among them the most costly in the world.

The challenges are more severe for the six Nile Basin nations that are landlocked riparian countries—Rwanda, Burundi, Uganda, DR Congo, South Sudan, and Ethiopia. For example, the cost of the transporta-

tion of a container of fertilizer from Singapore to Alexandria harbor (Egypt) is US\$4,000, Mombasa harbor (Kenya) US\$5,000, Kampala (Uganda) US\$8,400, Kigali (Rwanda) US\$10,400, and Bujumbura (Burundi) US\$10,600.¹

Even trade and transfer of goods and machinery among the neighboring nations suffer enormously due to the absence of both standardized and non-standardized transport networks. The absence of cheaper and more effective rail and river transport links between North and South, and East and West, has undermined the economic integration of the Nile Basin.

For example, while more than two-thirds of Egypt's Nile Basin exports go to Sudan and South Sudan, less than 1% goes to the eight upstream nations! As for Sudan's exports, only 2.2% go to these countries. Likewise, imports from the Nile Basin nations to Egypt comprise only 0.6% of its total imports, Sudan 12%, and Ethiopia 3%.

China's Plan for Economic Corridors

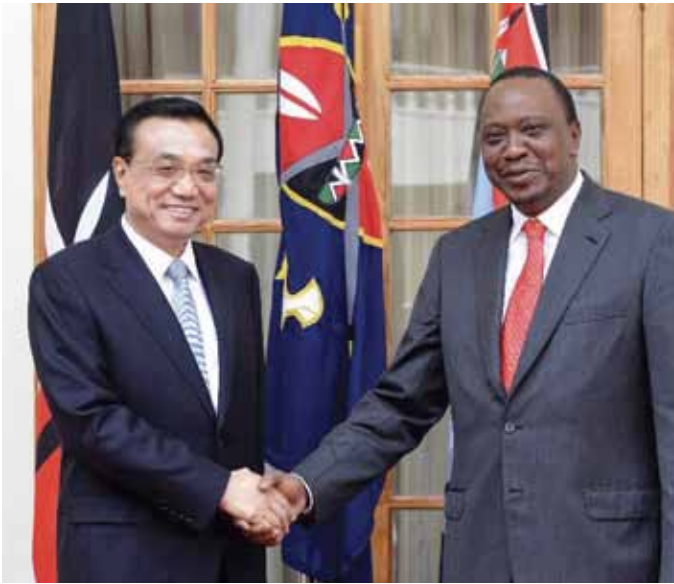
China has plans to deal with this problem.

In May 2014, while on a tour to several African nations, Chinese Premier Li Keqiang projected an optimistic vision of Chinese-aided industrial and infrastructural growth for the African continent. The tour started in Ethiopia, ended in Kenya, and included Nigeria, China's third-biggest trading partner in Africa, and Angola, its biggest. Contrary to frustrated and nervous reporting in Western media, Li was not on a shopping spree for raw materials. Rather, he advocated an increase in Chinese industrial investment in Africa, and Chinese-aided infrastructure construction, policies which will raise standards of living, and propel Africa onto a new economic platform.

Speaking at the Africa Union headquarters in Addis Ababa, Ethiopia, on May 5, Li emphasized that one of China's goals is to fulfill the dream of connecting all African capitals by high-speed rail, so as to boost pan-African communication and development. Li emphasized that China has developed world-class technologies in this area.

This is the first time that a leading nation has advocated a plan to begin the process of the rapid industrial and infrastructural development of Africa, since LaRouche initiated a study in 1979 calling for the rapid development of infrastructure, including a continent-

1. Source: Maersk 2011/Nile Basin Initiative.



Xinhua/Li Xueren

Chinese Prime Minister Li Keqiang and Kenyan President Uhuru Kenyatta signed a series of deals in May, during Li's visit to Nairobi. Li projected an optimistic vision of Chinese-backed industrial and infrastructural growth for the continent.

wide rail network, ambitious water projects, nuclear power, and industrialization.

In fact, China has already taken the lead in building transport infrastructure through the Nile Basin.

The most significant development during Li's tour was the agreement reached in Kenya on May 11, 2014 between the Chinese delegation and the leaders of the East African Community (EAC), to build a \$3.8 billion rail link between Kenya's Indian Ocean port of Mombasa, and Nairobi, the first stage of a line that will eventually link Uganda, Rwanda, Burundi, and South Sudan. Under the terms of the agreement, the Exim Bank of China will provide 90% of the cost to replace the crumbling British colonial-era line with a 609.3-km standard-gauge railway. Kenya is to provide the remaining 10%. Construction began in late October, and is expected to take three-and-a-half years to complete, with China Communications Construction Co. as the lead contractor.²

The new Mombasa-Nairobi (Kenya) lines will cut passenger travel time from the current 12 hours to around 4. Freight-train times would be cut from the current 36 hours, to just 8, which means, also, the slashing of cargo transport costs by 60%.

2. Construction has been delayed by NGOs, and a court order to halt the work, until compensation for villages in the way of the track is issued.

Once the Mombasa-Nairobi line is completed, construction would begin on linking East Africa's largest economy with Kampala, Kigali, Bujumbura, and Juba.

The signing ceremony was attended by Li and Kenya's President Uhuru Kenyatta, Uganda's President Yoweri Museveni, Rwanda's President Paul Kagame, South Sudan's President Salva Kiir, and high-level representatives of Burundi and Tanzania. "This project demonstrates that there is equal cooperation and mutual benefit between China and the East African countries, and the railway is a very important part of transport infrastructure development," Premier Li said. Kenyatta hailed the booming relationship with China, calling it one "based on mutual trust," and saying Kenya "has found an honorable partner in China." Museveni took a shot at Western powers saying, "We are happy to see that China is concentrating on the real issues of development. They don't give lectures on how to run local governments."

This agreement is just one of a series that China has signed to realize development corridors that can propel the economies of East Africa into the 21st Century: the Lamu Port Southern Sudan-Ethiopia Transport (LAPS-SET) Corridor; the Northern Corridor (referenced above); and the Central Corridor. They are part of the East African Railways Master Plan (**Figure 3**), a proposal for rejuvenating existing railways serving Tanzania, Kenya, and Uganda, and extending them initially to Rwanda and Burundi, and eventually, to South Sudan, Ethiopia, and beyond, to connect to North and West Africa through DR Congo, Sudan, and Egypt.

A 2018 Deadline

The final report of the Master Plan, which was commissioned by the EAC, was issued in 2009 by the Ottawa-based CPCS Transcom. However, it has lain dormant, like many other projects in Africa, that have been denied support and financing from the West. The cost of the projects, up to US\$40 billion or more, will be shouldered by China and other BRICS nations such as India, which has also shown interest in backing development in East Africa. The deadline set for completing all these projects is 2018! What this means is that East Africa will become one of the largest workshops in the world in the coming years, with new industries, economic zones, and trade centers shooting off the main projects.

FIGURE 3

New East African Railway



China will be building standard gauge railways simultaneously in several countries. In 2013, the state-owned China Harbor Engineering Company (CHEC) signed a US\$8 billion contract with the Ugandan government for upgrading and expanding its railway network to standard gauge railway (SGR—distance between the inside edges of the rails, 1,435 mm), from Malaba on the border with Kenya, to Kampala (east-west line), and from Malaba to Gulu, with expansion to Nimule on the border with Sudan (southeast-north). From there, the network is to expand to Juba in South Sudan.

This project is part of the Northern Corridor of the EAC. As part of the contract, the CHEC will work closely with the Ugandan Army's Engineering Brigade, and will also construct a polytechnic school in Uganda for continuous training of army officers in technical and engineering skills.

The CHEC has announced that the government of South Sudan has also selected the company to build new and upgrade existing railway lines.

Ethiopia too has been engaging Chinese companies to build its own standard-gauge railway networks. Within 3-5 years, Ethiopia is planning to have one of the most advanced rail networks in Africa. In 2011, the state-owned Ethiopian Railways Company (ERC)

signed two agreements with Chinese companies to build a 4,744-km rail network, which will link 50 urban centers, in all the states of Ethiopia, and to towns bordering Sudan, Kenya, and Djibouti. This plan is part of the Ethiopian government's five-year Growth and Transformation Plan (GTP).

In December 2011, ERC sealed a contract with China Civil Engineering Construction (CCECC) to build the 339-km Mieso-Dire Dawa-Dewele railway line, which is part of the Addis Ababa-Dire Dawa-Djibouti railway project. The actual track-laying started in May 2014, and the project is expected to be completed in 2015. The electrified railway will be 740 km long, and will provide both passenger and cargo transport from Ethiopia's capital to the Tadjoura Port in neighboring Djibouti.

It is estimated that the Addis Ababa-Djibouti railway will reduce travel time by half, to less than 10 hours, with a designated speed of 120 km/hour.

Djibouti has become Ethiopia's main outlet to international markets since it lost access to the Eritrean Port of Assab on the Red Sea, following the Eritrean-Ethiopian War that started in 1998. However, the building of the railway is not simply a trade route, but part of the development plan of the Ethiopian hinterland.

India has contributed to the Ethiopia-Djibouti project by providing a US\$300 million credit line, in June 2013, through its Export-Import Bank.

In June 2012, Ethiopian Railways and China Communication Construction Company (CCCC) had also signed a \$1.5 billion agreement to build a 268.2-km railway line in the northern part of Ethiopia. The line will run from Mekelle-Woldya to Hara Gebeya. This project links the north of the country to the Addis Ababa-Djibouti line.³

Road System

Road transport now accounts for 80% of the goods and 90% of the passenger traffic in the Nile Basin. The commodities transported by road are mainly agricultural products and locally manufactured goods. Haulage is mostly by trailer trucks and road tankers (fuel trucks).

The Nile region has about 650,000 km of roads, re-

3. For more details, see the ERC website: www.erc.gov.et.

sulting in a road density of 7 km for every 100 km². This is low when compared with other developing regions, such as Ibero-America (12 km per 100 km²), and Asia (18 km per 100 km²). What's more dramatic is the ratio of paved to unpaved roads: South Sudan has only 7,000 km of roads, but only 1% is paved; Rwanda 12,000 km with only 8% paved; Uganda, 81,000 km with 4% paved; Kenya, 160,000 km and 7% paved. Egypt has the highest ratio of paved roads with 65,000 km and 73% paved. For the region, only 86,600 km (14%) are paved.

The growing volume of cargo on generally inadequate road networks has resulted in increased traffic congestion and rapid deterioration of the already poor roads. The level of maintenance of existing roads is poor, resulting in many sections that are unusable during the wet season. South Sudan, which experiences extensive seasonal flooding each year, has the highest proportion of seasonally inaccessible roads. Road accidents in the region are generally high. Other problems affecting the road subsector, are trucks exceeding axle-load limits, resulting in premature road failure, and delays on transit corridors, mainly at seaports, weigh-bridges, border-crossing points, and inland terminal points, all of which increase transport costs.

