

# EIR

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Obama's State of the Union: Delusions Threaten War  
The Beginning of the End for the Euro  
Solve U.S. Drought Crisis: The Science To Provide Water

## Greek Election Can Spark Shift to European 'New Deal'





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#### ON THE WEB

e-mail: eirms@larouchepub.com

www.larouchepub.com

www.executiveintelligencereview.com

www.larouchepub.com/eiw

Webmaster: John Sigerson

Assistant Webmaster: George Hollis

Editor, Arabic-language edition: Hussein Askary

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**European Headquarters:** E.I.R. GmbH, Postfach  
Bahnstrasse 9a, D-65205, Wiesbaden, Germany  
Tel: 49-611-73650  
Homepage: <http://www.eirna.com>  
e-mail: [eirna@eirna.com](mailto:eirna@eirna.com)  
Director: Georg Neudecker

**Montreal, Canada:** 514-461-1557

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

**Mexico City:** EIR, Sor Juana Inés de la Cruz 242-2  
Col. Agricultura C.P. 11360  
Delegación M. Hidalgo, México D.F.  
Tel. 55 53182301

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# EIR

## From the Editors

The contrasting alternatives before mankind became even starker this week, as the global financial and strategic crises intensified. On the one side, we have the first definitive government break with the London-Wall Street austerity system, with the results of the Greek election. This is our *Cover Feature*, and it represents the opportunity to be seized, immediately, if the economic catastrophe portended by the collapse of the euro is to be avoided. The euro system *is* at an end, and the choices that nations make now will decide our fate.

Ironically, the electoral victory against austerity in Greece will also accelerate the panic in London that is behind the drive for a thermonuclear showdown with Russia. Day by day, more foreign policy experts are warning of the danger of the nuclear war being detonated by the Ukraine crisis—as we report in *International*; what is lacking is the understanding that the solution lies in a different domain, that of abandoning the monetarist system for a new world financial architecture.

It is for that reason that we once again devote a substantial part of this issue to the programmatic solutions to the current crisis that have been developed by Lyndon LaRouche and his colleagues. Our focus this week is the new scientific paradigm required to solve the western United States' water crisis, a crisis that is threatening the food supply and livelihood of not only the U.S., but the rest of the world as well (*Feature*). After an introduction pointing to the consequences of the current drought, we reprint the section titled, "Solve the World Water Crisis," from EIR's Special Report "The New Silk Road Becomes the World Land-Bridge," which defines the "metrics of progress" in this critical area of world infrastructure.

Fortunately, the ideas elaborated in this article are, at least in some degree, being acted on by the BRICS nations, especially China. Our commemoration of the role of the late Taras Muranivsky in spreading LaRouche's ideas in Russia underscores the potential in that nation as well.

As our *National* lead notes, President Obama's adoption of the Wall Street-London program remains one of the greatest obstacles to moving forward on those ideas. His confrontational program against Russia and China demands decisive action—bankrupting Wall Street and implementing a Hamiltonian credit system now. You'll find that program outlined once again in our editorial, "After Wall Street's Bankruptcy."

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*Alexis Tsipras, the new Greek prime minister, greets supporters on election day, Jan. 25.*



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The election of Greece’s new government is a powerful repudiation of the murderous austerity policies imposed on Greece by the Troika, which have led to unemployment as high as 45%, destroyed the health-care system, and increased the death rate. The two parties in the new ruling coalition are calling for a European Debt Conference to launch a “New Deal” for Europe, through EU investments into infrastructure and other projects to put people back to work.

The coming to power in Athens of a government opposed to the bailout of the bankrupt banks will affect the whole of Europe, where significant political forces oppose the brutal austerity policies of the European Union and the IMF—especially in Spain, Portugal, Ireland, and Cyprus. The big question is now: What will Germany and France do?

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“At the current turning point for Russian and world economic policies,” writes Muranivsky’s friend Rachel Douglas, “one can only wish that Taras Vasilyevich Muranivsky were here to wield his incisive pen. But, as it happens, many of his writings of 15 and 20 years ago are as timely today, as they were then.”

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In reprinting the chapter "Solve the World Water Crisis," by Benjamin Deniston, from the *EIR* Special Report, "The New Silk Road Becomes the World Land-Bridge," we underscore the point made by Franklin Roosevelt years ago: Reaching for the frontiers of science gives you the ability to deal with present-day crises. Since Deniston wrote his world water review, a successful demonstration of this principle has been shown in China, in the opening of the central branch of the South-to-North Water Diversion Project. But in the United States, Federal policy is causing economic and social collapse.

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Today's world water crises will be solved by recognizing mankind's *obligation* to act as the caretaker of Earth—to be a creative force, continuously improving the conditions around the planet (and beyond).

## Editorial

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# Greek Elections Can Spark Shift to European ‘New Deal’

by Dean Andromidas

Jan. 26—Greece yesterday elected the first government in Europe opposed to the European oligarchy’s nightmare policy of bailing out the bankrupt banks no matter how many people must die. The election of a new government led by the parties Syriza and the Independent Greeks, is a powerful repudiation of the murderous austerity policies imposed on Greece by the Troika, better known as the three horseman of the Apocalypse—the European Commission, the European Central Bank, and the International Monetary Fund. The question now is whether Spain and Portugal, or even Italy and Ireland, will be far behind.

Now the battle lines are drawn; Either Europe goes for a Glass-Steagall-style separation of the commercial from the speculative banking system, and a credit system for development of industry and infrastructure, or it sinks with the hopelessly bankrupt trans-Atlantic financial system.

Lyndon LaRouche called the outcome a “profound victory that can secure a shift in the entire European and trans-Atlantic situation.” He noted that the outpouring of the Greek people to reject the Troika’s regime was one of several recent developments that can rapidly bring down the failed euro system altogether. He cited the recent decision by the Swiss National Bank to decouple the Swiss franc from the euro, which triggered huge derivatives losses by Wall Street and City of London banks.

The Greek results will have a “big impact on Ger-

many,” LaRouche went on. Chancellor Angela Merkel and company “are in a tough situation, pretending to control things in Europe, but in reality, they have no control, and the Greek vote proves it. They will be shaken hard, and will not be able to pretend that the austerity policies are working.”

“The enemy of humanity is being damaged,” LaRouche concluded, “and everyone should be happy.”

## **Victory for Justice and Economic Development**

After more than five years of suffering under the brutal austerity that has collapsed almost a third of Greece’s economy and thrown half the population into poverty, the elections gave Syriza, the left-wing, anti-austerity party, over 36% of the vote, thus allotting the party 149 of the Parliament’s 300 seats (the winner of the election receives 50 extra seats in the Greek system). The center-right Independent Greeks, an equally vigorous anti-bailout party, won 4.75%, which will give them 13 seats. The two parties have agreed to form a coalition government with a total of at least 162 seats, which will be presented for a vote of confidence before Parliament on Feb. 5.

While the other former ruling parties will reenter Parliament, including New Democracy, and Pasok, the latter lost big, getting the lowest percentage of any party qualified to enter Parliament, behind the Independent Greeks. The fascist Golden Dawn came in third with 17 seats, followed by To Potami with 17 seats.



*Alexis Tsipras, Greece's newly elected prime minister, tells supporters on Jan. 26 that he will end "the vicious cycle of austerity" imposed by the Troika.*

These two parties were created only to take votes away from the real opposition. The communist KKE received 15 seats and will most likely cooperate with the government from outside the coalition. No other parties, including former prime minister George Papandreou's Movement of Social Democrats, were able to pass the 3% threshold required for entry to Parliament.

In his victory speech, Syriza head Alexis Tsipras declared, "Hope has won. . . . Greece is leaving the austerity of catastrophe and fear. . . . There are no losers and winners. . . . We are regaining our dignity, our sovereignty." He added that his party's victory will herald a change in Europe.

Panos Kammenos, leader of the Independent Greeks, declared that the Greek people had decided to restore Greece's "sovereignty, democracy, and the restoration of the Constitution. There is no longer a Greece that will be managed by e-mail."

Both Syriza and Independent Greeks have detailed emergency economic programs that will commit their government to deal with the humanitarian catastrophe left by five years of the hated Troika policy. The damage has been unprecedented short of wartime, and has led to unemployment officially at 28%, but considered by experts to be actually as high as 45%; pensions and salaries have been slashed by 25-45%. The destruction of the health-care system has increased the child mortality rate, the suicide rate, and the death rate.

The most important call by the new government is

to convene a European debt conference, modeled on the conference that led to the London agreement of 1953 on the German foreign debt. Both parties propose that such a conference not only deal with the impossible Greek foreign debt, which now stands at 175% of Gross Domestic Product, but the excessive debt of all the European Union countries, which primarily went to save the bankrupt Eurozone banks. They are calling for such a conference to launch a "New Deal" for Europe, through

EU investments into infrastructure and other projects to put people back to work.

*EIR* has proposed that such a conference should go beyond this mandate and move to implement a Glass-Steagall-style reform of the European banking system, dividing commercial banking from the casino investment banking. Such a conference could take a Hamiltonian approach and establish a European Infrastructure Investment Bank, to cooperate with the newly created Asian Infrastructure Investment Bank, and to finance the projects needed to fully integrate Europe into the New Silk Road and the World Land-Bridge (See "A Greek Proposal: Convene a European Debt Conference for 2015," *EIR*, Jan, 23, 2015.)

Independent Greeks leader Kammenos is one of the signatories of the Schiller Institute's resolution demanding that the United States and Europe work with the BRICS countries, and he spoke before the Schiller Institute's conference on "The New Silk Road and China's Lunar Program" held in Frankfurt, Germany, last October. In a [speech](#) entitled "Greece and the Silk Road Economic Belt," he counterposed the current "Europe of the bankers" to a Europe of sovereign nation-states. He also declared, "The future of Greece could be better if a strategic orientation were taken to establish links with some of the most dynamic economies of the world, and to find new sources of economic support. One of these countries besides Russia is China."

In the days prior to the elections, Kammenos made



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*Panos Kammenos, the head of the Independent Greeks party, addresses a Schiller Institute conference in Frankfurt, Germany, Oct. 19, 2014. He will be the defense minister in Greece's new coalition government.*

an official visit to Russia, meeting with political leaders including Aleksey Pushkov, chairman of the Russian Duma's Foreign Policy Committee, and other leaders of Russian President Vladimir Putin's United Russia party.

President Putin issued a congratulatory message to Tsipras, expressing "confidence that Russia and Greece will continue to develop their traditionally constructive cooperation in all areas and will work together effectively in resolving current European and world problems."

## New Hope for Europe

The coming to power of an anti-bailout government in Greece will impact the shifting sands of the European political landscape. Significant political forces are against the brutal austerity policies aimed at saving the banks at the expense of the population. There is a growing backlash against the anti-Russian policy of the EU, especially the sanctions, in both Germany and France, the two countries that have to play the decisive role if there is to be change in Europe.

Greece's elections were only the first of a number of local and general elections throughout Europe which will present a power challenge to the current ruling parties that have been implementing the insane policies of the European Union. Greece's victory has electrified the anti-bailout parties throughout Europe.

In Spain, Pablo Iglesias, the leader of the anti-austerity party Podemos, which is expected to win local elections in May and general elections in November, declared: "Hope is coming, fear is fleeing. Syriza, Podemos, we will win!" Podemos is the sister party of Syriza in the European elections, and Iglesias has close personal ties to Tsipras.

In Ireland, another country suffering under a huge bailout debt, Sinn Fein spokesman Pearse Doherty declared the Tsipras victory "an opportunity for progressive change in Europe." and voiced support for Syriza's call for a "European Debt Conference, which would be in Ireland's interests also." Blasting Irish Prime Minister Enda Kenny for not supporting a debt conference, he said, "They should remove themselves from office and allow the people to elect a new government that

will." Sinn Fein, which is the sister party of Syriza in the European Parliament, won the European parliamentary elections in Ireland, and could very well be the winner if early elections were to be held in Ireland.

António Costa, the new Secretary General of the Socialist Party of Portugal, which is expected to win the general elections next October, called the triumph of Syriza "a sign of change" that gives strength to Portugal and other European countries to change policy. Like Greece, Portugal has been suffering under the weight of its EU bailout and austerity program. There is pressure building up within the Socialist Party to renegotiate Portugal's bailout agreement.

In Cyprus, President Nicos Anastasiades said to Syriza leader Tsipras, "I would like to congratulate you for the proud and historic victory, and wish you every success." Anastasiades said he looked forward to close cooperation on the political and economic issues faced by the two countries. Tsipras has said his first trip abroad will be to Cyprus.

Cyprus is also suffering under a bailout program. Anastasiades rules over a center-right minority government that stays afloat only by the good graces of the opposition, which has been blocking legislation on a new foreclosure law demanded by the Troika. Akel, the former ruling party and leader of the opposition, is a sister party of Syriza in the European Parliament.



## Will Germany and France Act?

The key question is whether France and Germany, the power brokers in the EU, will break with the prevailing twin policies of trying to save the bankrupt banking system and the confrontation against Russia, including sanctions. The latter issue is important since both Syriza and the Independent Greeks have been outspoken against EU support of the Nazi coup in the Ukraine and the sanctions against Russia, which, because of Russia's retaliatory ban on food imports from EU countries, have affected Greece's agricultural sector.

In France, the terror attacks earlier this month have had a tremendous political impact, which has intersected popular discontent over the harsh economic conditions now prevailing in the country. This has led to growing debate on austerity, and the government has also been under pressure to end the sanctions against Russia.

In this context, French President François Hollande issued what has been called a carefully worded congratulatory statement, declaring his "willingness to pursue strong cooperation between our two countries, in the service of growth and stability in the Eurozone, in the spirit of progress, solidarity, and responsibility

which is at the core of the European values we share."

The statement contrasts sharply with the "do or die" threats coming from the government of German Chancellor Angela Merkel. As of this writing Merkel has not congratulated Tsipras, leaving her spokesman Steffen Seibert to say: "From our point of view, it's important that the new Greek government take measures so the economic recovery of Greece continues, and that includes Greece sticking to the commitments it has made."

Statements from Merkel's coalition partners, the Social Democrats, have been decidedly softer. It is interesting that European Parliament President Martin Schulz, a German Social Democrat, said, in a phone call to Tsipras, "I will do everything in my power to help you to find a mutually acceptable, sustainable solution." Schulz indicated that he would come to Athens as soon as the new government is inaugurated, and before he meets with Merkel.

Whether these subtle statements grow into a commitment to reverse the disastrous policies of the last years and use the Greek election victory to move on financial reform and launch a broad cooperation with the BRICS (Brazil, Russia, India, China, and South Africa) remains to be seen. This could be Europe's last chance.

## *There Is Life After the Euro!*

### **Program for an Economic Miracle in Southern Europe, the Mediterranean Region, and Africa**

AN **EIR** SPECIAL REPORT

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# Ukraine Crisis Escalates, as Experts Warn of Thermonuclear War

by Jeffrey Steinberg

Jan. 25—A trio of experts, including two former U.S. Senators, have published grave warnings about the growing danger of thermonuclear war as the Ukraine crisis deepens, and both Russia and the United States modernize their strategic nuclear triad under conditions of great tension.