The cost of road transport of bulk cargo is 3-4 times, and even higher, for longer than 1,000-km distance, compared to inland water or rail transport for medium and longer distances. Moreover, it has only limited potential to achieve economies of scale, and thus hinders industrialization and commercialization of agriculture.

Regional and Continental Corridors

With the new positive developments reported above, this situation can be altered for all time. There are a number of significant plans for development corridors being worked on, proposed, or studied in the Nile Basin.

FIGURE 4
**Trans-African Highway
Cairo-Cape Town**



The most important vision of the AU has been to integrate the continent in north-south and east-west directions, though the Trans-African Highway system (TAH) (Figure 4). The concept of the TAH, conceived in the 1970s, is a system of nine main transport corridors, whose objectives are: (a) providing the best possible direct routes between the capitals of the continent; (b) contributing to the political, economic, and social integration and cohesion of Africa; and (c) ensuring availability of road transport facilities among important areas of production and consumption in the continent.

The Nile region is traversed by four of the nine TAH routes: the Cairo-Cape Town, Lagos-Mombasa, Dakar-N'Djamena-Djibouti, and Cairo-Dakar routes. These routes are important for linking the Nile riparian states. However, roads are not efficient for medium- and long-distance transport, and have to be replaced or accompanied by railways.

The implemented, planned, and designed corridors of this region are:

1. North-South: Egypt's North-South Development Corridor

The Development Corridor proposed by Dr. Farouk El-Baz, an Egyptian-American space scientist who is now a scientific and economic advisor to Egypt President Abdulfattah Al-Sisi, can be considered the launching pad for the Cairo-Cape Town Corridor. It is modestly described as a "national" development project aimed at releasing the pressure from the densely populated Nile Valley, by building a multi-faceted transport network in the western desert of Egypt, parallel to the Nile Valley, but it also has regional and continental implications. It is called the New Valley, and includes:

as the countries of the main east-west line. The main line will be connected north-south through additional branches to Djibouti, Libya, Uganda, Cameroon, Nigeria, Burkina Faso, and Guinea. When the Cairo-Khartoum and Rabat-Dakar lines are completed, the Mediterranean, the Red Sea, and the Atlantic and Indian Oceans will be connected by land, forming an integrated economic-strategic unit for development of the continent.

The railway network will extend for about 14,000 km, and intersect major water and agriculture projects that have been advocated by LaRouche and *EIR* over three decades, such as the [Transaqua project](#) to transfer water from the Congo River to Lake Chad through a network of modern canal systems. The project also intersects a move to stabilize the Darfur region in western Sudan, which has suffered enormously due to its civil war, or a proxy war backed by Chad against Khartoum through Sudanese rebels supported by Western powers. Now, with normalization of relations between Chad and Sudan, and the continued peace process with the Sudanese rebels in Darfur, this region can reap the benefits of the “Development Corridor” concept.

However, Sudan’s own railways have to be rebuilt according to the new standardized gauge. The priority is to rehabilitate the Port Sudan-Khartoum line, and extend it further south to Babanusa, and westward to Niyala, the capital of South Darfur, the closest to the Chadian border. Work is under way in different part of Sudan, with Chinese participation, to modernize the existing 5,000-km railway network, one of the largest in Africa, but there are no plans to rebuild the network of narrow gauge tracks to standard gauge. Given the enormous international political and economic pressure that has been exerted on Sudan on the past three decades, Sudan itself will not be able to carry out this gargantuan mission. International assistance is a must.

In March 2011, Chad signed a US\$7 billion contract with the China Civil Engineering Construction Corporation, which is scheduled to begin work on a 1,340-km railway line connecting it to Cameroon and Sudan, with work to start in 2012. Chad started producing raw oil in 2003 with help of U.S. ExxonMobil and Chevron, in addition to Malaysian Petronas. A 1,070-km pipeline was built to export oil to international markets through Cameroon. Crude oil production in Chad was an estimated 115,000 barrels per day in 2011 and 105,000 bbl/d in 2012, most of which is

exported to earn the impoverished country badly needed income.

The China National Petroleum Corporation (CNPC) and the Chadian government jointly constructed the 20,000 bbl/d N’Djamena refinery, and it began supplying the local market with petroleum products in 2011. The extra income helped Chad launch a program of public works construction in 2009. However, the national railway program, with the connection to Cameroon and Sudan is to be financed by China. The US\$5.6 billion four-year plan covers a 1,364-km standard-gauge network, to be built to Chinese standards, and suitable for 120 km/h diesel operation using rolling stock to be supplied from China. Work is expected to take four years.

Two lines are proposed. The East line will run 836 km from N’Djamena to Adré on the border with Sudan. Last year, Sudan and China signed an agreement for a line running around 300 km through the Marra Plateau region of western Darfur, to link the Sudanese railhead at Nyala with Chad. The South line will run 528 km from the capital N’Djamena to Moundou on the border with Cameroon. An additional 250 km will have to be built to link to the Cameroon national railway network at Ngaoundéré. Cameroon has reportedly put forward a national railway master plan to build a modern standard-gauge railway network. The program was developed in partnership with the South Korea firms Korpec and Chunsuk Engineering, and is to be followed by feasibility studies. A key component of the program is to link to its neighbors Nigeria, Chad, and Congo.

3. The Lamu Corridor

The Lamu Corridor, officially known as Lamu-Southern Sudan-Ethiopia Transport Corridor (LAPSET), is a regional transport infrastructure project that will integrate landlocked South Sudan and Ethiopia into the East Africa transport network (**Figure 7**). The project includes several components such as:

- a three-berth-deep seaport at Manda Bay, Lamu, Kenya;
- standard-gauge railway from Lamu to Juba (South Sudan) via Isiolo; with a branch from Isiolo to Addis Ababa via Moyale;
- a two-lane motorway (Lamu-Isiolo-Juba; and Isiolo-Moyale-Addis Ababa);
- oil pipelines (South Sudan-Lamu; and Ethiopia-Lamu), giving South Sudan an alternative to exporting

its crude oil through northern Sudan to the Red Sea port of Port Sudan;

- an oil refinery at Lamu;
- fiber optic cable;
- three airports (at Lamu, Isiolo, and Turkana);
- three resort cities (Lamu, Isiolo, and Turkana).

The Lamu Corridor, one of the largest infrastructure projects in Africa, is estimated to cost US\$24.5 billion, and will be funded primarily by the governments of Kenya, South Sudan, and Ethiopia. Part of the financing is being sought through international loans. However, given the negative view of such developments in the West, the most likely source of financing would be China and the BRICS nations. The project is estimated to be completed in 2018.

The new Lamu Port, with capacity to dock large “cape size” vessels, will help to ease congestion at Mombasa and improve the flow of imports and exports.

On Aug. 2, Kenya Ports Authority and China’s CCCC signed the Lamu Port construction contract. The day before, the leaders of Kenya, Uganda, South Sudan, and Ethiopia met in Nairobi to discuss joint financing of the Lamu Corridor. Construction work started in September.

The North-South Economic Axis

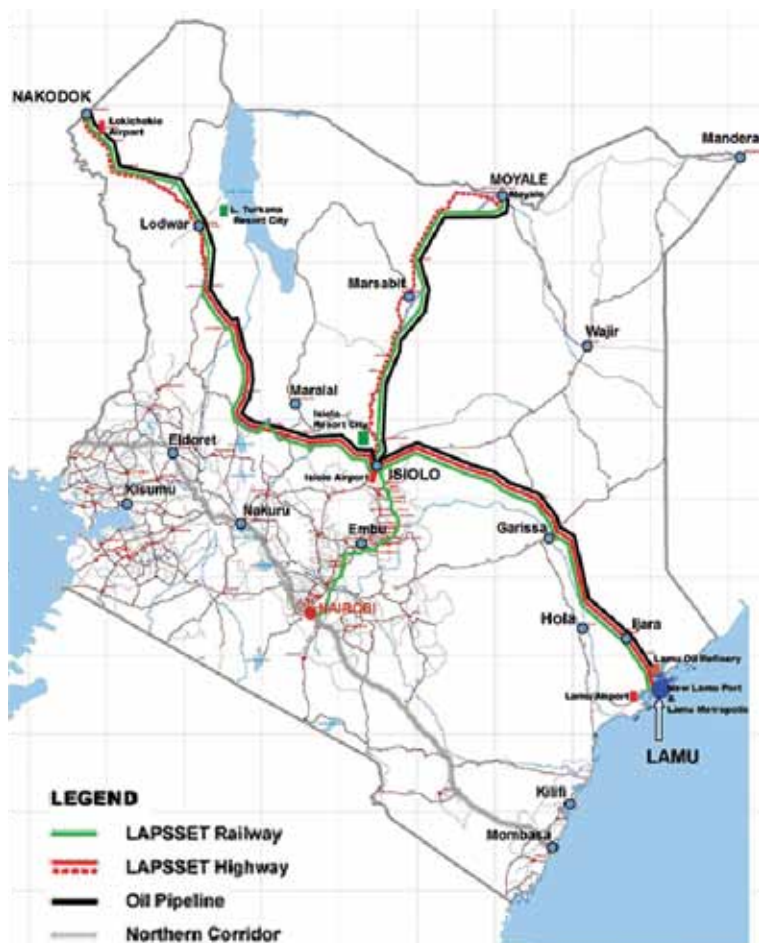
Maritime and inland waterway transportation forms the third leg of the intermodal system of transport, interfacing road and rail.

Taking developed regions of the world, such as Europe as an example, coastal and inland shipping plays a crucial role in the efficiency of an economic system. The most developed countries in Europe, benefit from their dense network of canals and rivers which connect them to one another, as well as the major ports of the continent such as Rotterdam, Antwerp, and Hamburg.

Despite the fact that it is a slower form of transport than road or rail, coastal, river, and canal shipping are extremely efficient, and cost one-tenth that of road transport, and about half that of rail. The type of ship or barge suitable for the Nile, could carry 40 truckloads or more.

FIGURE 7

Lamu-Southern Sudan-Ethiopia Transport Corridor (LAPSSET)



Because of the lack of development along the Nile Basin, river transport is grossly under-utilized and under-developed, contributing to the high cost of transportation. The development of river and canal infrastructure for shipping complements that used for regulating and distributing the Basin’s water for agriculture, as well as urban and industrial purposes. An obvious example is the 60-km-long main irrigation canal of the Toshka Project whose cross-section is twice that of the Rhine Main-Danube canal. By the same token, the barrages along the river that regulate the flow of the water to enhance irrigation, also regulate the depth of the river, all of which is necessary for shipping. Furthermore, hydroelectric facilities form an integral part of these structures.

The Maritime component begins at the Mediterra-

nean coast and entrance to the Suez Canal, traveling along the 2,200-km of the Red Sea, and the over 8,000 km of coastline from the Gulf of Aden south along the Indian Ocean coast of Africa. The numerous ports along this coast not only form routes to Asia and other continents, but also a north-south axis that further serves to integrate the economies of the region.