Ted Postol, a well-known nuclear expert, published a warning in today's *Boston Globe* under the headline "How a nuclear near-miss in '95 would be a disaster today." The article cited a 1995 missile test by Norway that the Russians detected as a possible U.S. launch of a high-altitude nuclear detonation intended to blind Russian defenses to a possible U.S. thermonuclear first strike. Postol noted that, fortunately, in 1995, relations between Washington and Moscow were on a positive enough footing that the Russians took a second look before deciding whether to launch a second strike, which would be the standard response to a genuine thermonuclear threat. At that time, there were gaps in Russia's radar detection system, which was a factor in the near-miss.

Postol noted, "Had the false alert of 1995 occurred instead during a political crisis, Russian nuclear forces might have been launched. American early warning systems would have immediately detected the launch, and this might then have led to the immediate launch of U.S. forces in response to the Russian launch."

Postol added that, in 1995, Russian military commanders and political leaders took a cautious approach. Not so now. "In the different political circumstances of 2015, the same cautious assessment of the rocket's trajectory by Russia's political and military leaders might not be possible. Russia has annexed Crimea, interfered in eastern Ukraine, and embarked on a major modernization of its conventional forces. The United States and NATO have responded with sanctions, which, together with the precipitous fall in the price of oil, are destabilizing the Russian economy and threatening President Vladimir Putin's popularity."

Postol then warned that, "On top of this, the relentless modernization of U.S. nuclear forces continues unabated. The current situation has become so dire that only four days ago the *Bulletin of Atomic Scientists* decreased the time to Armageddon on their doomsday clock from five minutes to three minutes."

Postol concluded that the United States must curb any foolish decisions that could provoke a showdown. He recommended that NATO take a cautious approach to building up military force, drawing a line between deterrence and provocation. "Second, the United States should rein in its senseless and dangerous nuclear force modernization efforts. This program creates the appearance that the United States is prepared to fight and win a nuclear war with Russia. The nuclear deterrent on hand, with minor modifications, is already more than enough." Postol concluded by calling for the U.S. and European nations to share with Russia the specialized satellite sensor technologies that will "correct this dangerous shortfall [in Russia's early warning system] by equaling the nuclear playing field."

## A Nuclear Rift

Postol's warnings were echoed by former U.S. Senators Sam Nunn (D-Ga.) and Richard Lugar (R-Ind.), who penned a joint op-ed in today's Sunday *Washington Post* under the headline, "A Nuclear Rift Worth Fixing." The two Senators authored the 1991 Nunn-Lugar Cooperative Threat Reduction Act, which has provided American funds to assist Russia in dismantling and securing its nuclear arsenal and stockpiles of enriched uranium and plutonium for the past 24 years. In December, the U.S. Congress de-funded the program, and in response, Russia, as it had warned, cut off most nuclear security cooperation with the United States. Nunn and Lugar warned that this is a dangerous situation.

"The world's two largest nuclear powers repeatedly

set aside their political differences to cooperate on nuclear security to ensure that terrorists would not be able to detonate a nuclear bomb in New York, Moscow, Paris, Tel Aviv, or elsewhere. Unfortunately, this common-sense cooperation has become the latest casualty of the spiraling crisis in relations among the United States, Europe, and Russia.”

After documenting the tremendous accomplishments of the Nunn-Lugar program, the authors called for a new approach—“a real nuclear security partnership guided by the principle of reciprocity and mutual interest.”

They concluded: “Failing to cooperate in this area is a ‘lose-lose’ proposition that would damage the vital interests of both nations and vastly increase the risk of nuclear terrorism.”

### **NATO Commander Calls for Talks**

These experts demanding a de-escalation from the drive for war were joined last week by an unlikely voice. Gen. Philip Breedlove (USAF), the Commander-in-Chief of NATO, who has been in the forefront of threats against Russia since taking office last year, announced he would seek to resume the dialogue with Russian Armed Forces Chief of Staff Gen. Gennady Gerasimov.

Breedlove reflected growing concern at the Pentagon that the breakdown of serious military-to-military channels between NATO and Russia posed a grave threat of a miscalculation that could trigger a thermonuclear war.

Speaking at a news conference in Brussels on Jan. 22, Breedlove said, “We have talked an awful lot about how we re-establish [communication] and the fact that the communication with our senior military interlocutors in Russia is important. We are going to re-establish that, we have talked among several of us senior military leaders how we will do that.”

Last April, Russia recalled its chief military representative to NATO for consultations, after NATO had suspended military and civilian cooperation with Russia over Ukraine. Russian Deputy Defense Minister Anatoli Antonov explained at the time: “The policy of artificially creating tension isn’t our choice. Nevertheless, we don’t see any chance of continuing military cooperation with NATO in usual course.”

Pentagon sources confirm that today there is a shared sense of urgency to resume face-to-face talks with top Russian military leaders on what one official

called a “non-political basis.” Given the frosty relations between Presidents Barack Obama and Vladimir Putin, the political dialogue between Washington and Moscow is handled at the official level exclusively by Secretary of State John Kerry and Foreign Minister Sergei Lavrov.

Although Kerry and Lavrov have a close working relationship, neither of them is the ultimate decision-maker, and they do not deal with strategic military matters in their dialogue.

There is a clear lack of understanding between top American and Russian military officials about the intentions behind the accelerating buildup of new generations of strategic forces.

And while the U.S. has accused Russia of violating some nuclear arms control treaties, the Pentagon is going ahead with the development and deployment of a new generation of tactical nuclear weapons to be forward-based in Europe. The modernization of these battle weapons includes increased accuracy, lethality, and range, making them potentially intermediate range nuclear weapons that could be used against Russia from longer distances.

The Pentagon is contemplating how fast to accelerate its nuclear triad modernization program, which has a price-tag of \$1 trillion. Due to the Congressional budget sequestration deadlock, the Pentagon has been slow to move on the nuclear modernization, but now the Navy is prepared to accelerate the building of a new generation of Ohio-class submarines that carry America’s submarine-launched ballistic missiles (SLBMs) with nuclear warheads.

Russia has fielded three new-generation submarines from their SLBM program, and they are being deployed in the Black Sea region, which borders on some of NATO’s Eastern European member states, as well as NATO member Turkey.

It is in this context that the Breedlove announcement is to be seen as an effort to reach an understanding with the Russian Armed Forces command to reduce the risk of nuclear armageddon.

The fact that the response time for a decision to launch a full retaliatory thermonuclear strike, upon identification of a launch, is now reduced to three minutes, means that thermonuclear war must be prevented at all costs. Under the increasing tensions cited by these experts, as well as by Lyndon LaRouche, and others, there is no guarantee that the systems are now in place to stop it.

# Remembering Prof. Taras V. Muranivsky On the 80th Anniversary of His Birth

by Rachel Douglas

Feb. 3, 2015 marks the 80th anniversary of the birth of Taras Vasilyevich Muranivsky, who headed the Moscow Schiller Institute of Science and Culture, the LaRouche movement's affiliate in Russia, from 1992 until his untimely death in 2000. Looking back at the life and work of Prof. Muranivsky from the vantage point of the current strategic and economic crises in the world, in Russia, the country where he lived for nearly 50 years and to which he was devoted, and in the place he called "my smaller (more particular) homeland"—Ukraine, the lasting impact of this kind, enthusiastic, and hard-working man's powerful intellect and moral passion is ever more apparent.

As a horrific civil war swept through eastern Ukraine during the past year, a result of the Anglo-American geopolitical schemes that Muranivsky abhorred, it was impossible not to think of him daily. For Taras Muranivsky, like the great scientist Vladimir Vernadsky two generations before him, was a Ukrainian who believed that Ukraine could flourish only if Russia, and all Eurasia, also flourished; and that, despite many tragic pages in the region's history, the culture and scientific traditions of Russia and Ukraine were complementary, dictating cooperation for their common good and that of mankind.

Those of us who had the privilege to know and work with Prof. Muranivsky throughout the 1990s soon realized, that his extraordinary effectiveness



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*Prof. Taras Muranivsky had the most excellent habit of refusing to be a creature of habit; he delighted in encountering an idea that did not fit into his preconceived notions.*

stemmed from his most excellent habit, of refusing to be a creature of habit. Rarely have I met a person who matched the delight Taras would experience, upon encountering an idea that did not fit into his pre-existing conception of the topic at hand.

One witnessed "the light going on" in Taras's mind, as his expression would shift from a glower, to an ear-to-ear grin of happiness over his discovery. Often he would put the new principle into action the very next day, as in the Autumn of 1992, when the Schiller Institute held its first-ever conference in Russia. The highlight of that event was the release of a Russian translation of Lyndon LaRouche's textbook, *So, You Wish To Learn All About Eco-*

*nomics?* It had been translated on a breakneck schedule, in order to inject LaRouche's principles of physical economy into the discourse in Russia, as the full brunt of "shock therapy"—overnight deregulation according to neoliberal monetarist schemes—hit the country. Muranivsky, who held advanced degrees in economics and philosophy, had undertaken to be the "scientific editor" of the translation, made by a young specialist in chemistry. The work was finished, but on the eve of the conference at which he would present the book, Taras was not yet satisfied. He singled out this passage:

"Plato insisted that the visible world has a different appearance than the real world, in the same broad sense

of the matter as the distorted shadows projected upon the walls of a dark cave by firelight. St. Paul writes that we see, as if in a mirror darkly. The elementary proof of this judgment is provided by the synthetic geometry known to Plato.”

Our translation of “through a glass, darkly,” was *skvoz tuskloye zerkalo*, literally “through a dingy mirror.” “What is this?” demanded Taras. “What is this dingy mirror? Who can understand what this means?” In defense of the translator, I rejoined, “But, Taras Vasilyevich, this is the phrase used in the Russian Bible, in *I Corinthians* 13, only maybe it hasn’t been as well known in Russia in recent decades!” The furrows on his brow gave way to a slight smile. The next day, Prof. Muranivsky was on his feet, telling the audience with confidence, about the importance of LaRouche’s using the imagery of Plato and St. Paul, about seeing “though a glass, darkly,” to convey the inadequacy of mere sense perception and the striving of the creative mind for a higher principle.

### An Unconventional and Courageous Thinker

Muranivsky’s intellectual curiosity got him into trouble early on, as a student at Moscow State University, when he frequented meetings of the Krasnopevtsev intellectual circle. “This was,” recalled Taras’s friend from those days, the late Felix Beleyubsky, “a group of reformers—or free-thinkers, *volnodumtsy*, as they were traditionally called in Russia—who did not set out to overthrow socialism, but saw their task as the repair and improvement of socialism.” Leaders of the unauthorized group, with its unauthorized agenda of topics in history and economics, were arrested, put on trial, and sent to prison.

Muranivsky, as a younger participant, was summoned for interrogation by the KGB in 1957, but managed not to incriminate others or to reveal that he had hidden Lev Krasnopevtsev’s manuscripts at his aunt’s house in the Ukrainian countryside. Only 40 years later, when certain archives were opened up after the collapse of the USSR, did Taras and Felix view the de-



*Taras Muranivsky’s “collaboration with Lyndon LaRouche and his associates played an enormous role in the development of Taras Vasilyevich’s view of the world,” wrote his close friend Felix Beleyubsky. Here, Muranivsky and LaRouche, in August 1996.*

EIRNS

classified letter, written by then-chairman of the KGB, Gen. Ivan Serov, and approved by members of the Soviet Politburo, imposing a career-long black mark on them.

Beleyubsky recounted how his friend did significant work in economics, and in the principles of science administration, despite being blacklisted.<sup>1</sup> But, he wrote, “Taras Vasilyevich’s finest hour came later, when the Soviet Union broke up, and a social counter-revolution took place in Russia. He did not accept the sort of new capitalist social order that took hold. Yes, his father had been arrested and expelled from the [Communist] Party, and he himself had been persecuted. But these personal offenses did not distract him from the heart of the matter. The events of 1991 significantly shifted his scientific interests....

“[He] threw himself with passion into the study of what were new problems for him—the situation on the whole periphery of George Bush’s ‘New World Order,’ in Latin America, in Eastern Europe, in his native Ukraine, and in Russia. Essentially, he took up a new area of scientific specialization, becoming an expert

1. Felix Beleyubsky, “Memories of Taras V. Muranivsky,” *EIR*, July 27, 2001.



EIRNS/Rachel Douglas

*Prof. Muranivsky (shown here at a Schiller Institute conference in Germany, December 1994), writing in Russian publications, cited the example of Malaysia's defense and recovery from speculative attacks by George Soros and others, in 1997, as an alternative course for Russia, then under attack by the imperial financiers.*

on Latin America and the reforms in Poland. His refutation of the attempts to justify the reforms in Russia, using the experience of Latin America, is very interesting....

"His collaboration with Lyndon LaRouche and his associates played an enormous role in the development of Taras Vasilyevich's view of the world. The work he did with them on problems of the globalist capitalist system, and its Third World component, was the centerpiece of his creative investigations during the last decade [the 1990s]."

Starting in 1992, Muranivsky poured out dozens of articles through the small weekly *Ekonomicheskaya Gazeta* and a trade-union journal, as well as some in

major national newspapers. Cumulatively, they blew out of the water the notion that Russia faced a limited choice between the Soviet "command economy" and the radical deregulation being pushed by the London- and Chicago-trained first post-Soviet government, with no other options. Muranivsky injected into discussions the "national economy" alternative of Alexander Hamilton's American System, with its 19th-Century continuation by Abraham Lincoln and Henry C. Carey, Friedrich List, and such Russian nation-builders as Dmitri Mendeleev and Count Sergei Witte, and its echoes in the 20th Century under Franklin Delano Roosevelt.

In the September-October 1992 issue of *Profsoyuzy i ekonomika* (*Trade Unions and the Economy*, the 50,000-circulation journal of the Russian Federation of Independent Trade Unions), Muranivsky published an article called "Shock, or Fate?" questioning the inevitability of the neo-liberals' "shock therapy," which that year was ravaging Russia with 2,600% inflation. He appealed for Russian economists and leaders to study the example of Roosevelt's New Deal (see box).

In January 1994, the widely read daily *Nezavisimaya Gazeta* printed Muranivsky's polemical response to an article by two economists, who had maintained that the reforms were failing because social and economic processes were generally "unknowable" and could not be regulated. Taras wrote, "A new paradigm in economic science, which in my opinion will depoliticize it, is the physical economy of the American economist

Lyndon LaRouche.... For physical economy, economic processes are not the 'free market' and not money. It opposes the monetarist idea in economics, the idea based on the principle that economic science is 'the science of how to get rich.' In physical economy, the main goal of economic development is the continual growth of production on the basis of scientific and technological progress. The market and money are viewed as necessary instruments for economic relations."

In February 1995, Muranivsky presented LaRouche's *Memorandum on Prospects for Russian Economic Revival* to a special hearing of the lower house of the Russian Parliament, the State Duma, convened to



discuss measures to prevent the disintegration of the national economy.<sup>2</sup>

## The Mahathir Example and the Cavallo Warning

In 1997-98, as the neo-liberal “young reformers” courting of hot money from the globalized financial

2. Lyndon H. LaRouche, Jr., *Prospects for Russian Economic Revival*, [EIR](#), March 17, 1995.

markets moved events inexorably toward the Russian government bond default of August 1998, Muranivsky's reporting on developments abroad was unique in Russia, and has remained influential long after the specific circumstances in which it was written. In December 2014, as the ruble again came under speculative attack, involving both foreign and domestic market players, Russian influentials including Sergei Markov, a former MP and authorized campaign spokesman for President Putin, raised the precedent of the exchange

## Muranivsky in 1992: Use The Lessons of Roosevelt!

*These passages are excerpted from an article in Profsoyuzy i ekonomika, #5, 1992.*

A way out of the difficulties in which our economy has landed, should be sought in the use of economic and legal administrative measures to regulate economic life. Here, despite the well-known allergy to administrative measures, which we associate with bureaucratic command methods, it will be impossible to find an exit from the crisis, without sensible government regulation of the economy. The chaos of destruction cannot be overcome through the spontaneity of the market.

Instructive in this regard is the experience of the New Deal, conducted by the Federal government under F. Roosevelt and the U.S. Congress during the 1930s. The American President did not go to the lawmakers for extraordinary authority. Within ten days after taking office, he merely proposed to convene a special session of Congress. Within 100 days, it had adopted around 70 laws, encompassing industry, agriculture, commerce, the credit and banking system, and government social policy...

The experience of the U.S.A. is important for us, not only as a way to deal with unemployment, but also as an approach to developing infrastructure under crisis conditions. Creating diverse and extensive infrastructure in our country would mean the prevention of losses in agriculture, the development of cities and centers of culture along the main routes,

and the creation of a new economic basis for cooperation among sovereign republics.

In this connection, our participation in the international infrastructure development project called the Productive Triangle, developed by the Schiller Institute, appears very promising. Joint public-private financing of its implementation would fundamentally change the character of our relations with the majority of the countries in Europe, from one-sided dependency, towards mutual benefit...

Even before the development of the New Deal, Roosevelt, as a new President, confronting the unprecedented economic crisis that had struck the U.S.A., gave this evaluation of the situation: “The country needs and, unless I mistake its temper, the country demands bold, persistent experimentation. It is common sense to take a method and try it; if it fails, admit it frankly and try another. But above all, try something. The millions who are in want will not stand by silently forever while the things to satisfy their needs are within easy reach.” (If only we would learn to call things by their names, instead of inventing slogans to cover up flip-flopping!)

In response to the President's frankness, the country threw itself into the implementation of his bold plans. Roosevelt had broad support from the population, who gained broader democratic rights during his presidency. The popularity he had earned earlier also helped... At the same time, Roosevelt won the trust of those layers of big capital, which recognized the need to make concessions to labor, in order to achieve class peace.

It was in those years that the basis was laid in the U.S.A., for what today is called, including in our country, common human values. And they are of lasting significance.

and capital controls introduced by former Malaysian Prime Minister Mahathir bin Mohamad, as an alternative course for Russia today, rather than merely the interest-rate hikes imposed by the textbook monetarists at the Russian Central Bank. The case of Malaysia's defense and recovery from speculative attacks by George Soros and others, in 1997, had become well-known in Russia a decade and a half ago, thanks to Taras Muranivsky.

Dr. Mahathir's denunciation of currency speculation, made at the September 1997 IMF-World Bank meeting in Hong Kong, initially caught the attention of Russian media because George Soros was one of its main targets; having financed dozens of projects in the former Soviet Union, gaining him enormous leverage in the areas of science, education, and communications, Soros had also begun to invest there. Muranivsky, however, writing in *Ekonomicheskaya Gazeta* in October 1997, made a more universal generalization from Malaysia's showdown with the IMF and the hedge funds, highlighting the strategic importance of the global derivatives bubble, then in its early stages of growth. He reported on Mahathir's Hong Kong speech as a "blow against the looting policy of the International Monetary Fund." He said that the meeting would "go down in history, as the scene of extremely harsh criticism of the international financial organizations' looting policy, which has widened the gap between the industrially developed and the developing countries." Muranivsky quoted the strongest passages of Dr. Mahathir's speech, which called for banning currency speculation as "unproductive and immoral," and his words about unseen foreign traders, who are prepared to throw a target country into the garbage can.

In November 1997, Muranivsky contributed an article to *Ekonomicheskaya Gazeta* titled "The Thirty-Year World Crisis, into Which Russia Is Being Dragged." Outlining LaRouche's step-by-step measures for governments to take, in order to bankrupt the speculators, he also provided the first full translation into Russian of Mahathir's speech to the Hong Kong IMF meeting. This translation was subsequently reproduced in briefing papers circulated to Russian parliamentary and government officials.

Having put the positive example of Malaysia on the agenda in 1997, Muranivsky the next year intervened again in Russian policy-making, this time with an

urgent cautionary report. Immediately after the Aug. 17, 1998 default, London-connected Russian radical liberals such as the late Boris Fyodorov, with help from mega-speculator Soros, attempted to bring Argentine ex-Economics Minister Domingo Cavallo to Moscow, to guide Russian monetary policy under a classic British Imperial currency-board model, with Victor Chernomyrdin as prime minister. One of the weapons used to beat back this ploy was provided by Muranivsky's exposé of Cavallo, and the new government was formed instead by veteran intelligence figure Yevgeni Primakov and defense-industry expert Yuri Maslyukov. Their turnaround of Russian industry, achieving 20% growth within six months, benefits Russia still today.

The leading Russian economic weekly *Expert* editorialized at the end of 2002: "Let us recall that after the collapse of the ruble and the default of 1998, Russia was literally one step away from applying the Argentine experience." The article placed the blame for Argentina's social and political crisis squarely on deposed Economics Minister Domingo Cavallo's monetary policy—the peso-dollar peg, enforced by a currency board, combined with "mass privatization and deregulation." *Expert* headlined, "It's a Good Thing We Didn't Listen to Cavallo." The magazine then reviewed the Fyodorov-Chernomyrdin-Cavallo scenario of 1998, concluding that the adamant opposition of Russian Central Bank head Victor Gerashchenko had headed off the installation of a currency board in Russia.

In Summer 1998, a dossier of *EIR* articles, exposing the devastation of the Argentine economy under Cavallo, had been circulated in Moscow, while Muranivsky published a polemical article in *Ekonomicheskaya Gazeta* on Cavallo's currency board scheme as a means to loot. To this day, the authoritative profile of Cavallo in Russian is the article Muranivsky wrote later that year for the biography magazine *Kto Yest Kto* (*Who Is Who*), titled "Domingo Cavallo: The True Face of the 'Argentine Miracle.'" Using material from *EIR*, Muranivsky left nothing but tatters of Cavallo's reputation as a financial wizard.

At the current turning point for Russian and world economic policies, one can only wish that Taras Vasilyevich Muranivsky were here to wield his incisive pen. But, as it happens, many of his writings of 15 and 20 years ago are as timely today, as they were then.

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# International Intelligence

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## Former Russian Minister: Nuclear War Threat Rising

Jan. 26—Igor Ivanov, Russia's Foreign Minister from 1998-2004 and chairman of the Russian International Affairs Council, warned in a *Moscow Times* article today that "the threat of a nuclear conflict is higher today than it was during the Cold War. In the absence of a political dialogue, with mutual mistrust reaching historical highs, the probability of unintended accidents, including those involving nuclear weapons, is getting more and more real."

In 2012-13, Ivanov was co-chair of the "Track II Dialogue" around "Building Mutual Security in the Euro-Atlantic Region," along with British Lord Des Browne, German diplomat and former Ambassador to the U.S. Wolfgang Ischinger, and former U.S. Sen. Sam Nunn (D-Ga.). On Jan. 25, Nunn issued his own warning of the danger of nuclear conflict.

Ivanov argued that it is just rhetoric to say that a new Cold War has begun. During the Cold War, despite its dangers, "international relations were confined by a certain order established after the end of World War II. All the shortcomings and liabilities of this order notwithstanding, it allowed humankind to avoid a new global disaster...."

"Today we live in a world where the old order has ceased to exist, and a new one that would suit all the major players has not yet been established. And this is what makes our times so different from the Cold War...."

"Formally, we all subscribe to the established norms of international law. However, as the Ukraine crisis has demonstrated once again, the old institutions are dramatically losing their efficiency, and international law is becoming a victim of political interests."

The presentiments of many that war could come in 2015 should "urge responsible politicians all over the world to put aside their ambitions and mutual insults,

in order to start a meaningful dialogue about the future world order that would allow all the nations to build their own futures. Otherwise, instead of a new Cold War, someday we could face a real, large-scale military conflict," Ivanov concluded.

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## German Media Expose Saudi Role in Jihadi Terror

Jan. 21—Theo Sommer, the former publisher and editor of the weekly *Die Zeit*, on Jan. 20 lashed out at the role of Saudi Arabia in promoting extremist Salafist versions of Islam, in a *Zeit Online* article headlined, "The Saudis Nurture the Jihad."

Sommer called for "drying up the intellectual breeding ground where [radical Islam] starts and prospers, and here is where the Saudis come into play. The Saudis have created the monster of Salafist terrorism.... Saudi Wahhabism has become the foster mother of Salafi terrorism."

"Now is the time for the West to speak another language with the Saudis," he wrote.

Other media are carrying similar analyses, in the aftermath of the terror attacks in France.

On Jan. 22, former government terror advisor Guido Steinberg of the German Institute for International and Security Affairs, discussed on a TV talk show the "catastrophic impact" of the 2003 invasion of Iraq, which began the process of unleashing jihadi recruitment, and which combined with the longstanding Saudi promotion of that ideology.

On Jan. 23 *Spiegel Online* ran an item proving that the laws proclaimed by the Islamic State (IS) are exactly the same as Saudi Arabia's.

A ZDF Heute TV news broadcast on Jan. 23 charged that it is Saudi Arabia and its spread of Wahhabism that is responsible for the jihadist terrorism.

"Saudi Arabia shows up again and again, when it comes to answer the un-

comfortable question: Where do Islamist terrorists get their money? Where are the sponsors of the jihadists? Money flows from Saudi Arabia to Germany," said the government-owned television station.

"Saudi Arabia spends billions of dollars to spread its state religion globally. Do not underestimate the influence of Wahhabi clerics, such as Mohammed al Arifi, who promotes not only the network's archaic Islam, but also several times, for example, was a guest at the Al-Nur mosque in Berlin.... The fact is: Most European jihadists are recruited from the Wahhabist-Salafist milieu."

The program quoted terror expert Guido Steinberg, "The ideological roots of what we now take for Islamist terrorism here in Germany are quite clearly in Saudi Arabia."

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## German Expert: Blackwater Deployed in Ukraine

Jan. 25—For the first time, a prominent German voice has come out against the pro-Nazi statements made in Berlin recently by Ukrainian Prime Minister Arseniy Yatsenyuk. Michael Luders, a long-time *Die Zeit* correspondent and advisor to German government agencies on Islamic extremism, told Phoenix TV on Jan. 20 that Yatsenyuk's statement in Berlin, that Germany and Ukraine were victims of Soviet aggression in World War II, is unacceptable.

Luders charged that there are 500 mercenaries from the former Blackwater firm (now called Academi) on the ground in Ukraine. "The Ukraine government is determined to solve the problem militarily ... and one must presume that it didn't make this decision alone," he said, because the government is bankrupt and has no financial or military resources of its own for an offensive. There have been contacts between the regime in Kiev with Washington, he said, and in Ukraine "there are 500 mercenaries of the Blackwater organization which has been renamed in the meantime."

Luders noted that governments in Europe are coming to realize that their interests are not the same as the regime in Washington. Germany has already lost around EU40 billion in trade with Russia. "The EU states and particularly Germany must speak openly," telling the U.S. that they are "not willing to see a war happen in the middle of Europe."

He said that Russia is reacting to the pressure coming from the West by strengthening cooperation with China, Turkey, Iran, and India, and "we in the West are going to pay the price."

## Chinese Security Strategy Calls for More Vigilance

Jan. 24—After a meeting of the Political Bureau of the Communist Party of China which concluded yesterday, a new national security strategy was issued. While the document itself has not been made public, a lengthy statement was issued by Xinhua News Agency, noting the heightened state of tension in the world and calling for increased vigilance. It points to a shifting international environment, with "unprecedented dangers impossible to predict," profound economic and social changes, and the beginning of a "stormy" period for the economic reforms, with "social contradictions piling up." This requires from the military cadre a "heightened sense of concern" and to "maintain a high degree of peace-time vigilance."

The statement lays stress on the internal reforms within the People's Liberation Army, calling for strict adherence to the requirements of the Communist Party, and alertness with regard to the "four winds" of corruption indicated in recent statements by President Xi Jinping. The "four winds" are formalism, bureaucracy, hedonism, and extravagance. The statement indicates that the party will establish 12 inspection groups which will travel to the different regions in order to make sure that the reforms laid out earlier this month to eliminate the "four winds" are being strictly carried out.

## Egon Bahr: Europe Needs A 'Treaty of Westphalia'

Jan. 23—The gray eminence of Germany's *Ostpolitik*, Egon Bahr (Social Democrat), said yesterday that the Ukraine conflict can only be solved on the level of direct talks between the European Union and the Eurasian Union. Ukraine must never become a member of NATO; it has to stay neutral, like Sweden, Finland, and Switzerland; and the Ukrainians have to find a formula for coexistence and cooperation between the Western Latin Church and the Eastern Orthodox Church. He spoke at a forum on security policy sponsored by the daily *Frankfurter Allgemeine Zeitung* in Berlin.

He told the Berlin forum said that the world needs a new system acceptable for all nations, to put an end to war: "What we need is something like the Treaty of Westphalia. It included the mutual recognition of the non-violability of each of the signatory states, and the obligation not to interfere in the affairs of either state. These were binding agreements. That Treaty was in effect for several hundred years; that is what we need today."

Bahr said that, naturally, such an agreement implies accepting states and societies that do not have democracies of the kind that the West would like to see there. In any case, what kind of democracy would be desired: perhaps the Singaporean model, which is not quite a democratic system?

Bahr served West German Chancellor Willy Brandt as Secretary of the Prime Minister's Office from 1969 until 1972.

He said that when he and his Soviet counterparts negotiated the Eastern Treaties in 1970, the ideological divide never even came up; the Soviets did not try to turn Bahr into a communist, and he did not try to turn them into democrats, either. That made the treaties possible, and when the U.S.S.R. agreed to German reunification in 1990, these treaties were even transformed into a friendship treaty between Germany and Russia—which is still in effect today.

## Briefly

● **DMITRY ROGOZIN**, the Russian deputy prime minister responsible for the defense industry, told Rossiya 1 TV on Jan. 26 that U.S. missile defenses cannot intercept Russian ballistic missiles. "Neither the current nor even prospective American missile defense system can stop or challenge Russian strategic missile potential," he said.

● **THE BRITISH FLAG** flew at half-mast at Buckingham Palace and at government buildings to mourn the death of Saudi King Abdullah, on orders of Queen Elizabeth. This has not gone over too well with some Members of Parliament, such as the leader of the Scottish Conservatives, Ruth Davidson, who tweeted that the move was "a steaming pile of nonsense."