This coast is endowed with relatively good ports, such as Port Suez at the lower entrance of the Suez Canal and Sokhna Port on the Red Sea in Egypt, and Sudan's Port Sudan, Djibouti, at the mouth of the Red Sea. which is the principal port for land-locked Ethiopia. Kenya's Mombasa and Tanzania's Dar es Salaam are modern ports, but Eritrea and Somalia have poor ports. while the Chinese are building a new port at Lamu, Kenya, near the Somalia border.

While many of these ports have relatively modern facilities, they are becoming over-utilized, and must be expanded and upgraded. But the bigger problem is the poor infrastructure, especially rail going into the hinterland, which causes the cargo to accumulate in the harbor. preventing the speedy loading and unloading of ships.

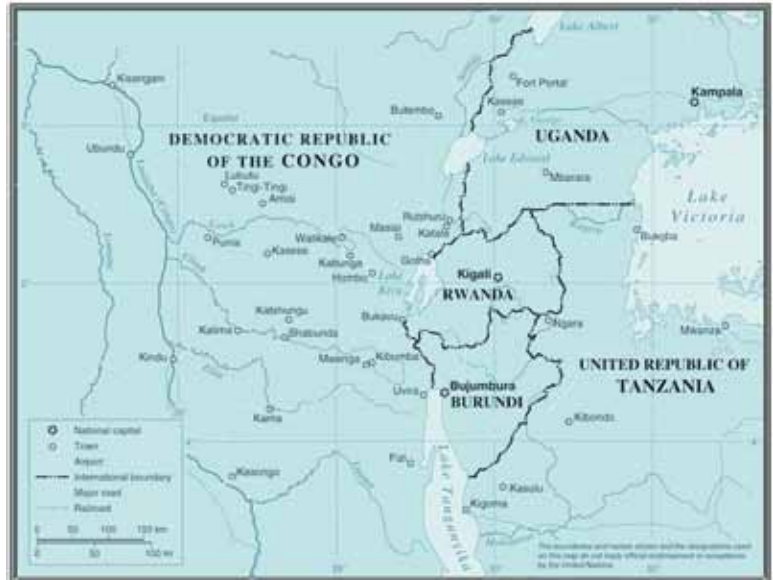
Only the Egyptian Mediterranean ports of Alexandria and Damietta on the Nile Delta are linked to navigable river systems, in this case the Nile.

The Longest River in the World

As for the Nile itself, with a length of over 6,800 km, the Nile is the longest river in the world, almost three times longer than the Rhine-Main-Danube-Black Sea river and canal system that stretches from Rotterdam to the Black Sea. The Nile River's basin interfaces in the South with the region of the African Great Lakes in East Africa.

The river itself has two sources: the Blue Nile and the White Nile which join together at Khartoum in Sudan (Figure 2). The Blue Nile has as its source Lake Tana, located at an elevation of 1,829 m in the high mountains of northeastern Ethiopia, from which the river flows through steep mountain valleys, entering eastern Sudan, and flowing to the northwest where it joins the White Nile at Khartoum, where the Nile continues north to the Mediterranean. Because of the high

FIGURE 8
The Great Lakes Region



mountains and cataracts (shallow areas or white water rapids), the Blue Nile is not navigable.

The White Nile has as its source Lake Victoria in Uganda. With an area of 68,800 km², Africa's largest lake, and the world's second-largest freshwater lake. Victoria is part of the system of the African Great Lakes which form the East African Rift (**Figure 8**).

To the west and south of Victoria lie a series of lakes, namely, from north to south, Lakes Kyoga, Albert, Edward, Kivu, and Tanganyika and further south, Lake Malawi. These lakes bring the Nile Basin in communication with Uganda, DR Congo, Rwanda, Burundi, to the east, and Kenya and Tanzania and even Malawi and Zambia.

Lake Tanganyika continues a southerly course for over 600 km where it touches the northeast corner of Zambia. Three hundred kilometers to the east of that point, traveling along the Tanzania-Zambia border, one reaches Malawi and the northern tip of Lake Malawi, which stretches south for another 600 kilometers, coming into direct contact with Mozambique, which also lies on the Indian Ocean, to form a land-bridge to Southern Africa.

Unlike the American Great Lakes, these lakes are not linked with canals. Nonetheless, they lie in some of the most fertile regions of Africa, and therefore form centers of economic development in themselves. While

already serving as regional waterways, they need to be seriously upgraded with navigation aids, modern ports, and integrated into the network of roads and railways so as to be part of the North-South and East-West transport networks.

Coming back to the White Nile's source near Jinka on the northern shore of Lake Victoria in Uganda, it flows north, where it is joined by rivers to the east and west of the basin. It then passes the South Sudan border at Nimule, continuing to flow north, where it joins with the Blue Nile at Khartoum. From here the Nile River flows through Lake Nasser, crossing into Egypt after the break caused by the Aswan High Dam, to Cairo, the broad delta region, and then to the Mediterranean. Unfortunately it is not navigable for its full length. To make it fully navigable would be more than an engineering challenge because of the nature of the topography.

Navigation only begins on the White Nile at the South Sudanese Capital of Juba to the north Sudanese capital of Khartoum, after which, a series of cataracts and the Merowe Dam prevent navigation until the southern reaches of Lake Nasser. Called the "southern reach" of the Nile, it is over 1,700 km long. For South Sudan, which is devoid of railways and good roads, the river is its most reliable transport artery. Its improvement would greatly aid in building the roads and railway that are needed along its path.

The completion of the 370-km-long Jonglei Canal, avoiding the Sudd marshes between Bor and Malakal, would dramatically improve navigation. As mentioned in Part III, the canal would drain the Sudd, and turn the region into a bread basket, where the river-canal system could serve as the key transportation artery.

Below Khartoum, to the southern tip of Lake Nasser, a series of cataracts and dams block possibilities for navigation. Lake Nasser is navigable for no less than 550 km, until the Aswan High Dam, after which navigation once again becomes possible for another 1,200 km to the Mediterranean.

In Egypt, the Nile divides into three principal navigable waterways: The first is the Aswan-Cairo Waterway, running for 960 km, beginning at the foot of the Aswan High Dam. From there, the Nile enters into the river's great delta where it divides, with one branch bearing eastward, the Cairo-Damietta Waterway, from which ships can easily reach Port Said, directly on the Suez Canal.

The second branch is the Cairo-Alexandria Waterway which includes the 118-km-long Nubaria Canal. Alexandria is Egypt's main port of entry, with two-thirds of its exports and imports passing through its harbor. Improving this waterway is high on the list of projects, not only for transportation, but for improving the irrigation of that part of the delta.

There is also the Ismailia Canal which runs from North Cairo to Ismailia directly on the Suez Canal. This is primarily a conveyor of water for irrigation, as well as bringing freshwater to the Canal Zone. While its cross-section is too small for the classes of ship that ply the Nile, studies are being done to considerably enlarge the canal. If developed for shipping, it could transform Ismailia into a major transshipment port, for cargoes destined for Cairo and points south along the Nile itself.

The New Suez Canal

In Egypt, more than 90% of the haulage of freight within the country is over the road network. The Egyptians know this has to change, and that the only way is to expand the rail network and develop the river systems. More to the point is the fact that the Egyptian government is determined to fully develop the Nile as major north-south axis, not only within Egypt, but to points further south so that it can be integrated into the great industrial and logistical complex they will be developing as part of their New Suez Canal project.

Regional coastal shipping is being developed in the Red Sea, and on the Indian Ocean coast of Africa. New shipping services will be developed to integrate the region. For instance, the Egyptian government has restored ferry services from Port Suez to Saudi Arabia just across the Red Sea.

On the Nile itself, the government has an integrated national plan to reconstruct and develop the entire length of the Nile within Egypt, to enhance irrigation, freshwater distribution, and transportation. New river ports are being developed along its full length.

Qalaa Holdings, an investment fund that is taking the lead in this, is concentrating on investment in infrastructure, and is eager to develop the entire basin down to Uganda, where it has acquired the concession to manage the Rift Valley Railway in Kenya, Uganda, and Tanzania. Built by the British, this railway fell into disrepair, but the company has now greatly improved it, and is even interested in expanding it to Juba where it can be linked with the river transport on the White Nile.



YouTube

The Egyptian government plans to fully develop the Nile as a major north-south axis, to be integrated into the great industrial and logistical complex it will be developing as part of the New Suez Canal project, shown here under construction in September.

In Egypt, Qalaa is building up a fleet of 100 motorized barges with the view of expanding greatly river and canal transportation.

In addition to developing the great complex at the Suez Canal Zone, which we described in detail in the Part I of this series, the Egyptian government has just announced that it plans to create a global grain and food logistics center at Damietta to serve the entire region, a project which Prime Minister Ibrahim Mehleb recently declared “a large national project that is no less important than the Suez Canal project.” The project would expand the port to accommodate ships carrying up to 150,000 tons of grain, as well as expand piers dedicated to smaller river and canal ships. This project will serve to quadruple the capacity of Egypt’s ports from 2.5 million tons to 10 million tons. It will be complete with food processing industries.

Conclusion

The new Egyptian government’s relaunching of long-abandoned development programs has ignited a spark of optimism in the country, which could become contagious in the rest of Africa. However, this development should not be assessed as an issue separate from the massive shift that has taken place in the past few years. China’s and the BRICS’ initiative to break ground for a new world order based on economic cooperation and respect for the sovereignty and independence of

each and every nation has paved the road to this important development.

As is evident from the facts presented above, China has already been involved in ground-breaking bilateral and multilateral economic development agreements with the nations of the Nile Basin and East Africa, over the past three years. Unfortunately, the U.S., Britain, and their allies in Europe, have been pursuing a “creative destruction” agenda in Africa. The war on Libya in 2011, with the involvement of Saudi Arabia and Qatar’s al-Qaeda jihadists fighting side-by-side with NATO, wreaked havoc in

that nation, spilling over to Mali, Algeria, and Nigeria.

The support given by the Obama Administration to the Muslim Brotherhood in Egypt almost drove that nation to a bloody civil war. Egypt is now fighting terrorists both in Sinai in the east, and fending off terrorism emerging from Libya.

The failed, decades-long policies of the West in the Horn of Africa have created a failed state in Somalia. Somalia, which is bleeding internally, has also become a security threat to Kenya, particularly, and also to the international trade routes offshore in the Arabian Sea and Gulf of Eden, through pirate groups emerging out of Somalia. The Somali al-Qaeda-linked terror group Al-Shabab has intensified its terror attacks inside Kenya, since the latter entered into agreements to build the Lamu Port and Lamu Corridor with China. Somalia is not a hopeless case. However its salvation depends completely on the shift in international relations and the real development of the region around it.

The optimism in East Africa has to spread to West Africa and the rest of the continent, not the other way around, as the Ebola epidemic could potentially spread from the west to the east. All international efforts have to be focused on containing and eliminating the Ebola threat and its root causes, and in addition, as Helga Zepp-LaRouche declared at the recent Schiller Institute conference in Germany, should be accompanied by creating a new and just world economic order.