● **VACLAV KLAUS**, former President of the Czech Republic, told the Austrian daily *Die Presse* that the Crimea was historically part of Russia. "Russia's acting in the Crimea was just a reaction, not an action," he said. "This was the reaction to the Maidan, the events in Kiev, the attacks on the Russian population there," he said.

● **SOUTH KOREA** and China confirmed their "peace through development" approach to North Korea, during a visit by Chinese Vice Premier Wang Yang to Seoul Jan. 23-25. Wang delivered a message from Chinese President Xi Jinping and met with Korean President Park Geun-hye. Park's office said that Xi's letter had "positively evaluated reciprocal offers" for dialogue that the two Koreas have recently made.

● **INDIAN PREMIER** Narendra Modi called relations with Russia "a pillar of strength for India," after meeting with Russian Defense Minister Sergei Shoigu in New Delhi on Jan. 21. He evoked the "time-tested special and privileged" strategic partnership between the two countries.

## DRAGHI'S DOWNFALL

# The Beginning of The End for the Euro

by Paul Gallagher

Jan. 24—The important event in Europe last week was not the money-printing outburst by the European Central Bank (ECB) Jan. 22, but the anticipation of the outcome of the election in Greece Jan. 25 (see *International* for our report on the historic Greek elections).

The announcement by ECB head Mario Draghi was another attempt on behalf of the Wall Street and trans-Atlantic megabanks, to cover up their bankruptcy; and again, it was done at the expense of the people of the sinking European economies.

The new government in Greece can begin the process of dealing with the mountains of unpayable bad debts sitting in those banks, if it is formed by the parties which have proposed to do this during their campaigns. This may potentially involve ending Europe's long nightmare of the euro "single currency."

The choices are another financial crash, further intensifying the threat of war with Wall Street's targets Russia and China; or the reorganization of that debt and those banks.

### The Trouble Is Trans-Atlantic

Both the Wall Street and the City of London-centered European "universal banks" are in increasing trouble. With all the desperation of Deutsche Bank and the like for a "quantitative easing" even much larger than Draghi announced, we should not lose sight of the

cracks opening on Wall Street. The collapse of oil and other commodity prices (which resumed again with Draghi's announcement) is slowly blowing a hole in those banks' \$230-250 trillion in derivatives exposure, concentrated on the \$10-20 trillion in exposure to commodity derivatives. It is also throttling back the one area of the U.S. economy which, since 2009, has been producing a net gain in skilled, well-paid employment. One bank analyst's estimate has been published, that the big banks may lose *\$1.6 trillion* in revenue in 2015, due to the plunge in oil/gas prices and energy-sector economic activity.

When Wall Street banks reported fourth-quarter earnings, it was clear the "oil weapon" had struck them—although most of its effects are yet to come. Some of the big six reported increased profits (the "bottom line"), and some had "legal" excuses for reduced profits (large, tax-deductible regulatory fines to make their speculative crimes go away); but all of them reported reduced, and in some cases, sharply reduced, earnings (the much bigger "top line"). They were "led" in this regard by Bank of America, whose revenue fell by \$2 billion, or 10%, and Citigroup, whose revenue fell by \$1.7 billion, or 9%. Across the banks, it was their "trading revenue" which collapsed in the fourth quarter (Citi: down 16%; Bank of America: down 18%). This means revenue from those securities and derivatives operations which would not be allowed to them as



“commercial banks” under a restored Glass-Steagall Act.

Only one of those banks, Morgan Stanley, acknowledged in its report what is threatening: The bank “excluded a \$468 million charge from changing the valuation of some over-the-counter derivatives,” according to Bloomberg’s review of the bank’s report. Had it not excluded that loss, its trading revenue for the quarter would have been reduced roughly to zero.

Wall Street banks had already laid off 50,000 employees in the fourth quarter of 2014, but beginning in mid-December, job losses related to the plunge in the price of oil began to catch up with them. The weekly report of the Labor Department on new claims for unemployment insurance began to show a steady rise as of that point; from a four-week average of 283,000 new claims/week as of Dec. 18, the level rose to an average of 306,000 new claims/week in the four weeks ending Jan. 15, 2015. In the “shale oil states,” the rise was steeper: from 64,000 claims/week average up to Dec. 18, to 96,000/week in the four weeks to Jan. 15. And when one looks at the new claims figures before they were “seasonally adjusted” by the Labor Department, the increase is steeper still: from 300,000 average new claims/week up to Dec. 18, to a 400,000 average for Dec. 18-Jan. 15.

Some 40,000 “mass layoffs” (layoffs of more than 50 workers at once by an employer) have already been announced in January, led by Schlumberger, 9,000; Baker-Hughes (oil-field equipment) 7,000; Halliburton 3,500; and American Express 4,000.

During the first half of 2015, the oil price will either go rapidly back up, or these banks will rapidly go down.

## Euro Free Fall

As for the euro, the *Wall Street Journal* on Jan. 24 characterized it as in “free fall, blowing past analysts’ expectations for how low the euro can go”; and they note the looming possibility of euro parity (1 euro = 1 dollar) or an even lower value. The European single currency fell “farther than expected” in the 48 hours after ECB chief Draghi’s announcement of a 1 trillion euro-printing and bond-buying scheme on Jan. 22, going from just under \$1.16 to just over \$1.11. A euro drop to parity with the dollar will impose a further significant drop in living standards across the Eurozone, which is already in the “third dip” of recession since the 2008 financial crash.



Creative Commons/Monika Flueckiger

*ECB head Mario Draghi’s latest venture into “QE land” cannot cover up the reality: The Eurozone banks are bankrupt, and the euro is plunging toward parity with the dollar.*

The ECB’s new “quantitative easing” bailout was less than the desperate banks wanted, and a Jan. 23 memorandum by Société Générale, speaking on their behalf, immediately said that the bailout had to be twice or three times as large as the EU1 trillion Draghi promised. But it will suffice to drive down the euro and further destroy the Eurozone economies.

In a typically sardonic press conference, the gimlet-eyed chief of the ECB announced an 18-month program, beginning in March, and continuing to September 2016, of buying EU60 billion/month of securities from the big banks—to give them cash, as he repeated several times, which he claimed—against all evidence—they would want to invest at least a bit of into the European economies. The great majority of the securities will be government bonds held by those megabanks. *No* government should get the idea that this money-printing, virtually zero-interest-rate environment, means that they can *spend* any money, said Draghi; “structural reforms must be continued.”

And Greek bonds, he replied to a question, would not be bought until “perhaps July,” and then, only if a new Greek government does nothing to displease the ECB or IMF before then, so that the ECB’s current “quality waiver” on Greek bonds could continue. Otherwise, other ECB board members have threatened, all credit to Greece and Greek banks will be cut off.

Thus, this governor thought to commute the mega-banks' self-imposed death sentences, while condemning the nations and their citizens.

As prominent German economist Hans-Werner Sinn pointed out in a Bloomberg interview, the big European banks "will be glad to have the cash," but will invest it in Swiss, Danish, U.S., Chinese, and other currencies—not the Eurozone.

No fewer than six additional central banks around the trans-Atlantic world took panicky emergency moves against "out-of-control deflation forces" within a few days of Draghi's bank bailout, noted economic analysts Pam and Russ Martens in their perceptive blog "Wall Street on Parade" Jan. 23. The "surprise" moves were by the Swiss, Danish (twice in a week), Canadian, Turkish, Japanese, and Peruvian central banks. The Swiss National Bank move, in particular, caused massive foreign-exchange market losses, including losses of \$100-150 million in one day by most big Wall Street banks, and also doubled, tripled, and quadrupled the interest rates of hundreds of municipalities' bonds in France, for example.

## A Way Out

The Greek parties likely to form a new government in coming days, led by Syriza, propose to write down the unpayable debt of Greece—and other countries crushed under IMF/ECB/European Commission conditionalities—to create the possibility for growth and economic development. They propose to do this through a new version of the London Debt Conference of 1953 which wrote off 60% of Germany's debt, with an extraordinarily successful aftermath for the German economy.<sup>1</sup> The Greek parties are getting support from, and being closely watched by, anti-euro parties in Spain, France, and the U.K., Italy, the Irish government, and many leading economists in Europe.

The IMF and ECB have declared war on this Greek initiative. IMF Managing Director Christine Lagarde has made public statements of extreme disapproval; and Draghi has threatened outright financial warfare against Greece if a new government makes a move toward debt reorganization. This is not limited to refusing to buy Greek government bonds in his QE; it includes cutting Greece *and its private banks* off from ECB credit and even liquidity loans from the Greek national bank.

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1. See Dean Andromidas and Paul Gallagher, "A Greek Proposal: Convene a European Debt Conference for 2015," [EIR](#), Jan. 23, 2015.

Thus Syriza makes a proposal which its leaders believe could restore growth in Europe and even save the euro; the euro (Draghi) and IMF declare war on that proposal. The result, with a euro going to dollar parity or below, could be the breakup of the Eurozone.

The euro—the British imperial price exacted for allowing German unification—was imposed on Europe in 1999 at a target value of \$1.18. It fell immediately to the 95-98 cent range, thus giving a strong inflationary whack to the countries which were replacing their national currencies with it. Since then, its major gifts to Europe have been the blocking or abandonment of major infrastructure investments planned after the fall of the Berlin Wall, and prevailing unemployment rates of 10% in many countries—higher in crises.

The euro was at \$1.60 in 2008; at \$1.40 eight months ago in May 2014; now it's heading for \$1.00. A drop like this in the Russian ruble is universally called, in the financial press and by President Obama, a great defeat for President Putin; the drop in the euro, by contrast, is attributed to Draghi's great cleverness and called a triumph for his policy. The people of the Eurozone countries experience the opposite.

As Europe contracts and living standards fall, Draghi's apologists are forecasting a boom in European exports to countries outside the Eurozone, from an ultra-cheap euro. But Eurozone countries' exports now go only about 50% to countries outside the euro, while 60% of their imports come from those countries outside. Two of the three big export "target countries," Switzerland and China (the third is the United States), strongly protect their domestic markets. So while individual companies may benefit, the Eurozone nations' people will experience a disproportionate loss from more expensive imported goods.

If the ECB declares war on Greece's proposal to reorganize debt in Europe (which means reorganizing bankrupt banks in Europe), then Greece may have to leave the Eurozone in order to reorganize its debt and banks, and general credit for development by resuming its national currency, the drachma. Other nations suffering 20-25% unemployment will be watching, and strong national parties already opposing the euro, will be supporting Greece in doing so.

If the euro continues its "free fall" at the same time, we could finally see the end of Margaret Thatcher's and François Mitterrand's wretched "price" imposed on Europe for letting the Wall come down.

# The BRICS Nations and the New World Economic Platform

by Jason Ross

*Jason Ross, editor of 21st Century Science & Technology, gave this speech at the Schiller Institute conference in New York City, Jan. 17, 2015. For the rest of the conference speeches, see EIR, Jan. 23, 2015, at [larouchepub.com](http://larouchepub.com).*

Let me give an abbreviated version of what I want to talk about. I'm going to take my main topic, what economics is. The other two topics are more about nuclear fusion, and more about Vladimir Vernadsky and the breakthroughs in science that are going to be made, if we choose to take them up.

So it used to be, or at times it has been, natural to progress. It used to be said that it was natural in the United States for each generation to live better than the one before. That's not the case today. Most Americans, as polls show, are not believing that any more: They are concerned that their children are not going to live as well as they have. Why the change?

It used to be considered natural that we would improve, that things would be better, that we would develop.

Now, let's take up, how we create strategic safety in the world. You know, Jeff [Steinberg] was speaking about the 28 pages, about the need, if you're going to address terrorism at its core, don't overlook, don't leave out, the financing of it, go right for the 28 pages, go right at Saudi Arabia; that's the only way you're going to have a lasting security in that regards. And Mrs. [Helga]



EIRNS/Stuart Lewis

*Jason Ross, in his conference presentation, posed the question: What is a truly human economy?*

Zepp-LaRouche has spoken frequently about Xi Jinping's understanding that security is not a local matter: that in this world, we will either have global security, or we will not have security. It's not possible to have safety and well-being in one country, while allowing terrorists and irregular warfare to run amok elsewhere to pursue various interests. We have to have a global security order.

## Science, Economics, and Global Security

What I'd like to address is how that global security order has to itself be based on and include science as a cooperative means among nations, from the standpoint of economics. Be-

cause creativity, development—this isn't just something that the soul yearns for, that the spirit seeks. It's the basis of why we have economies and animals don't. You may have noticed that animals don't have economies: There aren't banks for squirrels; the International Pigeon Institution doesn't release indicators of inflation; there are not rhinoceroses who measure their manufacturing output. This doesn't happen.

Take an example: If we had a time machine, and you went back 5,000 years, you'd be in a very different world than that of today. You might ask yourself, what could you do in that world? Would you have anything helpful to offer? I don't think you'd be helping people with their iPhones, since there weren't any. Would you be able to help people discover how to turn rocks into

FIGURE 1

**Copper and Malachite**

*Metals and rocks are almost completely opposite physical materials, yet the copper on the left was produced from the rock of malachite on the right.*

metal? Could you help people use the stars to navigate? Could you help develop agriculture? Could you design a canal? Or, take someone from 5,000 years ago, and bring them to today. Obviously, it's a very different world.

Now, if you put a kangaroo, a hummingbird, a mosquito in this time machine, they'd get along just fine. Kangaroos don't have to operate any differently now, than they did 5,000 years ago; hummingbirds? There's no difference; it doesn't matter. They're timeless. Time is something that only exists for us, as human beings. We're a species for which *this kind of time* has a meaning. It doesn't exist for the animals. They have one generation to the next, but they're all the same.

So, economics is based on our ability to create history, to discover new true things, to determine how the universe works, and to change our behavior by using that knowledge to live differently. So 5,000 years ago, human beings first turned rocks into metal (**Figure 1**)—this green rock is called malachite; you can turn it into copper. You can add some tin and create bronze. There weren't any pigs doing this; this was people. This developed a new era in history.

FIGURE 2

**Maize-Teosinte**

John Doebley

*Modern maize was developed from teosinte by an intensive process of breeding.*

Or think about agriculture: Think about the development of planting seeds, so you would *know* where you would find food in the future. Do animals do that? Or do they walk around hoping they'll find something?

Here you see the development of corn (**Figure 2**). On the left, that's what corn looked like before farming turned it into the modern form of corn that we're familiar with today. Not very appetizing-looking on the left, but that's what it looked like. We develop new forms of life. And this is well before Monsanto, or genetic modification of that sort; this is the genetic modification of breeding, of developing better plants, of creating new kinds of fruits, of grafting trees for example.

Or, take the other knowledge we developed: astronomy, navigation, using lodestones, the natural magnetite rocks that you could use as a compass. How did that change our relationship to the entire globe? How about Eratosthenes figuring out how big the Earth was? How does that change your relationship to it? How about developing hydraulic engineering, canals, waterways, irrigation systems; the first creation of a lock, to move up a river past rapids; of a dam to control floods, to control



water heights. Of a mill, to use that flow of water to replace human labor or the labor of oxen or horses, pulling something?

Or windmills: Windmills were a great invention several hundred years ago! They're not, today. But when they were first invented, it was a great breakthrough. You could use them for grinding, you could use them to pump water and move back the sea, as in the Netherlands.

## Tools of the Mind

How about the Renaissance? How about the stunningly beautiful conceptions of the beautiful human race, as seen in Florence, as seen in the work of the greatest artists, the greatest musicians? The development of perspective, beauty, music, poetry: We could use these to channel, to celebrate, *to advance*, our view of ourselves, a higher view of what it is to be a human being. This is something that everybody has in his or her mind, whether you're conscious of it or not—what it is to be a member of the human race. The Renaissance, in addition to the scientific aspects, represented a real breakthrough in explicitly developing a way of discussing that in an uplifting and more truthful way: What are we? What are people?

How about the development of the first modern nation-states? How about Joan of Arc, and the creation of Louis XI's France, Henry VII's England? How about modern science, which made tools that weren't made out of stone, like in the Stone Age, or metal or wood, but tools made out of the power of the mind? How about creating that apparatus of scientific thought as a possibility? These tools created by Cusa, Kepler, Fermat, Leibniz, Gauss, Riemann—how did that change us? It allowed us to move forward, solving all sorts of scientific, engineering problems.

Think about the steam engine! That released *tremendous* amounts of power! You could burn a rock, and instead of using that just to cook your food, you could somehow turn burning into motion: That's a phenomenal change! It seems like two completely different sorts of things. So that breakthrough, how did that change what we could do? How much power did we have at our disposal thanks to that?

How about electricity? Now, instead of carrying coal around, you could carry power on a thin piece of metal, on a wire. You could have your engine over here in a power plant, you could have a wire, and you could

have a motor in a factory. How did that change production, how did that change what we were able to do? Electricity allowed us to create new materials as well, by separating metals, for example. Today, throwing away a piece of aluminum foil, that's something that people do, or maybe recycle it—but go back a couple of hundred years: Napoleon used aluminum for his plates, and he served his guests on gold plates, because aluminum was more expensive then. Now it isn't; that's because of electricity.

How about the germ theory of disease? Which I hope everyone's keeping in mind, and washing their hands a lot. The germ theory of disease, vaccination—how many lives have those discoveries saved? How much unnecessary suffering have they averted? How about the development of anesthesia and pain-killers, which made surgeries possible that you would never *think* of having done without those developments! A hip replacement? I don't think anyone would want to do that without anesthesia and pain-killers! It wouldn't happen, right?

## Moving to a Fusion Economy

The nuclear era, which brought in a whole new possibility of technologies: medical scans, smoke detectors, power plants, explosives, basic knowledge of the physical world. How much more power will nuclear fusion bring to us, and the fuller development of already existing nuclear fission? What would be the potentials of a fusion economy, where we're using helium-3 mined on the Moon, as China's already moving to do, to have a platform where we would have to worry about many of the things we consider to be natural phenomena today?

Drought—that's considered a natural catastrophe. It shouldn't have to be. There's plenty of water in the oceans, so why is there is a drought in California? Well, we don't control our weather, and we don't have a desalination capability.

Why do we have shortages of power, or of materials? With a fusion torch you could recycle 100% of waste, you could mine even poor-quality soils.

We could move asteroids! There's a 100% guarantee, that an asteroid or a comet will strike the Earth and kill almost everything on it. That will happen. I don't know when, but there's 100% guarantee it will happen. And we're at a point in human development where we need to take that seriously: Under a fusion platform, we



could move these asteroids—we could move them where we wanted them! If we had Obama's plan to visit an asteroid, we could put one where we needed it and use it as the raw materials for building our spaceships and things like that up there, instead of here on Earth, and having to carry them up.

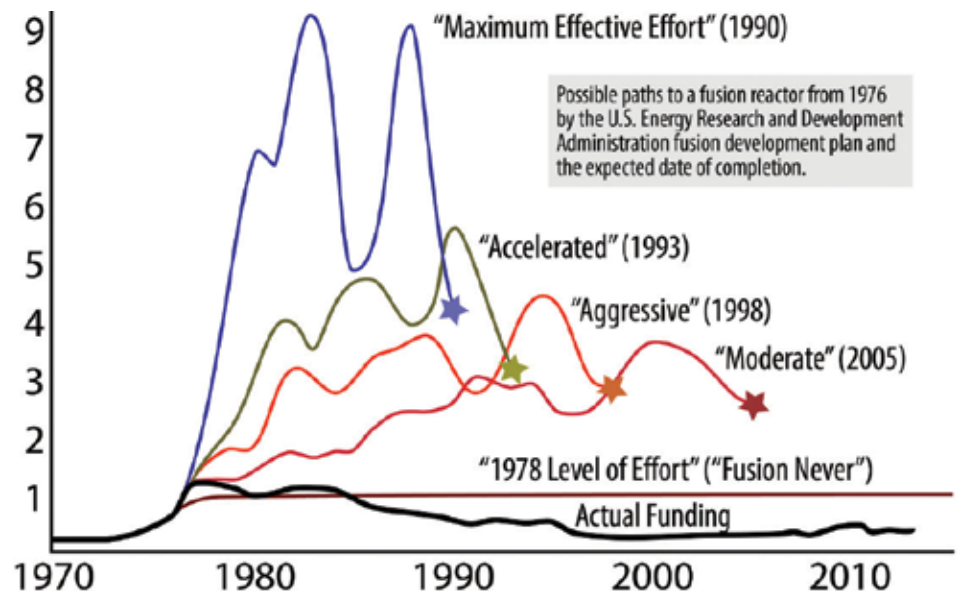
Also, we wouldn't have to worry about Saudi Arabia manipulating the price of oil. (But, then again, we wouldn't have empires.)

So, that's economy. Those kinds of changes? That's economy, that's moving the human species forward. Those are chapters in a history book. What happens on Wall Street? That's not economy, that's stealing, that's gambling, it's empire, it's money! Money's not economy. We use money, but it's not what the economy is. Food is an essential part of the economy; having a place to live is an essential part of the economy. Gambling? That's not an essential part of the economy, that's not one of the basic needs of human beings, or of us as a social species.

So, let's take the opportunity to enjoy understanding this heritage of human development. We're a part of that, that's our common ancestry, our common past. We can all develop a greater understanding of that, and use that to act to create a better future. We also have, just very, very briefly, before us—can we get the chart of the fusion energy budgets (**Figure 3**)? Why isn't this happening right now? Why are polls saying truthfully that Americans don't believe that the next generation will live better?

Here's one example. Back in the late '70s, several ideas were developed about how financing of nuclear fusion research would change the expected date that nuclear fusion would be a reality. You can see these different colored lines. You can see that maroon line, which people then expected meant that we would never achieve fusion. The black line is the actual U.S. funding for fusion: So a decision was made to stop that real eco-

FIGURE 3  
Funding for Fusion Energy, 1970-2010



Credit: graphic design by Geoffrey M. Olynik, incorporating 1976 projections from the U.S. Energy Research and Development Administration, "Fusion Power by Magnetic Confinement: Program Plan," by S.O. Dean.

*Fusion has been held back deliberately, through brutal under-funding.*

nommic process; they discussed it as part of a shift towards Wall Street.

We don't need Wall Street. We don't need monetary economics. We need physical economics.

So let me leave with a teaser, and an announcement about a couple of events for young people; I see some young people here in the audience. One of them is about the work that Mr. LaRouche has initiated on moving science forward, and I'll just point people toward the website of [21st Century Science & Technology](http://21stCenturyScience.com), for more on fusion, for more on Vernadsky, and how life sciences can transform our idea of physics.

So let me leave you with those things: On the larouchepac.com website, there's a [video](#) I just produced about putting fusion power in the context of these overall changes. And I'll end with an announcement: that if you are a young person (if you're wondering whether you're young, I would not consider myself to be young, so if you're younger than me), please, after this conference is over, we're going to meet; look for me by the elevator bank, and we're going to discuss an event that we're going to be having tomorrow in New Jersey from 11 to 3, and also possibly an event tonight, for more on these developments.

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# Economics in Brief

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## SWIFT System

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### Banker Kostin: Excluding Russia Threatens War

Jan. 23—Speaking today at the World Economic Forum, Andrey Kostin, CEO of Russia's VTB Group of banks, said that blocking Russian banks from the international payments system SWIFT (Society for Worldwide Interbank Financial Telecommunication), as some have threatened, would mean a rupture of U.S.-Russian relations. VTB is the third-largest banking company in Russia.

"We have already created our system which can replace SWIFT," he said. "We are also in talks with partners from China. But I want to note that if this [blocking from SWIFT] takes place, U.S.-Russian relations will deteriorate sharply. On the next day, the U.S. ambassador in Moscow and Russian ambassador in Washington may go away. This has already occurred, in the example of U.S.-Iranian relations. The halt to political dialogue and any other relations between the two countries, resulted from this.

"In fact, this is a situation on the verge of war or a Cold War ... not a matter of VTB or banking system." He added, "This is a very dangerous situation which no one is interested in."

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## Domestic Credit

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### Italian Government Moves To Smash Credit Unions

Jan. 22—Italian Prime Minister Matteo Renzi's government has prepared an executive order to smash Italy's credit unions, the only financial institutions that *increased* credit to customers in the period 2011-13.

The decree changes the governance

system of the largest ten credit unions from a per-capita vote to a shareholder system. Currently, each subscriber to a credit union has a vote, independent of how many shares he owns. The shareholder system will sweep away small subscribers and turn credit unions into public limited company institutions, whose policy will be dictated by shareholder value.

The business association CGIA has published data showing that during 2011-13, Italy's credit unions increased loans by 15.4%, whereas ordinary banks and cooperative banks reduced loans by 4.8 and 2.2%, respectively. Foreign banks reduced loans by 3.1%.

The Association of Credit Unions said in a statement that the decree is "full of negative consequences for national savings and for credit to families and small and medium enterprises."

The decree must be turned into law by Parliament within 60 days.

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## Oil & Gas

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### China Pledges Role in Arctic Development

Jan. 20—Sun Xiansheng, the director general of China National Petroleum Corporation, said yesterday that "China is prepared to assist" in the exploration of oil and gas in the Arctic. He spoke at the international Arctic Frontiers conference on climate and energy in Tromsø, Norway, adding, "China may consider the use of Arctic resources for the promotion and diversification of oil and gas imports," according to *Newsweek*.

Indicating its long-term interest in the region, China has a very large diplomatic presence in Iceland. The size of the staff of its embassy there is reportedly twice as large as the combination of all other foreign diplomatic missions in Iceland.

The U.S. State Department announced on Jan. 16 that U.S. Special Rep-

resentative for the Arctic, Adm. Robert Papp (ret.), was to pay a visit to Russia, Sweden, Norway, and Finland to discuss Arctic cooperation. Papp, a retired Coast Guard commandant, had considerable experience with the Arctic during his Coast Guard career before he was selected for his State Department post. The United States assumes the chairmanship of the Arctic Council this April.

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## World Economic Forum

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### Zuma: BRICS Will Have 'Our Own Resources'

Jan. 23—South African President Jacob Zuma, participating in the World Economic Forum this week in Davos, Switzerland, stressed the strength and commitment of the BRICS, in an interview yesterday. "BRICS plans are not in jeopardy," he told *Business Report*, an affiliate of Independent Online (South Africa).

Zuma said that the BRICS group is a "very important factor in the global economy," and that the group's commitments were not at risk. "BRICS is here to stay."

"We would have our own resources to finance ourselves and finance the developing countries," he said. "For the first time, the developing countries are beginning to say there is a bank that is going to be doing things differently and it is going to have a branch on the African continent."

Zuma said that in addition to the BRICS being strong countries, any discussion about what type of global financial framework was now needed had to be based on understanding the critical role the BRICS countries were going to be playing in reforming the existing global financial architecture.

"These countries are very strong and they are very independent-thinking countries, and they've got resources,

particularly if we talk China, Russia, and India,” he said. “It’s a grouping that’s developing a different frame of mind. It’s an important factor in the global economy.”

*Business Report* noted that the BRICS nations—Brazil, Russia, India, China, and South Africa—account for 40% of the world’s population, and have a combined GDP of nearly \$16 trillion.

### **Ruble Crisis**

## **Economist Glazyev Calls Central Bank ‘a Cult’**

Jan. 24—The Russian Central Bank, which raised its key interest rate to 17% last month to try to stop the fall of the ruble, “is acting like a real cult,” wrote Russian economist Sergei Glazyev in the daily *Komsomolskaya Pravda* yesterday. Glazyev is an advisor to President Putin and the leading spokesman for a credit system to finance the physical economy, along the lines discussed by Lyndon LaRouche. (See, e.g., *EIR*, May 2, 2014.)

The Central Bank (CB), Glazyev wrote, is following three destructive dogmas of the “Washington Consensus”: 1) there must be no regulation of cross-border capital flows; 2) rejection of state ownership of property; and 3) rejection of the issue of credit for the development of production. Following these dogmas has doomed Russia to dependency on foreign capital, which easily swallows up privatized assets and establishes control over the national economy.

If the CB does not find a way to substitute domestic credit for foreign credit, a sharp contraction of the monetary base will paralyze the economy, as occurred in the 1990s, the economist warned. In fact, this is already occurring, as business activity, investments, and production are falling. This could be prevented, provided Russia rejects the three dog-

mas and issues long-term credit for development. It should impose currency controls and criminal prosecution of speculators who are manipulating the markets.

There are several reasons for the confidence of the financial authorities in the correctness of their policy, Glazyev wrote. “First of all, *they are acting like a real cult*: All discussions are held among a circle of people who think alike.”

Glazyev cited approvingly the measures used by Prime Minister Yevgeny Primakov [1998-99] and CB chief Victor Geraschenko, when the ruble collapsed during the 1998 GKO bond crisis. They never raised the interest rate, Glazyev wrote, but cut off credit to the banks for speculation against the ruble. The increase of credit otherwise allowed industry to quickly revive; in six months, production rose more than 20%, and it was possible to curb inflation. The same type of thing should be done today.

Commercial banks that receive credit from the CB have to be held responsible for the use of this money exclusively for the working capital of productive companies and real investments, Glazyev declared; and considering that the bulk of the refinancing goes to banks controlled by the state, this is not difficult to do. Nor is it difficult to put a stop to dubious banking operations.

“It would also be possible to have differentiated rates, depending on the purpose of the loan, and credit for long-term investments in the development of infrastructure by refinancing development institutions. And then we would be able to pull the economy out of the crisis situation onto a trajectory of rapid growth, within a couple of months, by raising the price competitiveness of domestic products.”

But as it is now, the interest rate rise and the shrinking money supply will cause a fall of investment and production, he wrote.

## *Briefly*

● **GAZPROM**, the Russian gas company, was issued a EU350 million loan by the Italian bank Intesa SanPaolo on Jan. 22. In a press release, Gazprom said that its “cooperation with one of the largest banking groups in the Eurozone has great significance for the development of partnership relations with the credit organizations of Italy and all of Europe.” Gazprom has not been targeted by EU sanctions.