Science Drivers To Promote The Common Aims of Mankind

Nov. 17—We conclude here our publication of selected speeches from the Schiller Institute's Oct. 18-19 "New Silk Road" conference in Frankfurt, Germany. All presentations are available in video at <http://newparadigm.schillerinstitute.com/>.

This final panel, on "Science Drivers," is best introduced by referring back to Institute founder Helga Zepp-LaRouche's conference keynote. "Let us create a mass movement for the common aims of mankind," she said, "for a vision of the future, a world where we have accomplished energy and raw materials security for all of humanity, because we have established an industrial base on the Moon, for mining of helium-3, for fusion energy production and other raw materials, which will give us the condition for an isotope economy, precision medical procedures, and manufacturing space propulsion with one-gravity constant acceleration, space travel to farther away heavenly bodies, Mars, and asteroids. And where we will be able to have the defense of the planet

Earth against asteroids, meteorites, and comets.

"We will have new scientific revolutions to find out what our Solar System, our galaxy, the universe with its billions of galaxies—what it really is. This new inclusive security architecture has to proceed from that standpoint. The New Silk Road concept will not only be a connection among nations on the planet, like the ancient Silk Road, but it will be a World Land-Bridge connecting all continents, and it will also lift mankind up to the stars. . . .

"This must become the identity of mankind in the New Silk Road: that of a creative species, which will be in cohesion with the laws of the cosmic order."



Lunar Helium-3 for a Fusion-Powered Future

Jason Ross works in the United States with the LaRouchePAC Science Team, known as “the Basement.” The full title of his speech was “A Promethean Approach to Developing New Forms of Fire: Lunar Helium-3 for a Fusion-Powered Mankind.”

...The Basement has been working with Lyndon LaRouche for nearly a decade, and its role has changed over the years. Initially created to work on economic animations, the Basement was tasked with animating the most essential feature of economy: the discoveries that drive it forward. A “narrow path” of discoveries was focused on, from Kepler, to Gauss, to Riemann. After this work on scientific practice itself, LaRouche has assigned the Basement projects on scientific and economic policy, from space exploration to large-scale infrastructure, from planetary defense to fusion, from metaphor to well-tempered musical tuning.

His most recent assignment to us has been to develop mankind as the measure of the universe, by a fuller understanding of creativity as a force of nature—of creativity as a natural principle, like gravitation, electricity, or any of the others—and to do this from the standpoint of the Russian-Ukrainian scientist Vladimir Vernadsky.

I will use the specific, and necessary, prospect of developing fusion power, and exploiting the most useful fuel for this, helium-3, to express the truest identity of the human individual: a creative, Promethean identity. Among all life, it is only human beings that willfully change their mode of existence from one generation to the next, and this is done uniquely by discov-



Jason Ross: “I will use the specific, and necessary, prospect of developing fusion power, and exploiting the most useful fuel for this, helium-3, to express the truest identity of the human individual: a creative, Promethean identity.”

ering and implementing new principles.

Although this is the natural condition of man, this is not what always happens. Today, we see the BRICS nations developing in a very positive direction (as we’ve seen throughout this conference), while the British Empire is seeking to derail this and prevent such development. This is oligarchism.

The Story of Prometheus

The ancient story of Prometheus is the most compact statement of the fight between humanism and oligarchy. Aeschylus tells this history in his play *Prometheus Bound*. After Zeus (the chief of the Olym-

pian gods) denied mankind the use of fire, Prometheus brought fire down from Heaven (from the oligarchy) and gave it to humanity. For this he was punished by Zeus, with the torment of being bound to a rock, to have an eagle (Zeus) eat out his organs every day.

Yet Prometheus knew that he was the victor, and he didn’t regret what he had done. He couldn’t have taken from him the fact that he had done the right thing. This use of fire—Prometheus giving man fire—this was the first technology. This was the first existence of the human species. With the use of fire, we are no longer a biological species; we are uniquely the cognitive species. Let’s take a look at what Prometheus thought of mankind before the gift of fire.

Prometheus says:

First of all, though they had eyes to see, they saw to no avail; they had ears, but they did not understand; but, just as shapes in dreams, throughout their length of days, without pur-

FIGURE 1



Malachite (left) and a rock less significant for metallurgical purposes.



pose they wrought all things in confusion. They had neither knowledge of houses built of bricks and turned to face the Sun, nor yet of work in wood; but dwelt beneath the ground like swarming ants, in sunless caves. They had no sign either of Winter or of flowery Spring or of fruitful Summer, on which they could depend but managed everything without judgment, until I taught them to discern the risings of the stars and their settings, which are difficult to distinguish.

Yes, and numbers, too, chiefest of sciences, I invented for them, and the combining of letters, creative mother of the Muses' arts, with which to hold all things in memory. I, too, first brought brute beasts beneath the yoke to be subject to the collar and the pack-saddle, so that they might bear in men's stead their heaviest burdens; and to the chariot I harnessed horses and made them obedient to the rein.

Think of all these changes—the calendar to know when to plant crops, dwellings for health, animals to help with manual labor, wheeled vehicles pulled by beasts, music, numbers, and understanding—thought. Think of this condition: “though they had eyes to see, they saw to no avail.” How many people today does that describe?

From this gift of fire, Prometheus says that man “will learn many arts,” from fire, and indeed “fire” is the basis of developing technology. With basic wood fire, we could cook food, heat our dwellings, provide light and safety at night, and change some materials, such as hardening some rocks and bending wood by boiling it first. Then, a new kind of “fire” opened a whole new domain of potential.

Metallurgy: A New Fire

This new form of fire was charcoal, created by burning wood without air, in a pile covered by earth. Charcoal, wood freed of water and impurities, burns hotter and is very pure. With charcoal, we made the first new machine, the first chemical machine: metallurgy. The Bronze Age began.

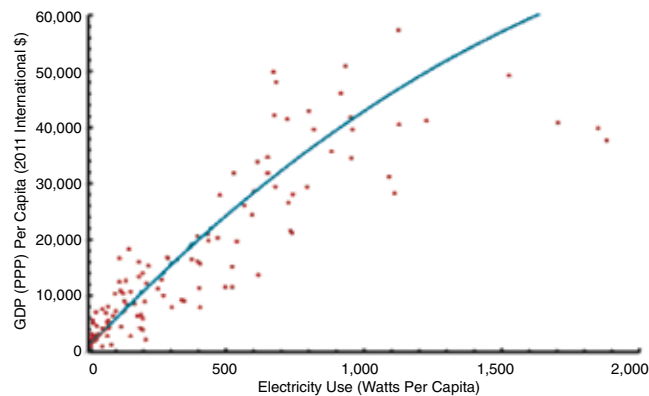
Let's take a look at an example of this (**Figure 1**). Here you see two stones: one gray and one green. There are physical differences: The colors are different; the densities are different. Maybe one is sharper than the other. Maybe one is heavier. Perhaps one can be used for drawing—perhaps you could crush the green stone and paint with it. But the real importance of this green stone comes only with charcoal. For this example, we are using an acetylene torch rather than charcoal, so you can watch the transformation. The gray stone became hot and glows, but it remains a rock. On the left, the green stone transforms into metal! This is copper.

Without charcoal, without the chemical power of charcoal, you could never make this change. You cannot just beat the rock, you can't yell at it, you can't step on it: You need charcoal, a new form of power. This is the beginning of making new materials. If you add tin to copper, you create bronze.

So if somebody is studying what's in the Earth, and they find bronze, this is a material that never existed before human beings. It's a newly created substance. Humanity became a geological force, changing the crust of the planet.

In order to make these metals, large swaths of forests were cut down and burned to make charcoal, and one of the first environmental regulations was made several hundred years ago to protect forests from charcoal-burners. But do you know what saved the trees? Coal did! Coal saved the trees! With the use of coal,

FIGURE 2

Electricity Consumption vs. GDP, Per Capita

higher temperatures and greater energy densities could be acquired much more easily and quickly than with trees, and we saved the forests. Wood could be better used for building a house or making furniture instead of burning it, and with coal, we could make the first powered engine—the steam engine.

Remember that Prometheus explains his gift of the knowledge of using animals for labor. Now we have rocks that can help us do our work! Unlike trees, coal can power a factory to save tremendous labor, or transport people and goods by steam-powered trains, letting horses and oxen take a rest from their loads, and allowing laborers to develop more skilled occupations and pursuits.

Later, petroleum was developed as a new source of fire. With the higher energy of petroleum (and its fluid form), the internal combustion engine was possible. Without wings, mankind now had the power required to fly. We did not make airplanes with coal. Distances shrank, time shortened, and humanity became more connected.

The discovery of the principles of electromagnetism allowed power to be transmitted by thin wires, rather than mechanical motion or transporting large amounts of coal, and electric motors dramatically transformed production techniques.

Jumping ahead to the present day, let's look at the use of electromagnetism. Here you see a chart (**Figure 2**) showing the correlation between per-capita electricity use and per-capita GDP (PPP). Although GDP is not an accurate measure of economic wealth creation, this image makes it absolutely clear that a nation without electricity will be poor. While some disgusting people

propose “appropriate technologies” for African nations, such as solar panels and small windmills for water pumping, China is investing billions in real infrastructure!

Back to our train of development: breakthroughs in chemistry allowed for new processes, such as refrigeration and the creation of artificial fertilizers. This latter discovery, by Fritz Haber, increased the potential human population on the planet by billions.

Think about how powerful one discovery can be! Petroleum could be transformed into new materials. (Plastics are made from petroleum, in case you didn't know.)

Just as forests were saved by the development of coal, we will save our petroleum resources from being burned up, by the development of a new, higher form of fire. This is the power of the nucleus. Far more powerful than the ancient machines of the lever and the screw, far more powerful than the power of chemical changes and combustion, is the potential of the atomic nucleus, the most powerful form of “fire” that we know of.

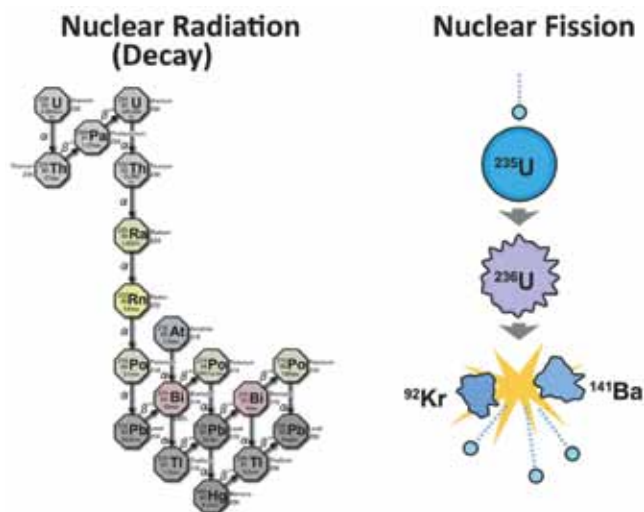
Although nuclear science began over a hundred years ago with the work of Henri Becquerel and Marie Curie, this domain has neither been adequately explored, nor cultivated. And its remaining mysteries and promise provoke fear in a superstitious and foolish population, rather than marveling at our own might. Why has nuclear power not been developed? And what is it, really?