● **EGYPTIAN** Prime Minister Ibrahim Mahlab announced at a press conference on Jan. 17 that Egypt would be holding a summit meeting March 13-15 in Sharm el-Sheikh, to attract foreign investment to the country. Egypt has finished proposals for 28 projects that it wants to build, and is working on proposals for 14 more.

● **CHINA** could become the world leader in nuclear fuel exports, said David von Hippel, of the Nautilus Institute for Security and Sustainability, as reported in *Global Times*. He said it would take at least another five years for China to start to export nuclear fuel, since it is not completely meeting its domestic needs.

● **JAPANESE** Prime Minister Shinzo Abe visited Cairo Jan. 16-17, to discuss expansion of cooperation on all levels, including boosting trade. Abe was accompanied by a delegation of more than 100 government officials and business leaders.

● **AN ITALY-ALBANIA** bridge was proposed at a meeting in January of the Association of Mediterranean Engineers. The bridge would cross the Strait of Otranto, which joins the Adriatic Sea to the Ionian Sea, and would link the Balkans, through the proposed Messina Bridge and a Sicily-Tunisia connection, to Southern Italy and North Africa.

# Obama's State of the Union: Delusions that Threaten War

by Nancy Spannaus

Jan. 27—President Barack Obama faithfully demonstrated his allegiance to British imperial policy in his State of the Union speech Jan. 20. In the midst of spewing out his delusions about the state of the U.S. economy and his own accomplishments, Obama pressed forward on the path of confrontation with Russia and China, which will lead, unless stopped very soon, to World War III.

“Obama’s State of the Union address was clinically insane, filled with the most corrupt, rotten, foolish, idiotic statements,” commented Lyndon LaRouche. “And what was worse, the audience was cheering him on like a pack of idiots. It was an echo of the Nuremberg rallies of Nazi Germany.”

“This is why,” LaRouche said, “we are facing an immediate danger of thermonuclear war.”

The immediate responses of the world’s other two major nuclear powers, Russia and China, demonstrate that they are well aware of the threat represented by Obama’s policies, and are working to counter it. Alarmingly, the response of the American political leadership, not to mention the media, continues to largely ignore the danger—although only action to change U.S. policy from within can take the world off the current confrontation course.

## Delusion and Confrontation

The bulk of Obama’s State of the Union speech was devoted to lies about the “recovery” of the U.S. economy on Obama’s watch, and the presentation of a series

of suggested breaks for the middle class—all of which will be “dead on arrival” in the Congress. These had been pre-billed as a turn toward populism and advocacy for improving the living standards of the population. Yet, Obama did *not once* utter the words “Wall Street,” much less attack it for profiteering off the misery of the nation.

The fraud began with his ignoring the actual situation of the American population—the extent of poverty, the low-wage jobs, the drought threat to the nation’s food supply, the collapse of vital infrastructure, to name just a few aspects. This worsening travesty could only be reversed by putting the Wall Street looters out of business—starting with reinstituting the Glass-Steagall Law—but that never has been part of his agenda.

In one area, Obama even demanded an exacerbation of the looting through expansion of the British free-trade policy. He insisted that he must get “fast-track” authority to ram through new free-trade pacts (specifically the Trans-Pacific Pact [TPP] and the Transatlantic Trade and Investment Partnership [TTIP]), to create “the most competitive economy anywhere.” This, as many Democrats know, is a race to the bottom for labor, and they have been against the Obama-Republican Party alliance on the issue, since the beginning of the current Congress.

Obama used his push for free trade to attack China: “As we speak, China wants to write the rules for the world’s fastest-growing region,” he said. “Why would we let that happen? *We* should write those rules” (emphasis added).



Russian Ministry of Foreign Affairs

*Russian Foreign Minister Sergei Lavrov told the press on Jan. 21 that President Obama's call for further "isolation" of Russia will be fruitless. "Russia will never take the road of self-isolation, suspiciousness, and looking for enemies," he declared.*

In fact, China has put forward a policy of trade and investment for the Pacific—and the world—and specifically offered membership to the United States, as well as other nations, under the concept of a "win-win" policy of collaboration. Obama's TTP explicitly *excludes* China—as befits the fact that it is part of a confrontational policy overall.

### Targeting Russia and International Law

Obama's policy of strategic confrontation took on more strident tones as he went on.

On terrorism, he once again asserted his determination to act, *à la* George W. Bush, outside the framework of international law: "We will continue to hunt down terrorists and dismantle their networks, and we reserve the right to act *unilaterally*, as we have done relentlessly since I took office, to take out terrorists who pose a direct threat to us and our allies" (emphasis added).

The consequences of such action have been disastrous—as the Libya example demonstrates most clearly—actually promoting the proliferation of terrorism globally. But Obama ignored that, and went on to even bigger lies:

"We're upholding the principle that bigger nations can't bully the small—by opposing Russian aggression,

and supporting Ukraine's democracy..." Obama said. "Today it is America that stands strong and united with our allies, while Russia is isolated with its economy in tatters."

It is not surprising that the delusional Obama would "forget" about the U.S. bullying and invasion of Panama, Serbia (by insisting on independence of Kosovo), and Iraq—not to mention the fact that his State Department emissary Victoria Nuland helped orchestrate a coup in Ukraine that brought Nazis into the government. But how could the full Congress stand to applaud this blatant lie?

And how could that Congress, and the American population, swallow the absurdity that Russia has been "isolated" by Western economic warfare? The BRICS alliance, of which Russia is a crucial part, is comprised of more than 3 billion people, and represents the fastest-growing section of the world economy. It is Obama who is isolated—with his own delusions of grandeur.

### The Russian Rebuff

On the day after Obama's State of the Union speech, both Russian Foreign Minister Sergei Lavrov and President Vladimir Putin's press secretary Dmitri Peskov had occasion to respond. Each of them counterposed to Obama's delusions of power, the reality of the rising strength and influence of the Eurasian nations and the BRICS alliance.

Peskov, in an interview to the nationally circulated *Argumenty i Fakty* newspaper, reiterated what Putin himself said last month, that "it is not a matter of Crimea or Ukraine; if it had not been Crimea, they would have come up with another pretext" for "being on Russia's case." Peskov charged that people in the West were "trying to portray Putin as a party to the [internal Ukrainian] conflict, to isolate him in international politics, to suffocate Russia economically in their own interests, and to get Putin overthrown, while at the same time demanding that he settle the crisis in a neighboring country."

Asked about a recent statement by German Chancellor Angela Merkel, that Putin would not be invited to this year's G7 summit, Peskov noted that Putin was not expecting that. "On the other hand," he added, "one could ask what the point of the G7 is, anyway; what decisions can it take without the participation of Russia, India, and China?"

Lavrov took up Russian-American relations several times in his two-hour annual year-in-review press conference, stating in his opening remarks: “We hear a lot of statements by our Western partners, about the need to isolate Russia further. U.S. President Obama found it appropriate to state this yesterday in his State of the Union message.” But, countered Lavrov, “such attempts are fruitless. Russia will never take the road of self-isolation, suspiciousness, and looking for enemies.”

As examples of Russia’s foreign policy outreach, Lavrov cited, besides its diplomatic efforts related to Ukraine, its engagement in multilateral formats such as the G20, the BRICS, and the Shanghai Cooperation Organization. As host of the summits of the latter two organizations this coming Summer in Ufa, Lavrov said that Russia would seek to animate their operations. “In the BRICS framework, this means above all the coordination of economic documents such as an economic partnership strategy and a road map for investment cooperation.”

Lavrov went on to discuss Russia’s engagement with other nations of the Asia-Pacific region, China in particular, as well as the offers from the new Eurasian Economic Union for free-trade relations with the European Union.

Returning to the problem of Obama, in answer to a question about Russia-U.S. ties, Lavrov said: “The Americans have taken the pathway toward confrontation, and are not in the least critical in evaluating their own actions. Yesterday’s speech by President Obama shows a philosophy centered on just one thing: ‘We’re number one, and everyone else should recognize this,’ which is slightly old-fashioned and out of whack with today’s realities. The foreign policy philosophy of the USA is even more aggressive: it wants to be not merely *primus inter pares*, but to dominate the world.”

Lavrov said he thought that reality was already forcing Washington to realize that this doesn’t work, because international cooperation really is required on a whole range of matters. Furthermore, he said, “the objective development of the world and the appearance of powerful centers of economic growth and financial influence, and also centers of political influence, is an objective process and cannot be left out of account.”

## China Blasts Obama

Two days after the State of the Union, China’s state-owned press began issuing diatribes against Obama’s

war-mongering. A *Global Times* editorial, titled “Speech Shows ‘U.S. Ambition To Dominate World,’” quoted from his attack on China, and then cited a quote from Zha Xiaogang, a research fellow at the Shanghai Institute for International Studies: “Obama’s address indicates that the U.S. still wants to dominate the world. They worry that China’s fast development will challenge the status of the U.S.”

The editorial quoted Li Haidong from the China Foreign Affairs University: “The U.S. should pay more attention to developing cooperation with China instead of excluding China in its regional trade pacts.”

*China Daily*, rather than editorializing, printed an op-ed by a visiting professor from the U.K. at the University of International Business and Economics in Beijing, Mike Bastin, titled, “Obama’s Speech a Show of U.S. Hypocrisy.” He quotes Obama: “We are demonstrating the power of American strength and diplomacy. We’re upholding the principle that bigger nations can’t bully the small.”

Bastin comments: “This was breathtakingly hypocritical. Once again it is to China that attention should be paid for genuine diplomacy and international engagement aimed at strengthening the world economy. Sadly, it is to the U.S. where one need look no further for a culture of bullying and belligerence towards other, often smaller and weaker, nations. A prime example recently can be found with the launch late last year of the Chinese-led Asian Infrastructure Investment Bank,” pointing to Obama applying “significant pressure on Australia and South Korea so they did not sign up as founding AIIB members.”

He adds: “Obama, U.S. bully boy, however, rose to the highest hypocritical heights during this State of the Union speech when commenting ‘As Americans, we respect human dignity ... which is why I’ve prohibited torture.’ What Obama failed to mention is the determined and lengthy rearguard action that he is leading against the Senate Intelligence Committee report on CIA torture which exposed unequivocally widespread abuse of human rights and human dignity. As part of this action Obama has also, quite incredibly, blocked any prosecution of the torturers.”

## The Americans?

There are, of course, many Americans—even some in Congress—who, if they thought it safe, would agree with Bastin. If they don’t find their courage soon, it may be too late.



# U.S., International Outcry To Expose Saudi Role in 9/11

Jan. 26—The role of the Saudi Kingdom in 9/11 is closer now than ever before to being revealed, as pressure builds on all sides for release of the classified 28 pages of the Congressional Joint Inquiry Report on 9/11 which deals with the funding of the 2001 mass terror attack on the United States.

As we reported three weeks ago (*EIR*, Jan. 8), last year, a core group of Congressmen, led by Reps. Walter B. Jones (R-N.C.), Steven Lynch (D-Mass.), and Thomas Massie (R-Ky.), joined by leaders of the 9/11 families, during the course of 2014, spearheaded a drive for release of the suppressed section. On Dec. 2, 2013, Jones and Lynch introduced H. Res. 428, calling on President Obama to declassify the 28 pages. By the end of the 113th Congress, the list of bipartisan co-sponsors was 21. And on Jan. 6, 2015, Jones joined by Lynch and Massie, introduced an identical measure, H. Res. 14, into the 114th Congress. Since then, three additional members of Congress, Alan Grayson (D-Fla.), John Conyers (D-Mich.), and Mark Pocan (D-Wisc.) have become co-sponsors.

Since then, the hue and cry for release of the sequestered pages, and pointed questions about the role of Saudi Arabia in promoting jihadist terror have reach deafening volumes. Here are highlights:

## From the United States:

**CNN:** On Jan. 25, White House Chief of Staff Denis McDonough once again dodged the question of releasing the 28 pages, when questioned by CNN host Michael Smerconish, who asked: “Does the passing of King Abdullah mean the administration now will release the 28 pages pertaining to the Saudis and September 11?”

**CNN International:** Terry Strada, leader of the 9/11 Families United for Justice Against Terrorism, Jan. 20, stated, “Yes, Saudi Arabia funds terrorism.... The world has a right to know the role of Saudi Arabia in funding terrorism....”

**allgov.com:** Published a story on Jan. 24, detailing alleged links of the new Saudi ruler, King Salman, to the 9/11 attacks. After citing the suppression of the 28 pages by Bush and Obama, the article noted that “Salman was one of several defendants sued in the U.S. for allegedly supporting Al-Qaeda. After paying more than \$215 million in claims by families of those killed in the attacks, Lloyds of London filed a suit seeking reimbursement from multiple parties, including Salman.”

**Buzzflash:** Author Steve Thresher headlined “9/11: New Report Will Blow Information of Saudi Arabia’s Involvement,” is widely circulating on the Internet as of Jan. 24. It links to recent articles on the September 2014 and January 2015 Capitol Hill press conferences of Sen. Bob Graham and Rep. Walter Jones, et al.

**Commentary:** On Jan. 19, writer Michael Rubin (of the American Enterprise Institute) wrote, “Journalists should not let any candidate off the hook. Every aspirant to the presidency should pledge him- or herself to full transparency and to complete the historical reckoning from 9/11 that all the victims, their families, and, indeed, every American deserves.”

And on the **AEI website** Rubin added: “As the election campaign begins and both Republicans and Democrats begin the traditional game of footsie with supporters, donors, and the press, perhaps each and every presidential aspirant should take a pledge: release the missing 28 pages of the 9/11 report on their first day in office. And if they are not willing to take that pledge, perhaps they can explain why deference to Saudi sensitivities continues to trump full transparency if not accountability for the largest and most consequential terrorist attack ever perpetrated on American soil....”

**OpEdNews:** Jan. 21 published “Retired Senator Bob Graham slams the White House Over Non-Release of 28 Redacted Pages of 9-11 Report.” Author David William Pear reported that Graham is putting on a “full-

court press” to get the redacted 28 pages of the 9-11 Commission report released to the public, as these “are suspected of revealing that Saudi Arabia was involved in the financing and aiding of at least some of the 9-11 hijackers.” Pear documents the stonewalling and cover-up by both the Bush and Obama administrations, and quotes extensively from Graham’s remarks at the Jan. 7 press conference on Capitol Hill with Reps. Walter Jones and Stephen Lynch.

*Huffington Post*: “World Post” ran a piece, “How Saudi Wahhabism Is the Fountainhead of Islamist Terrorism,” in which the author writes: “The fountainhead of Islamic extremism that promotes and legitimizes such violence lies with the fanatical ‘Wahhabi’ strain of Islam centered in Saudi Arabia. And if the world wants to tamp down and eliminate such violent extremism, it must confront this primary host and facilitator.” It cites former Sen. Bob Graham and the fight to release the 28 pages.