What Is Nuclear Power?

Radiation was found to be a mysterious new source of power, emanating from certain materials. In addition to the radioactive uranium and thorium known to them, the Curies isolated polonium and radium, which are much more radioactive. Yet, even radium, which is quite radioactive, is not powerful as an energy source. You would need over 100 kilograms of radioactively decaying radium per household to provide the needed power. This is not how we make power. Nuclear power plants are not based on radiation; radiation's no good for producing power.

Nuclear science provided fire not from radiation, but by the different process of fission, which is the dividing of an atomic nucleus, rather than spontaneously emitting small bits of radiation from it. By organizing certain nuclear isotopes, mankind was able to create chain reactions of fissions causing other fissions, allowing for the release of absolutely tremendous, inconceiv-

FIGURE 3



able amounts of power. The first atomic scientists were so shocked by the amount of energy involved, that they thought the law of conservation of energy did not apply to this stunning process—and, in fact, it doesn't.

On the left (**Figure 3**), you see a chain of decay from uranium to lead. Each step in the chain happens spontaneously, and releases a small amount of energy. On the right, a neutron coming from the top of the screen hits uranium, causing it to break into pieces, and releasing more neutrons, each of which can strike another uranium nucleus. If you make the fissions occur very, very rapidly, you have an explosive device. If you make

them occur at a controlled rate, you have a nuclear power plant.

Today, a few grams of uranium provide as much power as tons of coal or barrel upon barrel of oil, and a nuclear economy provides many other benefits as well, such as food irradiation, nuclear medical tests and life-saving scans, and cancer treatments, as well as smoke detectors, which use a small amount of man-made nuclear material for their smoke sensor. Why has nuclear science not been fully developed? What happened?

The answer is: Zeus.

Let's look at a chart of this process (**Figure 4**), a chart of power use per person, over the time of the United States. There are two immediate observations to make: First of all, per-capita energy use increases over time, and, second, the type of energy changes over time, moving to the higher forms of fire we have discussed. That's the general trend.

But, look at the time from 1960 to today. What's different? We see two changes from the long-term trend: first, that power is no longer increasing; and, second, that the newest form of fire, nuclear, did not become a dominant source. This is unusual. Coal almost completely replaced wood, for example. But this did not happen with nuclear. Why are we still burning coal, when we could be using nuclear power?

The answers are false environmentalism, and true colonialism. By and large, developing nations were denied credit and technology to join the nuclear age, despite efforts of U.S. President Eisenhower, for example. The "environmentalist" movement, a ridiculous concoction created by such people as

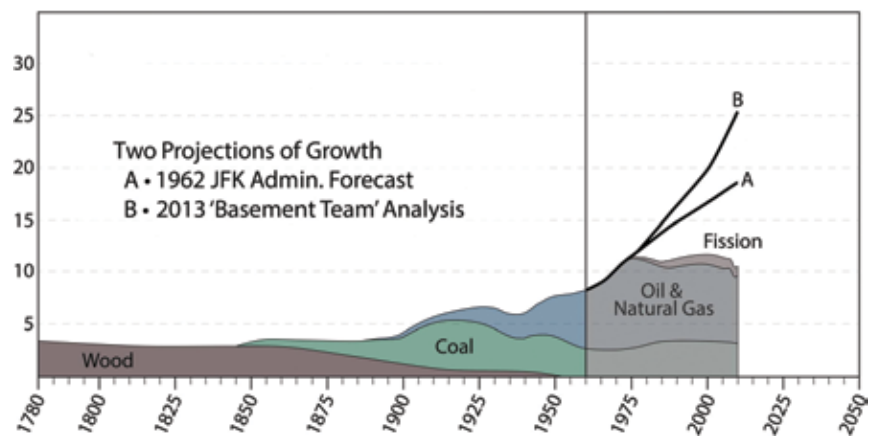
the Nazi Prince Bernhard and the disgusting oligarch Prince Philip, who wants to reduce the world population by billions—environmentalism has declared anything uniquely human to be "unnatural" by definition. If we do something that nature does not do on its own, it's somehow "bad," they say. Isn't the power of the human mind a force of nature? Where does this come from? Why were nuclear plants targeted in particular, by well-funded media campaigns? Why are we still using coal?

The chart shows where President Kennedy's Administration expected power to be by today—more than

FIGURE 4

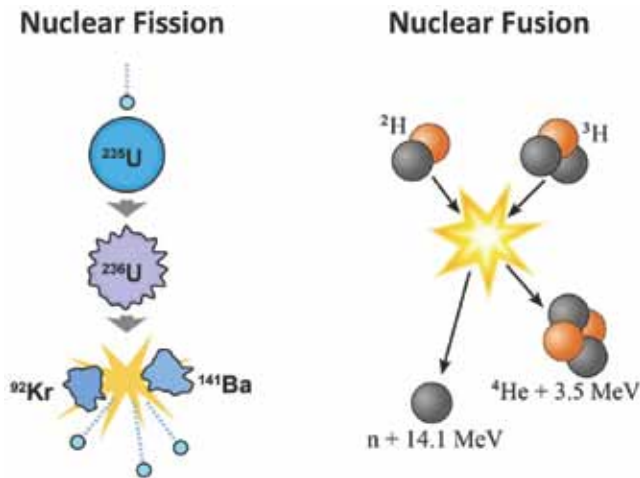
United States Energy-Flux Density

(kW Per Capita, Divided by Fuel Source)



Source: Data from U.S. Energy Information Agency

FIGURE 5



double the current level. This has not only been a collapse of the U.S.: Worldwide per-capita energy use is only around 20-25% that of the U.S., and the needed increase from a world standpoint is even more dramatic, a stunning amount. The implementation of fission, including the thorium cycle much studied by India, is an absolute necessity, without which it will be physically impossible to ensure the dignity of all. But we need more; The time has come for an even higher kind of fire, the overdue fire of nuclear fusion.

Nuclear Fusion

Unlike fission, which is the splintering apart of a large nucleus, fusion is the uniting of two small nuclei, which produces an order of magnitude more power than fission, and, critically important for us, it produces a different kind of power, especially with the best fusion fuel within our grasp: helium-3 (**Figure 5**).

To explain the importance, let's look at this chart (**Figure 6**) of several kinds of fusion, and the resulting products. Deuterium and tritium are isotopes of hydrogen, which means that they have one proton (which makes them hydrogen), but deuterium also has one neutron and tritium has two. Chemically, they behave like hydrogen. For exam-

ple, you can make heavy water with deuterium. Just as two hydrogen atoms bond to form a molecule of hydrogen gas, releasing a small amount of energy, these isotopes can be combined chemically.

Most laboratories study the fusion of deuterium and tritium, where the two protons and three neutrons form an alpha particle (helium-4, two protons and two neutrons) and a single neutron, releasing 10 million times more energy than combining those same two atoms chemically.

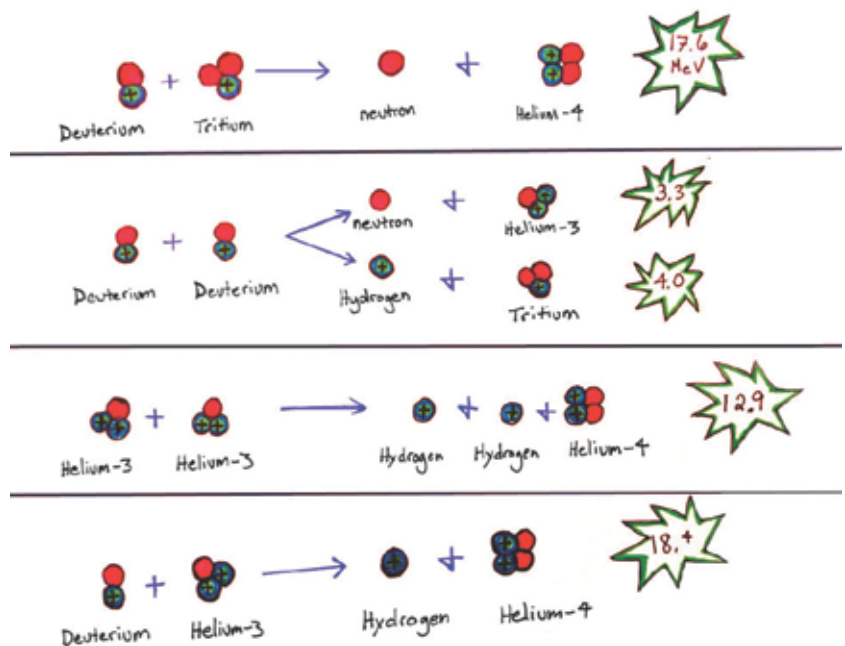
The power is not in the materials, but in the mind, in our power to bring about new changes in nature.

Now, the neutron produced by this fusion of deuterium and tritium is a big problem, because it cannot be controlled by the electrical and magnetic fields of magnetic- or electrostatic-confinement experiments. That means that the neutrons go wild, smashing into the walls of the test apparatus, making them hot. Believe it or not, these advanced designs, like the ITER being built in Cadarache, France, would produce electricity by heat. The neutrons hit the wall, making it hot; the heat would boil water, producing steam, which then blows through a sophisticated windmill to spin a dynamo generator. This is ancient technology!

This is why helium-3 is so beautiful.

FIGURE 6

Types of Fusion Reactions



LaRouchePAC/Natalie Lovegren

What is an isotope? Here you see Mendeleev's table of the elements (**Figure 7**), and here a modern version (**Figure 8**). There are fewer than 90 elements found in the crust of the Earth in any appreciable quantity. Yet, we have studied over 100 elements, by making them. And here (**Figure 9**) you have a graph of not only elements, but also isotopes. Look at how many there are—over 1,000! While the chemist may not see a difference between two isotopes of tin, nuclear and living processes have different relationships to isotopes.

Now that we are excited about and eager to get our hands on some helium-3, where can we find it? Unfortunately, there is less than a ton available on the entire Earth! But conveniently for us, there are over a million tons of it on the Moon! If only we could use it, both there, and by bringing it back to Earth. Unlike diamonds, which would be a waste of fuel to bring back from the Moon, helium-3 is worth far more than its weight in gold. This will require a major investment and a significant intention to succeed. And China is making moves in this direction.

FIGURE 7
Mendeleev's Periodic Table

ОПЫТ СИСТЕМЫ ЭЛЕМЕНТОВ

ОСНОВАННОЙ НА ИХ АТОМНОМ ВѢСѢ И ХИМИЧЕСКОМЪ СХОДСТВѢ

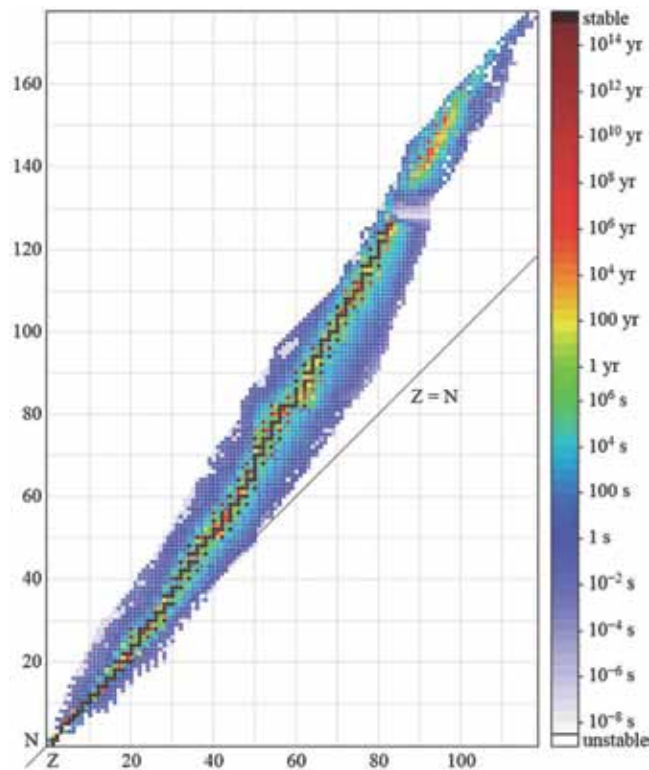
	V = 50	Zr = 90	? = 180.
	V = 51	Nb = 94	Ta = 182
	Cr = 52	Mo = 96	W = 186.
	Mn = 53	Rh = 104,4	Pt = 197,4
	Fe = 56	Ru = 104,4	Ir = 198
	Ni = 58	Pd = 106,6	Os = 199.
N = 1	Co = 59	Ag = 108	Hg = 200
	Be = 9,4	Mg = 24	Zn = 65,2
			Cd = 112
	B = 11	Al = 27,4	? = 68
			U = 116
	C = 12	Si = 28	? = 70
			Sn = 118
	N = 14	P = 31	As = 75
			Sb = 122
	O = 16	S = 32	Se = 79,4
			Te = 128?
	F = 19	Cl = 35	Br = 80
			I = 127
Li = 7	Na = 23	K = 39	Rb = 85,4
			Cs = 133
			Tl = 204
		Ca = 40	Sr = 87,6
			Ba = 137
		? = 45	Ce = 92
		?Er = 56	La = 94
		?Yt = 60	Di = 95
		?In = 75,6	Th = 118?

Д. Менделѣевъ

	Group																										
	I	II																	III	IV	V	VI	VII	VIII			
1	1 H																										
2	3 Li	4 Be																	5 B	6 C	7 N	8 O	9 F	10 Ne			
3	11 Na	12 Mg																	13 Al	14 Si	15 P	16 S	17 Cl	18 Ar			
4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr									
5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe									
6	55 Cs	56 Ba	*	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn									
7	87 Fr	88 Ra	**	104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Cn	113 Nh	114 Fl	115 Uup	116 Lv	117 Uus	118 Uuo									
8	119 Uun	* Lanthanides		57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu									
		** Actinides		89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr									

“Helium-3, an isotope of the element helium, is an

FIGURE 9

Stability of Nuclides

Atomic number (Z) goes to the right, atomic mass (N) goes upwards. Colors indicate the stability of the nucleus.

ideal fuel for nuclear fusion power, the next generation of nuclear power. It is estimated that reserves of helium-3 across Earth amount to just 15 tons, while 100 tons of helium-3 will be needed each year if nuclear fusion technology is applied to meet global energy demands. The Moon, on the other hand, has reserves estimated at between 1 and 5 million tons.”

What will a society developed upon the platform of helium-3 fusion look like?

Such a society would not have concerns about energy (it could even use incandescent light bulbs!) or materials, since the power of a fusion-powered plasma torch would be the ultimate in materials processing, dissociating everything into its constituent elements. Trash or ore could be vaporized and decomposed into its constituent elements. Even the oceans could be usefully mined for trace minerals dissolved there. Speaking of oceans, desalination of seawater to provide freshwater for cities and farms would be within the means of a fusion economy, allowing mankind greater defense

against the uncertainties of nature. In the nighttime, we turn on a light; in a drought, we could turn on the water.

New materials, isotopically tuned, could usher in a new generation of advances in materials science. For example, artificial diamonds using only carbon-12, are stronger than normal diamonds. Nuclear medicine could be much improved, with the ability to produce needed radioisotopes on a smaller and more local scale, for use in medical imaging and treatment of disease.

And this power will extend beyond the Earth. We must develop a power over the inner Solar System as a whole, and fusion can make this possible.

At the Schiller Institute conference held here last April, we discussed the theme of planetary defense, and the potential for an as-yet-undiscovered asteroid or comet striking the Earth and wiping out an entire nation or even human life in its entirety. Better observatories, including space observatories, are needed to detect asteroids; better information sharing is needed to analyze the data; and, most importantly, we must have the ability to do something about these threats! Otherwise, it might be impossible to do anything about a recently discovered threat, and we would have the terrible situation of knowing of the coming destruction while being impotent to stop it.

I’ll show two examples¹ of how inadequate chemical rockets are. The first is a movie of how the NASA Messenger mission was sent to study Mercury. Messenger was launched in August 2004 for a 2011 insertion into Mercury orbit, taking over six and a half years to arrive, by using six “gravity assists”: one from the Earth, two from Venus, and three from Mercury itself, in addition to five rocket engine firings to change its orbit. In these “gravity assists,” the satellite travels close enough to a planet to get a small tug as it passes by.

Similarly, you see here the ESA Rosetta mission to study a comet. Rosetta was launched in 2004, and will arrive and land on the comet next month,² taking a full decade to fly by the Earth, Mars, Earth again, an asteroid, the Earth yet again, and another asteroid before reaching its target. This path is like a train schedule that has you change trains ten times to go 20 kilometers. Just imagine: If it would take ten years to reach a newly discovered dangerous asteroid, we could not do anything about it!

1. The video clips can be seen on the Schiller Institute’s [New Paradigm](#) website.

2. It landed on Nov. 12.

These satellites are like a hot air balloon relying on air currents to move it to its intended destination in a mostly passive way. In contrast, with fusion power, we could carry enough fuel to have a rocket that can fire its engine continuously, going faster and faster and faster as it travels, able to reach any location in the inner Solar System within days or a couple of weeks! If we are to ensure the survival of mankind, we must take this threat seriously, and develop the power, the platform, from which it is a solvable problem.

I mentioned China's work toward lunar development and helium-3, and I must mention that in addition to getting the helium-3, we also need to work out how to make the fusion happen, since we do not currently know. Fusion experiments continue to surprise us, because we do not yet know everything. On this front, too, China is progressing, with a world-leading superconducting tokamak, and plans to educate 2,000 fusion scientists by 2020. Instead of the suicide pact of the EU and the trans-Atlantic banking system, this is the direction the world must take: to develop as would make Prometheus proud of us!

Creation Itself

To do this, we must now look at the act of creating fire: the act of discovery itself. What kind of thinking is required for the scientific advances required for the future?

LaRouche has identified two triads of thinkers responsible for moving science far forward. The first triad, which created modern science, were Filippo Brunelleschi, Nicholas of Cusa, and Johannes Kepler. Brunelleschi discovered that physics, rather than geometry, defined space in the small, and Cusa's discoveries on the very large—on intelligence itself as existing within the contradictions of pure rationality—these discoveries were unified by Johannes Kepler.

Kepler, in his beautiful life and work, sought to know God's reason for creating the world as it was made. Why were there the six planets known to him? Why did they have the orbits they did, rather than others? And what made each one move as it did? Why did they change their speeds? Kepler shocked his contemporaries, by bringing Earthly physics to bear on solving problems in the heavens, and discovered the Sun as the cause of the planets' motions, and the composer of the system as a system. He did this by demonstrating without a doubt that mathematics could never discover what science could demonstrate.

The work of the second of LaRouche's two triads has not been completed. This triad consists of Max Planck, whose discovery of the quantum nature of energy shook the concepts at the basis of understanding the very small; of Albert Einstein, who partially implemented Bernhard Riemann's program to develop the shape of space-time based on the physical principles that cause it; and of Vladimir Vernadsky, whose genius mind gave us many tracks of study that have not yet been developed. Most significantly for LaRouche's economics, is Vernadsky's concept of the noosphere: the action of thought itself upon the surrounding environment. Mankind is a geological force, and thought is more powerful than, and powerful in a different way than, volcanoes, gravity, magnetism, or light.

In contrast to the method of thought of these great thinkers, Lyndon LaRouche points to the 1905 program by David Hilbert (and Bertrand Russell) to axiomatize mathematics, and science generally, turning all of knowledge into a branch of logic, and killing the creativity of anyone foolish enough to adhere to their program. Although Cusa had already proved Russell wrong centuries earlier, Kurt Gödel developed a devastating proof that even if Russell and Hilbert tried to eliminate metaphor and creativity from the universe, the universe didn't agree. No "complete" system can ever be created, can ever exist.

This supports Riemann's program for science: that the process of discovery is the foundation of science. The authority of science does not lie in having the right answers (since we will never have them). Instead, the authority of science lies in how it overturns current thoughts by making a new, incommensurable discovery, one that does not fit into the earlier system.

A culture oriented around this identity, as in the beautiful music we heard yesterday, should inspire and enable us to do, is the victory we must seek. We must eliminate oligarchy, hunger, poverty, and, crucially, uselessness. The highest duty of society and of nations is to provide an opportunity for their people to make lasting contributions to the future, to provide their people the opportunity to live lives that they can know were necessary and beneficial.

Today, the greatest specific platform for such a history-making scientific transformation is a fusion economy based on helium-3. The Moon is out there. It's a reminder to us, and challenge to us, to make the next leap.

Nuclear Power and The New Silk Road

Dr. Wu is Dean of the School of Nuclear Science & Technology at Lanzhou University, China. His presentation, titled "Future Perspectives of Nuclear Power in the New Era of the Silk Road," was delivered to the Schiller Institute conference on his behalf by Toni Kästner.

The training of qualified workers through the peaceful development along the New Silk Road is one of our tasks, since our institute is located in the capital of Gansu province, Lanzhou, which is located on the Silk Road and closely related to its development. This is one of the

reasons that this speech is part of a series of speeches, that deal with the past and the future of the Silk Road.

But, what does "nuclear" mean? This question can be answered in different ways.

In the past, nuclear meant armament, threats, and similar things. But in the future, nuclear will stand only for peaceful and sustainable energy.

Therefore, I will look at this issue from the perspective of the development of the Silk Road.

In Chinese writing, there are two characters that sound alike, but mean different things. But the fact that they sound alike, demonstrates that they are somehow related, anyway.