**Bloomberg**: A Jan. 21 article by Eli Lake “Why Obama Can’t Say ‘Radical Islam.’” “It sounds strange,” he wrote, “But as Emile Nakhleh, who was one of the CIA’s top experts on political Islam between 1993 and

2006, told me [concerning the 9/11 attacks]: ‘In some cases, such as the Kingdom of Saudi Arabia, the purveyors of Wahhabism were longstanding American allies. ‘There was the two-ton elephant in the room, and that is Saudi Arabia,’ Nakhleh said.’”

## International Coverage

**Russia’s Sputnik News**: Jan. 24, headlined, “Obama Goes to Saudi Arabia Despite Connection to 9/11, Human Rights Issues.” After reporting that President Obama decided to cut short his visit to India, to lead the U.S. delegation to Riyadh, to meet with the newly crowned King Salman, provided a detailed account of the fight to release the 28 pages, citing the efforts of Rep. Walter Jones and reporting that “several members of Congress have said they were ‘shocked’ when they read them. Reportedly, they include a CIA memo that claims high-level Saudi diplomats and intelligence officers helped the hijackers logistically and financially.”

**Le Figaro**: Jan. 22, Washington correspondent Laure Mandeville reported on the Jan. 7 Graham/Jones press conference calling for the declassification of the 28 pages, then noted, “After the terrorist attacks which struck its French partner, the role of Saudi Arabia—an other U.S. ally—in the export of Wahhabism and neo-Salafism, which are spreading like poison throughout the world and into Europe’s poor immigrant suburbs, is at the center of the reflections and the dilemmas of both the Obama administration and the national security community in Washington.” *Figaro* then cites a source close to U.S. intelligence, who says that “a strategic shift is underway in Washington regarding the assessment of the role of Saudi Arabia in the promotion of jihadist terrorism. Whereas only five or seven years ago, the links between the promotion of Saudi Wahhabism and groups like Al-Qaeda were generally seen as distant, today these connections are largely borne out and leading to a change in strategy that acknowledges that the propagation of Wahhabism and neo-Salafism has been a long-term major threat which must be defeated.”

**Zeit Online**: Theo Sommer, former publisher and editor of *Die Zeit*, Jan. 20, headlined, “The Saudis Nurture the Jihad,” and wrote, “The Saudis have created the monster of Salafist terrorism. . . . Saudi Wahhabism has become the foster mother of Salafi terrorism.”

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# U.S. Paradigm Shift Required: Science To Provide Water

Marcia Merry Baker and Benjamin Deniston

Jan. 17—In reprinting the chapter below, “Solve the World Water Crisis,” by Benjamin Deniston, from the *EIR* Special Report, “The New Silk Road Becomes the World Land-Bridge,” released last month, we are underscoring the point made by Franklin Delano Roosevelt years ago: Reaching for the frontiers of science gives you the ability to deal with present-day crises. During the FDR Administration, breakthrough work was done in atomic research, plant genetics, and other branches of science, at the same time that millions of jobs were created to relieve suffering, and build the nation. There is no conflict between long-term commitments, and short-term emergency measures. Only if we pursue the frontiers of progress, can we succeed in taking the actions for the immediate crisis.

Over the months since Deniston wrote his 2014 world water review, a successful demonstration of this principle has been shown in China, in the opening of the central branch of the South-to-North Water Diversion Project. Over Fall 2014, the reservoir swelled behind the heightened Danjiangkou Dam; the conveyance channels were activated to move water northward; and on Dec. 28, Beijing received its first “new” water supplies. The system diverts flow from the water-plentiful Yangtze River Basin to the dry north, through some 1,200 km of canals and pipes.

This grand water project in China—part of an overall Eurasian infrastructure drive, especially high-speed rail—is an inherent part of China’s national commitment to *progress as a policy*, whose leading edge is space research, and a helium-3 fusion-power transformation. This development principle is guiding the initiatives of the BRICS—Brazil, Russia, China, India, South Africa—and collaborating nations.

In contrast, in the United States, the destructive Federal policy is causing physical economic and social collapse, as a “necessary evil” to support the dead Wall Street/City of London financial system. U.S. space and fusion



*The Danjiangkou Dam on the Han River, the principal reservoir for the middle line of the South-to-North Water Diversion Project, was heightened to increase its impoundment volume, over a construction period from 2005 (shown here) to 2010. The dam was raised 14.6 m, from 162 m to 176.6 m.*

research have been all but cancelled. In per capita and per unit area terms, U.S. essential physical measures are in absolute decline overall—power, water, agro-industrial production. But monetarist speculation and bailout are increasing beyond measure.

Because of decades of this deadly program, the planned and required Western water diversion systems—proposed in the 1960s as NAWAPA (North American Water and Power Alliance)—were never built. Counterparts to the modern South-North Water Diversion in China, these systems would have supported the expanded economic activity, and biosphere improvements, in ways to enhance mankind’s ongoing ability to defend against planetary climate shifts from solar and galactic cycles. Nor were nuclear-powered, seawater desalination systems ever installed, as once intended by the Eisenhower and Kennedy administrations. Now the entire region west of the Mississippi River is in crisis, from the Kansas wheatlands to California’s Central Valley.

All 22 states west of the Mississippi River are affected. In the southwestern states, 98 million people are facing vanishing water supplies. California, with 38 million people, may run out of water in 18 months. Many communities are now supplied by truck.

## **NASA Studies Document Scale of Crisis**

In addition to the immediate challenges, there is reason to expect that the current dry spell could continue for decades, or even centuries. This is in line with such patterns over long-term geo-history. Recent studies of

climate changes in this Western region over thousands of years, show periodic, extreme variations, ranging from megadroughts, to mega-flooding.<sup>1</sup> Paleo-climatologist B. Lynn Ingram, at the University of California at Berkeley, recommends that California prepare itself for a megadrought that could persist for 200 years or more. In fact, in terms of the long-term record, the last 100 years ranks as a relatively wet and stable century in the West.

For the present, NASA satellite data-based analyses, and on-the-ground readings, are documenting the severity and consequences of the worsening aridity. A NASA study released in July 2014,<sup>2</sup> showed that the Colo-

rado River Basin—whose drainage boundaries cover parts of seven dry Western states and northern Mexico—has lost a huge volume of groundwater over the last 14 years. The reservoirs behind the dams and the groundwater are drying up. This threatens water supplies for 40 million people, irrigation for 4 million acres of farmland, and the means to life throughout the region. Scientists at NASA and University of California Irvine conducted the study, covering nine years, using data from NASA’s GRACE (Gravity Recovery and Climate Experiment) satellite mission to track changes in the water mass, on and below the surface in the Colorado River Basin.

A NASA press release summarized: “Monthly measurements of the change in water mass from December 2004 to November 2013 revealed the basin lost nearly 53 million acre feet (65 cubic kilometers) of freshwater, almost double the volume of the nation’s largest reservoir, Nevada’s Lake Mead. More than three-quarters of the total—about 41 million acre feet (50 cubic kilometers) was from groundwater.”

Another study looked at the entire Western region, inclusive of the Colorado River Basin, and found the desiccation so severe that the Earth’s surface is measurably rising. Researchers monitoring earthquake activity

1. “The West Without Water: What Past Floods, Droughts, and Other Climatic Clues Tell Us About Tomorrow,” by B. Lynn Ingram and Frances Malamud-Roam; Berkeley: University of California Press, 2013.

2. *Geophysical Research Letters*, American Geophysical Union, “Groundwater Depletion During Drought Threatens Future Water Security of the Colorado River Basin.” July 24, 2014.

in the West reported their findings in August 2014: “that the growing, broad-scale loss of water is causing the entire western U.S. to rise up like an uncoiled spring.”<sup>3</sup> Scientists at the Scripps Institute of Oceanography, at the University of California San Diego, analyzed precise GPS readings on the Earth’s surface, from 772 stations across the Western states, between 2003 and March 2014, and found a clear pattern of rising ground levels. The stations are part of the Plate Boundary Observatory of the National Science Foundation and other networks.

The U.C. San Diego website reported that the researchers “found that the water shortage is causing an uplift effect up to 15 millimeters (more than half an inch) in California’s mountains and on average four millimeters (0.15 of an inch) across the west. From the GPS data, they estimate the water deficit at nearly 240 gigatons (63 trillion gallons of water). . . .” They call the deficit “equivalent to a 10 cm layer of water over the entire region.”

### The BRICS & LaRouche’s Four Laws

The Western states crisis is an imperative for the forcing of a sudden, complete policy shift in the United States—and the global context for such a shift already exists. A formal invitation for this was given to the United States in November 2014, when Chinese President Xi Jinping presented President Obama with an offer for the United States to join with the BRICS in their campaign for world development.<sup>4</sup>

Earlier, in June 2014, Lyndon LaRouche had already laid out the principles of the required policy shift for the United States, under the title, “Four New Laws To Save the U.S.A.: Not an Option: An Immediate Necessity” (see *EIR*, Jan. 9, 2015).

First, there must be the reinstatement of the Glass-Steagall law, as a “principle of action” which restores the basis for sound banking and credit.

Secondly, there must be, “a return to a system of top-down, and thoroughly defined as National Banking.” This calls for the activation of the authority of the Federal government, as posed by our first Treasury Secretary, Alexander Hamilton, to initiate credit and practices for the general good, overriding regionalism.

Thirdly, use must be made of the Federal credit

system to “generate high-productivity trends” in employment, and initiate projects serving the purpose of “creating a general economic recovery,” premised on increases of national energy-flux density.

Fourthly, we must “adopt a fusion-driver crash program.”

Taken together, these define the principles by which the United States can emerge from its present breakdown crisis, and re-enter the frontiers of human progress in collaboration with other leading nations.

LaRouche’s call for increasing national economic energy-flux density is critical to addressing the U.S. water crisis. For example, start with the depletion rates of major aquifers and groundwater supplies west of the Mississippi. According to various studies, California’s Central Valley aquifer is losing about 1.5 km<sup>3</sup> of water per year, the Colorado River Basin is losing 5-7 km<sup>3</sup> per year, and the High Plains Ogallala Aquifer is losing about 5 km<sup>3</sup> per year.<sup>5</sup>

In an initial approximation, this loss of ~13 km<sup>3</sup> per year could be overcome by using nuclear power to desalinate ocean water, providing new freshwater supplies—a process which can be supported by increasing the total power per capita and per square kilometer (energy-flux density) of the relevant populations and territories. For California (and the Central Valley aquifer), this would require increasing the power per capita and per square kilometer by 0.5-1% of current values; for the entire Southwest (considering the Central Valley aquifer and groundwater of the Colorado basin), an increase of about 1-2% in the power per capita and per square kilometer would be required; and for the combined territory of the Southwest and the High Plains, the needed energy-flux density increase would also be about 1-2%.

Approached in these physical-economic terms, merely a few percent increase in these regional metrics of energy-flux density could address the Western water depletion crisis, and ensure the survival of these territories.<sup>6</sup>

Going to a higher level, the operation of NAWAPA, as a *continental* water-management system, would re-

3. “Ongoing Drought-Induced Uplift in the Western United States,” A. Borsa et al., *Science*, August 2014.

4. This occurred in Beijing at the 2014 Asia Pacific Economic Cooperation (APEC) summit. Washington has ignored the opportunity. See the LaRouchePAC petition, “[U.S. Must Join the BRICS!](#)”

5. These values should be taken as rough estimates, and are, if anything, lower than the actual loss rates. See Section I (“Dimensions of the Crisis”), Part B (“Groundwater Depletion”) of the accompanying report for details.

6. Compare this, for example, with the current power per capita requirements for general transportation in the United States: *nearly 30% of the total power per capita*.



quire an increase of the continental power per capita and per square kilometer of 2-5% (depending upon the scale of implementation), and would create the potential to address all immediate and long-term water needs of the continent (doubling the water availability for entire states), creating the potential for immense economic growth and development.

The survival of the United States depends upon such active interventions to increase mankind's power to change and improve the national territory. The United States must again come to realize that the survival of mankind depends upon the continual physical-economic improvement and progress, as measured by increasing energy-flux density, for example.

Without this paradigm shift—amounting to a return to the American System—no resort to “water emergency measures”—however well intended—will save the day.

## USA Stuck in a Fishbowl?

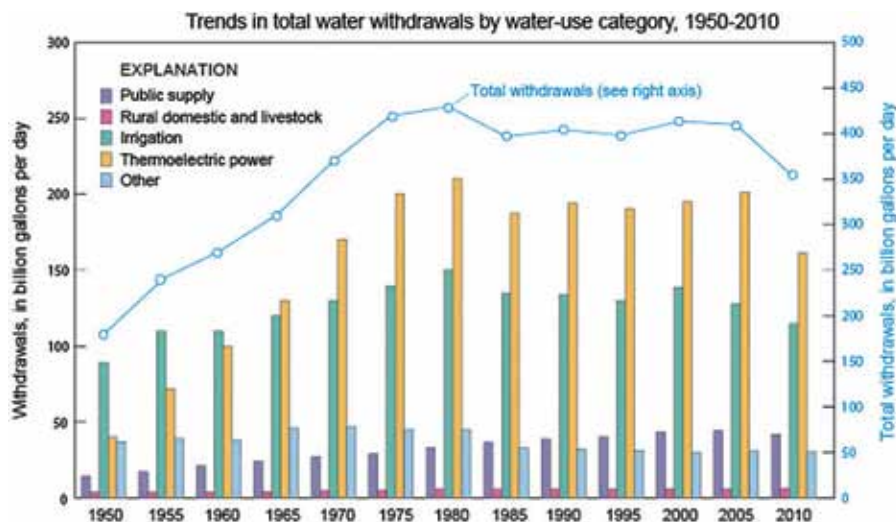
There is an old tale of the fish that spent so much of his life swimming circles in the small confines of his fishbowl that once he was released into the ocean, he lived out his days continuing to swim in the same tight circles. Despite the vast open potential of his new environment, the fish was so accustomed to his old way of life, that his *old habits* became his new cage—his *own habituation* to tired old practices kept him from the immense possibilities before him.

Are we not reminded of the United States today?

Despite the depths of the crisis, and the new global context of the emergence of the BRICS system, lawmakers in the United States have still stuck to a tired, old array of small and practical “water emergency measures” habits, which will, at most, provide some temporary regional relief, while the systemic nature of the crisis continues to destroy the region.

For example, on Jan. 14, a “Water in the 21st Century” bill was introduced into the House of Representatives by California Rep. Grace Napolitano (D) (who had also introduced it in July 2014), and into the Senate by Barbara Boxer (D-Calif.). The bill's measures, to be funded by various Federal grants and rebates, range

FIGURE 1



from collecting storm water, to “studying” desalination, to promoting water-saving household appliances.

More seriously, this month, the state of Kansas is discussing a newly released Army Corps of Engineers study on running a 360-mile canal across the state, to convey Missouri River flow to farmland. The study sees a 20-year, \$18 billion construction project.

Taken altogether, the varied contingency measures underway or under discussion throughout the drought-stricken states, amount to a grab-bag of whatever the affected communities or states hope to be able to pay for, from trucking in water, to building coastal desalination plants (all non-nuclear), to recycling sewage effluent. The Federal government remains hands-off, per Wall Street.