For me, in the Chinese language, nuclear energy means peace through development (Figure 1). And that was, after all, the fundamental idea of the Silk Road in the past, and that is what it will be in the future.

FIGURE 1
What Does Nuclear Mean?



Radiochemistry Laboratory,
School of Nuclear Science &
Technology, Lanzhou University

FIGURE 2
Before Fukushima, 11 Nuclear Units in Operation



Radiochemistry Laboratory, School of Nuclear Science & Technology, Lanzhou University

China's Future Perspective

There are presently 19 nuclear power plants at 7 locations (**Figure 2**). Another 28 gigawatts are under construction, and by 2020, 58 gigawatts will be online.

They will not be built along the eastern coast of China, but more and more in the interior (**Figures 3, 4, and 5**). In this endeavor, all work is aimed at peaceful and sustainable development of nuclear power in China.

Thus, the percentage of nuclear power in the production of electricity will be expanded to 4% by 2020, to 10% by 2035 and, together with renewable energy, to 30%, by 2050 (**Figure 6**).

To reach this aim, China needs to build and develop more nuclear power plants.

But, first of all, I want to show why we chose nuclear energy:

- because we have to re-evaluate, for a number of reasons, coal as an energy source;
- because we do not want to create a conflict be-

FIGURE 3

Peaceful Use and Development of Nuclear Power in China



Radiochemistry Laboratory, School of Nuclear Science & Technology, Lanzhou University

tween economic growth and the environment;

- because we will be more able to even out energy prices;

FIGURE 4

Inland Nuclear Power Plants, pre-Fukushima



Radiochemistry Laboratory, School of Nuclear Science & Technology, Lanzhou University

Before the Fukushima Daiichi accident, nuclear power construction was no longer limited to the coastal region, but the first inland NPPs were planned for Hunan, Hubei, and Jiangxi provinces.

FIGURE 5

Currently Planned Inland Nuclear Power Plants



Radiochemistry Laboratory, School of Nuclear Science & Technology, Lanzhou University

Many provinces are actively preparing to build and expand NPPs, including Jilin, Chongqing, Anhui, Sichuan, Henan, and Hubei, as well as Guangdong, Zhejiang, Liaoning, and Shandong, where NPPs already exist.

- because we want to overcome the limitations of other energy sources in regards to the availability of resources and their compatibility with the environment;
- because the development of nuclear energy boosts productive powers, especially in the area of nuclear power technology.

The challenges we are confronted with in this endeavor are:

- safety of the installations;
- protection of the installations against terrorism as well as the emission of dangerous substances;
- handling of radiation products;
- economic competitiveness;
- sustainability.

But, aside from these general challenges we are confronted with, there are some challenges that are specific to China. Among these are:

- the availability of nuclear materials and resources in this area;
- competitiveness in the construction and installation of nuclear power plants;
- our own capacities for innovation in nuclear technologies;
- construction of nuclear power plants in the interior parts of China;
- training of skilled workers in nuclear science and technology.

This last challenge for China, concerning the training of skilled workers in the area of nuclear science and technology, is a task of our university in the city of Lanzhou, which is located along the Silk Road. How important this area is for China, today, is demonstrated by a look at the past, the present, and the future of nuclear science in China:

1895-1942: The first steps: founding of radio chemistry and nuclear research in China;

1942-86: Golden Era: construction and use of nuclear technicians;

1986-2000: Decay

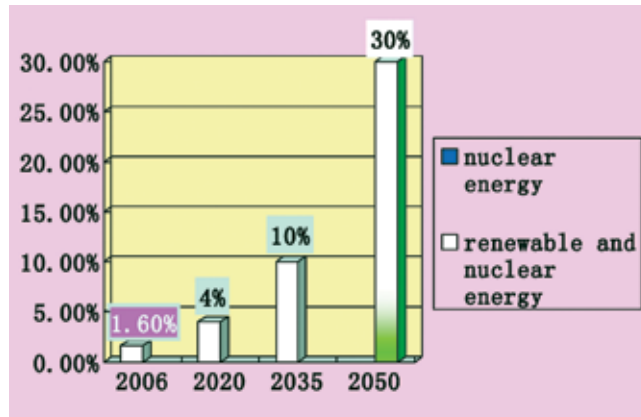
2000-11: Renaissance of nuclear technicians

2011-?: Fukushima

After the incident in Fukushima, it was, at first, not clear how China would proceed, and whether China would stick to its plans. Therefore, there were intensive discussions among specialists. They arrived at the con-

FIGURE 6

Goals for Nuclear Energy Share of Total Power Production



Radiochemistry Laboratory, School of Nuclear Science & Technology, Lanzhou University

clusion that China will continue to develop its nuclear energy.

Nuclear Training Today

While in the last century, our universities hesitated and in some cases stopped some nuclear programs, we have now restarted programs in the areas of radio chemistry, nuclear technology, nuclear physics, nuclear medicine, etc. Similar developments are occurring at a number of institutions outside of universities.

We have to recognize that the number of nuclear workers needed depends on how many nuclear power plants are in use. Therefore, it is clear that faster development of nuclear science and technology will enlarge the labor market for skilled workers; there will be a greater demand for skilled workers, and this creates a challenge, whether we will be able to meet this demand.

The skills that are affected by this are planning, construction, and running of nuclear power plants and the nuclear fuel cycle.

If China is to meet this demand, this would require that the number of skilled nuclear workers rise to 25,000 by 2020. Because of the speedy development in recent years, demand will increase until 2015 and will then slow down and stagnate after 2015. This means that by 2015, 1,200 nuclear workers will be educated:

350 engineers for fuel chemistry;

330 reactor engineers;

90 workers in basic sciences like radio chemistry and nuclear physics;

140 workers in geology, uranium mining, and metallurgy.

But not only in nuclear science and technology will we need skilled workers, because of these development plans, but also in areas like finance, law, and protection of the environment.

Thus, the challenges are:

- to provide the needed skilled workers;
- the lack of teachers;
- the laboratories are too old and badly equipped;

Not enough is being done to attract students. Political decisions can liberate all subordinated institutions. We will need decisions by the People's Congress to provide long-term financing for these programs.

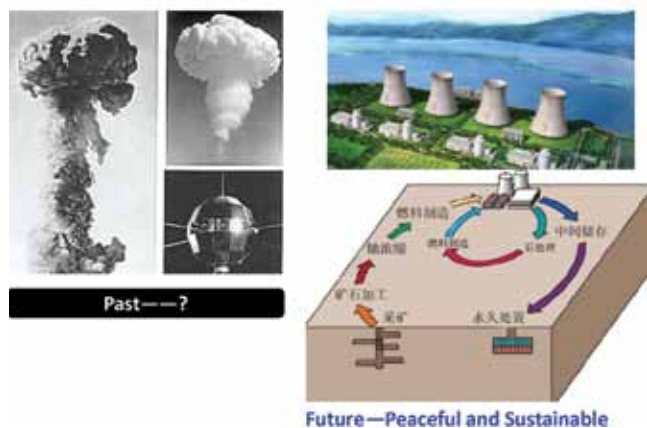
Progress that has already been made:

- the government has decided in favor of sustainable financing for training programs in the areas of nuclear science and technology;
- companies are getting involved and sharing their facilities with universities;
- universities are working to renew their departments and equipments.

In conclusion, I can say that the peaceful use of nuclear energy along the Silk Road will enhance the training of skilled workers in the areas of nuclear science and technology. The Chinese people love and hope to set up a peaceful world. We should ensure the peaceful use of nuclear energy. We hope everybody in the world will enjoy peaceful development (**Figure 7**).

FIGURE 7

What Does Nuclear Mean?



Radiochemistry Laboratory, School of Nuclear Science & Technology, Lanzhou University

Toni Kästner

Germany's Next Fifty Years

Kästner is the chairman of the Fusion Energy Foundation e.V. in Essen, Germany. The full title of his speech is "Germany's Next 50 Years: Our Role in Tomorrow's World."

To be in Germany today and to talk about the next 50 years presents the first problem, because nobody here wants to do that. It goes beyond the four years of the parliamentary term!

I want to start with a quote:

An evolution of consciousness is the central motive of terrestrial existence. The evolutionary working of Nature has a double process: an evolution of forms, an evolution of the soul. . . .

Man occupies the crest of the evolutionary wave. With him occurs the passage from an unconscious to a conscious evolution.

—Sri Aurobindo Ghose,
The Future Evolution of Man

With the initiatives of the BRICS, Eurasian Economic Union, Shanghai Cooperation Organization, and the New Silk Road, a new era in the evolution of mankind is dawning, which—if we make it possible—will create an enormous leap in our development. This development will also be characterized by making nuclear fusion a functioning reality, along with the exploration of space and the dialogue of cultures.

The emerging dialogue will be able to constructively resolve the old paradox between the One and the Many, nations and individuals, at a higher level, and thereby initiate an era of peace.

Yet, for Germany to participate in a dialogue of cultures and the Great Projects I described, it must first of all understand itself once again, because the 20th Century robbed Germany of its identity. And without knowing yourself, you cannot participate in a dialogue as a sovereign being.

Therefore, it is vital for Germany to rediscover itself.

To do this, we must return to Leibniz, because if anyone asks what constitutes modern political Germany, we have to begin with Leibniz. And when we do this, we realize that he was faced with very similar issues to those we face today:



Schiller Institute Conference

EIRNS/Julien Lemaître

Toni Kästner: These great projects "will also change our culture, by creating an optimistic vision of the future."

It is certain that patriotic thinking was never more urgent than it is now, because our beloved fatherland is becoming weaker and weaker, and God's honor among the German nation almost seems to suffer; in contrast, some of our neighbors have grown in power and in good institutions, so that without better governance of our nation, it is almost impossible for us to keep apace with them.

Thus, it is always a pity that, because we humans, by the grace of God, have gained such excellent means to investigate the secrets of nature and we can achieve more in one year than our ancestors could in 10, or even in 100 years, we now do not want to honor this capability as it deserves.

—Gottfried Wilhelm Leibniz,
Proposals for a German-Loving Society, 1697

After the Thirty Years War [1618-48], Europe was destroyed, the German national paradigm of the Holy Roman Empire was finished, and the question arose of what identity Germany and Europe would adopt to determine the future of this region of the Earth.

First, Leibniz turns inward and calls on the Germans to love their country and themselves.

He also turned outwards and saw that Germany's only future lay in cooperation with Russia, China, and the young American colonies.

Therefore, he supported the young American colonies when he could, and befriended people like the governor of Pennsylvania, William Penn, whom he in turn

conveyed as a contact to the Tsar of Russia, Peter the Great, to actively create a dialogue among the different regions. In addition, he supported both countries in their own development, and that made it possible for them to obtain technology transfers and exchange of specialists from Germany.

Through this process, Leibniz also formed Germany's image abroad and Germany's own self-understanding. This is the reason why, still today, Germany is regarded around the world as the country that can create development through science and technology.

However, for Leibniz, China brought in another component, because for him, China was a country that did not need any further development, but, already due to its high level of culture, would become an excellent partner for the future. According to Leibniz, an exchange between these two cultures would make it possible to develop all the countries in between.

This is the reason that Germany was also recognized as a cultural nation. This is where our true identity lies.

Since that time, this would have borne much fruit, if we had appealed to it. That this is also definitely understood by other nations, no example makes clearer than Dr. Sun Yat-sen's initiative, 225 years after Leibniz, with his program for the *International Development of China*:

Germany should regard China as its own life-blood, helping China to become wealthy and strong, so as to regain its lost position in the world.

—Sun Yat-sen, 1922

Dr. Sun presented his project at the time, in order to create, after the devastation of the First World War, a platform that could bring Germany and Russia together, not only to develop China, but to promote an entire development of Eurasia—an idea quite similar to the platform of the New Silk Road today.

Also today, Germany, with its expertise in nuclear technology, space technology, space medicine, plasma physics, chemistry, materials processing, and the machine-tool industry, could provide a large amount of support to help the New Silk Road quickly grow and prosper as a platform. But also, through our common cultural, scientific, and economic history, we could, if we were to invoke this history, play an important role in the dialogue of cultures, and contribute to peaceful co-existence with most countries of the world.

How could Germany participate in the new platform

FIGURE 1



and help shape the next 50 years?

Here, two regions have a special role to play. One is North Rhine-Westphalia, the greatest center of production and research in Europe; and the other is Saxony, an historic gateway to the East, which also has key areas in science, production, and research.

North Rhine-Westphalia

Because of the very high density of individual economic and scientific branches per land surface in the state of North Rhine-Westphalia (NRW), we could simultaneously carry out almost anything that we have in mind to do in the context of the planned expansion of the New Silk Road, the development of nuclear fusion, and even in driving space exploration forward. Since there is such a great concentration, both in area and time, of all processes, such as training, research, development, and produc-

tion, these can be combined and connected to each other, making NRW the Western motor for the development of the New Silk Road.

Various areas could be immediately reactivated and expanded:

- We could use the field of nuclear technology to initiate a nuclear renaissance. This is not just a matter of construction and development of advanced and inherently safe nuclear power plants, but also about harnessing the full range of nuclear physics and nuclear engineering.

- In the past, the Ruhr University in Bochum achieved a breakthrough in magnetic-levitation (maglev) concepts for different applications. One of these is the CargoCap, an underground freight transport in-

frastructure that can handle a huge volume of traffic. This is not only interesting for the Ruhr region, but also for India, China, and Japan.

- We can also reactivate and incorporate ship transport in NRW, which has the biggest interior port in Germany. Germany's existing well-developed waterways and inland ports make it possible to easily ship large components to production sites, like the interior of the ITER fusion reactors. These components could be nuclear reactor housing for nuclear fission and fusion plants, but just as well rocket engines, shuttles, or parts for maglev trains, or for a base on the Moon.

- It is not far-fetched to include space travel here, precisely because the NRW has a large infrastructure related to space exploration, which, were there a change in policy, could readily be expanded. Germany is already the leading country in the field of space medicine, and thus it

FIGURE 2

A Space Travel Program for Germany



should be no surprise that NRW must have some important institutions related to this field. The European training center for astronauts is located here, too.

This way, Germany could immediately enter the field of space, within the growing cooperation among Russia, China, and India, make appropriate agreements with individual countries, and thereby help build the world and create stable local jobs. The follow-on investments would enormously boost the total number of suppliers.

- Materials research also has an important role for NRW in this context, because nanostructures, self-healing polymers, new textiles, metals, and many other products could be manufactured locally and be immediately incorporated into larger projects on the ground.

- Since NRW is also the largest area for chemical production in Europe, this would again open up new possibilities.

All in all, even these few examples make it clear what great potentials remains buried in NRW and thus in Germany—if we know how to use them.

Saxony

The same, only on a slightly smaller scale, also applies to the state of Saxony, because Saxony also has important companies and institutions in all the above areas. We can add to that, Saxony's unique historical role as gateway to the East. Here there are many institutions, such as the Mining Academy in Freiberg and the Technical University in Dresden, which have had ties to the East over a long period, and their networks can be used immediately to both develop and coordinate all the above projects. Thus, this part of Germany could be immediately integrated into the New Silk Road, like no other area.

If Germany decides to go this route, these two regions could be used as driving forces for the entire nation, and also draw in other regions, with their key sites for production and research.

Since these projects are part of a greater order, which puts them in a position to generate a qualitative leap in various fields of industry, science, and research, they are crucial in determining Germany's next 50 years.

All these projects make sense only if they, as part in the development of Germany in the world, are considered as part of an emerging dialogue of cultures; they will also change our culture, by creating an optimistic vision of the future, and will challenge us to reflect on our society's cultural values.

The current negative conflicts within the population of the western states would be replaced by a “positive conflict.” Instead of saying, “Everything was better in the old days,” we would be saying, “What can we do better in the future?”

And this point will help us again, to internalize why it is important to acknowledge our identity as the “Land of Poets and Thinkers,” and a country with pioneering industrial spirit, and why it is, after all, that we are known as such a nation in the world.

That is what is required of us, if we want to be part of the solution, and not part of the problem, in the current global crisis. And that will determine how Germany's next 50 years will look.

This advance copy of Kästner's speech was translated from German by the Schiller Institute. The longer, actual speech, with English simultaneous interpretation, can be viewed at the Institute's [website](#).

Chandra Muzaffar

A Greeting from Malaysia

The following greeting was presented by video at the conclusion of the conference.

I am Chandra Muzaffar from Malaysia, President of the International Movement for a Just World.

I'd like to begin by congratulating the Schiller Institute on its 30th anniversary conference. I'm glad that the Institute is looking at a very important issue, the question of the BRICS, the Silk Road, about the transformation that is taking place, and about the crisis of the Empire.

We have come to a point in our history where these two stark realities challenge us to make choices, and to commit ourselves to either the road that takes us to peace, prosperity, justice, and human dignity, or the road which takes us down the path of violence, war, injustice and, perhaps, the destruction of human civilization.

We have chosen the path that leads to justice and

human dignity, and that's the path of development—solid, tangible economic development—which would lead to social justice. It is a path which would enhance the productive capacity of the human being to transform his or her environment, to bring about changes which would allow his or her generation and future generations to live in an environment which does justice to our species.

I'm talking here about the path offered by the emergence of the BRICS—Brazil, Russia, India, China, and South Africa—as a grouping which will have a very big impact upon human civilization. But we'll have to make it happen. It is an idea whose time has come. It is there beckoning to us to make a commitment, and our commitment should be to make the BRICS succeed.

The success of the BRICS means the success of genuine economic development. It means the success of infrastructure transformation; it means linkages; it means establishing connections between peoples and nations, which would lead to a situation where we as human beings would be able to live with dignity.

This is the choice before us. Or we can continue this path of hegemony, of economic dominance, of cultural



Chandra Muzaffar: “Choosing wisely means taking the side of life, as against death.”

control. A path which has led to the misery and the sufferings which we have witnessed for so many decades, and it's getting worse. We cannot allow the situation to continue because it may eventually lead to the death and destruction of human civilization itself. We have witnessed so many wars. So many millions of people have been slaughtered in these wars and in some of the byproducts of these wars.

We are in a situation where economic development has been thwarted and stymied by war, violence, and destruction. We are in a situation where we have epidemics breaking out, sometimes without any logical reason. We have natural calamities which we've not been able to handle well. We have other disasters created by human beings themselves, apart from the war and destruction we have witnessed for so long.


And we have to ask ourselves whether we'd want this to be the burden of future generations, of unborn children, of the generations which had hoped to inherit an Earth, where they'll be able to live in peace and prosperity. We would be betraying their dreams. We would be vanquishing the hopes of millions and millions of people. This is the choice before us, and we have to choose. We cannot postpone the day. We cannot allow unborn generations to condemn us for our failure to act at this critical moment of time. We have to choose, and we have to choose wisely. And choosing wisely means taking the side of life, as against death. That's the choice before us.

Thank you, and all the best to your conference.

THE EURASIAN LAND-BRIDGE

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(1997) 260 pages **\$100**
(EIR 96-007)

China's Gift to Mankind

“Right now, the Chinese space program is the greatest impulse to improve the power of mankind on the planet and beyond, in the universe,” declared Helga Zepp-LaRouche in her recent interview with Chinese Radio International. Coming to an understanding of why this is true, is crucial for all nations, in understanding the tasks before our species today.

China's space program is defined primarily by its lunar program, which is aimed at eventually mining helium-3 on the Moon, to provide fuel for nuclear fusion here on Earth. This objective has been eloquently expressed by the father of the Chinese lunar program, Ouyang Ziyuan, chief scientist for the China Lunar Exploration Project (CLEP), called the Chang'e Project.

Ouyang has explained that “the Moon has huge reserves of metals such as iron,” and that “helium-3, an isotope of the element helium, is an ideal fuel for nuclear fusion power, the next generation of nuclear power. It is estimated that reserves of helium-3 across Earth amount to just 15 tons, while 100 tons of helium-3 will be needed each year if nuclear fusion technology is applied to meet global energy demands. The Moon, on the other hand, has reserves estimated at between 1 and 5 million tons.”

In addition, Ouyang stated in a BBC interview of Nov. 29, 2013, that “The Moon is full of resources.... There are so many potential developments—it's beautiful—so we hope we can fully utilize the Moon to support sustainable development for humans and society.”

Ouyang identified three motivations for going to the Moon: “First, to develop our technology, because lunar exploration requires many types of technology, including communications, computers, all kinds of IT skills, and the use of different

kinds of materials. Second, in terms of the science, besides Earth, we also need to know our brothers and sisters like the Moon, its origin and evolution, and then from that, we can know about our Earth. Third, in terms of the talents, China needs its own intellectual team who can explore the whole lunar and solar system—that is also our main purpose.”

It is from this standpoint that the Chinese have taken up the task which no other nation but the United States had undertaken before—last December's landing of Chang'e 3 on the Moon, and the systematic preparations for a future manned landing. A crucial step for the latter was the successful mission of the Chang'e 5 test vehicle this Fall, which tested some of the challenging technologies that will be required for Chang'e 5—to place a lander on the surface, collect samples of lunar soil, put them in a sealed capsule, launch the capsule from the Moon to a circling orbiter, head back to Earth, and deliver the sample capsule safely to scientists.

China's progress is a giant step toward defining a new identity for man as a citizen of the Solar System, the sense of identity which will allow us to lift this world out of the paradigm of war and poverty, and into cooperation for the greater good. It represents a tremendous opportunity for the progress of all peoples, and can inspire humanity move to a new platform of development that will bring about a new era of peace and prosperity.

In the face of such a vision, the anti-Chinese rhetoric of the warmongers in Washington, London, and Brussels discredits itself. What sane person would not choose a future of scientific exploration, of human creativity, and uplifting others, rather than a war of each against all?

Don't turn down China's gift.

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