Even if the “best” of these measures were agreed to, they don’t defend against long-term weather pattern shifts; nor do they stand a chance, given that the U.S. economy itself is in breakdown. In fact, it is “drying up.”

**Figure 1** presents the trend of total water used in the United States, at five year intervals, 1950 to 2010.<sup>7</sup> It shows that the volume of fresh (mostly) water used for all purposes in the United States today, has now fallen back to the same level that it was 45 years ago. What are referred to as water “withdrawals” have been declining for 30 years, from 430 billion gallons per day (Bgal/d)

7. “Estimated Use of Water in the United States in 2010,” U.S. Department of the Interior and U.S. Geological Survey Circular 1405, November 2014.



down to 355 Bgal/d in 2010 (including some saline water, as well as fresh). Total water withdrawn fell by 13% in just five years, from 2005 (at 409 Bgal/d) to 2010.

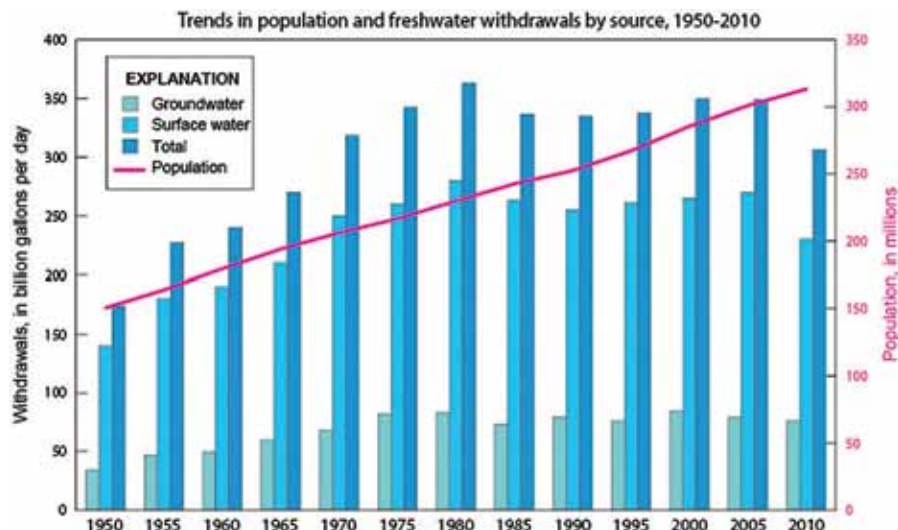
The largest declines, by category, include the following:

- Use for thermoelectric power dropped 20%. This reflects, in part, certain improved efficiencies in cooling, and in the main, reflects power plant closures and a decline in coal-fired generation. This is a large category of use.
- Use for manufacturing (from self-supplied industrial withdrawals) dropped 12%. Apart from some efficiencies and recycling, the decline reflects the decrease in U.S. industrial production, especially since 2008.
- Use for irrigation dropped 9%. Apart from some efficiency improvements in water application technology, the decline in water volume represents a decrease in food-producing capacity. Moreover, the interesting fact noted in the USGS report, that the national irrigated area grew by 2 million acres over this five-year period, is accounted for only by the undesirable trend in which Nebraska has superseded California in size of area irrigated, and Nebraska is using its expanded irrigation to produce corn for ethanol—a degraded energy mode.
- Use for public water supply declined, despite a 4% increase in the population. The per capita use by those served by public water systems fell from 100 gallons per day in 2005, to 89 in 2010. (Public supply refers to centralized water systems, large or small, in contrast to wells, streams, and other private sources.)

Obama Administration spokesmen at the Interior Department have hailed this dismal picture as helping to “sustain the limited freshwater resources in the country.” The USGS, for the first time since its water use survey began in 1950, delayed getting the report out, for two years.

**Figure 2** presents the trend of total water “withdrawals” from 1950 to 2010, by source of the water. Though not spelled out explicitly on the graph, the implication is stark: that over time, as less surface water is available—now at crisis conditions in the West—groundwater is sought, but aquifers are depleting. The situation is untenable.

FIGURE 2



## Food Crisis

The Western drought and national policy crisis constitute an automatic food crisis. Look at the year-end reports of the 2014 agriculture losses in California, which for decades, has been the leading state supplier of many basic foods, from dairy (20% of U.S. milk production), to field and orchard crops (60% of U.S. fruits and vegetables, overall), and over 90% for nuts and many specialty crops.

NASA remote sensing analysis shows that a huge area, 1.7 million acres, was not planted in California’s Central Valley last Summer, for lack of water. As of July 27, there were 1,706,038 acres idled. This is about 20% of the total irrigated area of 9 million acres throughout the state, but concentrated in the Central and Imperial valleys, which are among the world’s highest-yield cropland.<sup>8</sup>

Since California alone accounts for 43% of the national acreage in use for production for fruits, vegetables, and tree nuts, according to the 2012 Census of Agriculture, the scope of the national food crisis is clear. Of all U.S. farms engaging in production of produce and nuts, 22% are in the state. Nearly all of their acreage is irrigated, and now lacking in water. The breakdown in California includes, by type of agricultural land, and percentage of it irrigated: 98% of orchards;

8. “Public Update for Drought Response,” issued in November 2014, by California state agencies, pursuant to the April 2014 declaration of a continued state of emergency. NASA led the study, the third year in its new five-year program to use satellite imagery to estimate vegetative status.

100% of cropland for berries; 100% of land planted to vegetables.

The immediate prospects for 2015 are terrible. As of December 2014, 78% of California remains in exceptional or severe drought. One third of the state's water comes from snowmelt, from the Sierra Nevada Mountains, which run some 400 miles north-south on the eastern border. In April 2014, at what would have been the peak of the snowpack, it was only 18% of the normal depth at that time. The low snowpack continues this Winter, at a level of only a third of what was once considered normal.

### California:

**Fruits.** Production is declining or threatened with decline across the board in all these crops, for which California ranks first in the nation, in terms of percentage of national output, as of 2012 (shown in parentheses): apricots (88%), avocados (88), raspberries (74), fresh strawberries (91), grapes (91), kiwi fruit (97), lemons (92), nectarines (95), olives (96), peaches (73), plums (97).

**Nuts.** California tree nut output accounts for virtually all of U.S. walnuts, almonds, and pistachios, and groves are currently maintained only at the expense of

water for other uses, and, in any case, future production is entirely at risk.

**Rice.** The 2014 rice crop was down some 25% from the year before, and in decline for the third year running. Most of the U.S. medium-grain rice is grown in California, and nearly all the short-grain rice used for sushi. About half the state's rice has been exported in recent years, mostly to Asia.

**Wheat** production is down over half. The 2014 Winter wheat harvest, in the range of 430 thousand tons, is the lowest since 1968; durum wheat, at 78,000 tons, is the lowest since 1977. (Data: USDA National Agricultural Statistics Service)

With differing particulars, the food production capacity is similarly stricken in Texas, Oklahoma, Kansas, and other parts of the High Plains and West. The total U.S. cattle herd has decreased back to the size of 1951. In Texas, the leading cattle state, beef cow numbers were 5.35 million head in 2005, but by 2014, had fallen to 3.91 million.

However, the most horrifying and dangerous feature of the Western water crisis is not the drought, but the continued toleration of the Wall Street/London regime that dictates nothing can or will be done.

*marciabaker@larouchepub.com*

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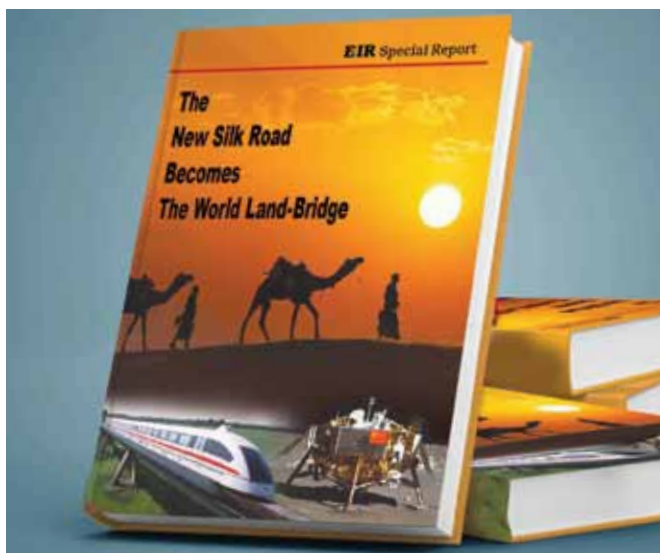
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# Solve the World Water Crisis

by Benjamin Deniston

*Reprinted from “The New Silk Road Becomes the World Land-Bridge,” EIR Special Report, Dec. 1, 2014.*

Today’s world water crises will be solved by recognizing mankind’s *obligation* to act as the caretaker of Earth—to be a creative force, continuously improving the conditions across the planet (and beyond). As Lyndon LaRouche has emphasized, this is the scientific conclusion required by the work of the great Russian-Ukrainian scientist Vladimir Vernadsky, who demonstrated that human society expresses a capability absent in all lower forms of animal life, a capability more powerful than the cumulation of the actions of animal and plant life (the biosphere)—the force of scientific and cultural thought (the noösphere). Whether the modern-day environmentalist likes this or not, the scientific reality is that mankind has been born into a responsibility to continuously re-shape and improve the surface of the planet. To deny this is to deny the existence of humanity.

This is the principle at issue in the current global water crisis. Basic progress and development have been thwarted in recent decades, to the point where 4 billion people, more than half the world’s population, do not have safe, reliable supplies of water for even drinking and sanitation. Food production is threatened. The industrial base is far below what is required to produce for the future. Sickness and death are occurring, for lack of water.

*How can this be tolerated when more than 70% of the Earth’s surface is covered in water?* To put this in a conceptual perspective, if the entire world population was able to use water at the same per capita levels of the United States currently, there is one hundred thousand times more water on Earth than would be used in a year by 7 billion people at the current U.S.A. per capita rate.<sup>1</sup>

1. The current U.S. per capita use is four times the global average. The United States Geological Survey (USGS) and U.S. Department of the

Interior, “Estimated Use of Water in the United States in 2005,” provides a total freshwater use which translates to a per capita use of about 160 cubic meters per person per year. This is all direct water use for all aspects of society, including public supply (11% of total use), domestic (1%), irrigation/agriculture (31%), livestock/aquaculture (3%), industrial (4%), mining (1%), and cooling of thermoelectric power plants (49%), but it does not include “hidden” water use such as in the production of foods, industrial goods, and other items that require water for their production that are imported.

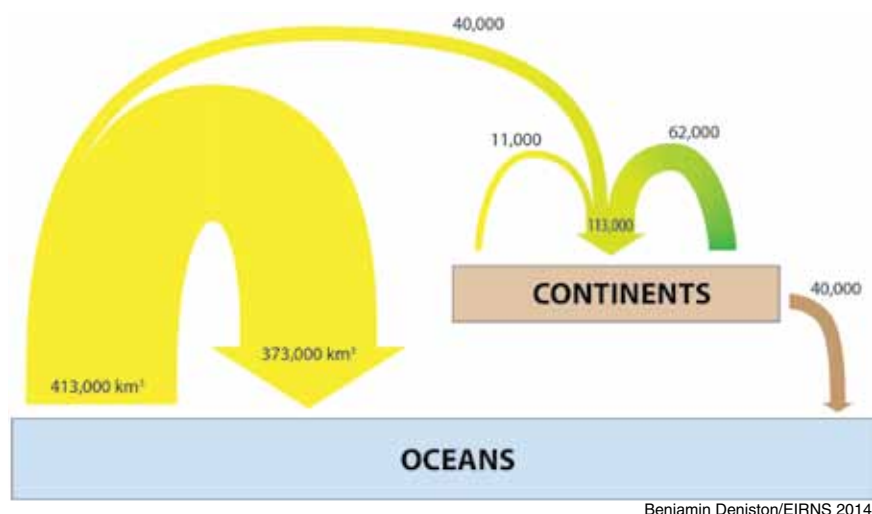
But, water supplies cannot be discussed simply in terms of “use.” Water is not a “finite resource” that is only used once (such as coal or natural gas). The global water system has cyclical-type characteristics, with water constantly moving from one state to another state (e.g., liquid oceans, frozen ice caps, and atmospheric vapor) and from participating in one system to another system (e.g., oceans, living matter, and human economic processes). *For this reason, any attempt to address the water needs of billions of people, both now and far into the future, must focus on the management—or creation—of cycles, not “use” per se.*

Throughout the history of life on Earth, including human civilization, thus far, the most important water cycle has been that of ocean evaporation, precipitation over land, and surface flow back into the oceans. This will be referred to as the **terrestrial water cycle** (see **Figure 1**). This is what sustains the entirety of life on land (although plants have increasingly augmented and boosted this cycle), and it has improved life in the oceans (by bringing nutrients from land). Today, it is estimated that the rate of this cycle (measured by annual

2. Estimates of current global water distribution and water flows are taken from the study, “Estimates of the Global Water Budget and Its Annual Cycle Using Observational and Model Data,” by Kevin Trenberth et al., from the National Center for Atmospheric Research in Boulder, Colorado; published in the *Journal of Hydrometeorology*, Volume 8, 2007. This does not include the recent discoveries of large aquifers beneath the oceans, and even larger amounts of water in mineral formations deep within the Earth’s crust.

FIGURE 1

## Global Terrestrial Water Cycle



new terrestrial precipitation) is 3.5 times higher than the rate that would be required by our hypothetical case of 7 billion people using water at U.S. per capita levels. However, this falls far short of understanding the water availability of the existing global terrestrial water cycle, because water is used many times in the course of one cycle. For example, the same water could cool a thermoelectric power plant, then irrigate a farm, and then go into a sanitation system, getting “used” three times in the course of one cycle. In many circumstances the reuse rate can be even higher.

Therefore, speaking in terms of cycles, the annual terrestrial precipitation can be used to define the **rate of a cycle**, and the amount of use and reuse can be used to define the productivity of a cycle. These measures can be applied to the global cycle, or divided into continental cycles, or further subdivided into individual river basins, and so on (for example, see the box below, “Increasing the Physical Productivity of the North American Water Cycle”). Examining the global water system from this standpoint, it is clear that the water resources are there; what is lacking is the economic development and energy flux density<sup>3</sup> needed to improve the productivity of existing cycles (with purification, sanitation, and related systems), control or expand existing cycles (e.g., with reservoirs and river diversion systems), and create new cycles (with weather modification and desalination systems).

3. See first article in this section.

## What Is a Resource?

This becomes a rather basic pedagogy in Mr. LaRouche’s science of physical economics. *It is mankind that creates resources.*

The concept of “natural” resources is misleading, if not fraudulent. For mankind, the factor that determines if something is, or is not a “resource” is never simply its “natural” state, but the level of scientific development of a society. Water is simply one excellent example of this principle of humanity.

Until recent generations, the freshwater resources available to mankind were limited to the management of the existing regional terrestrial water cycles, including all the

rivers, lakes, groundwater, etc., created and maintained by these cycles. While the use and productivity of the existing cycles could (and can) be improved, the size and availability of this resource had largely remained outside of mankind’s control—a situation vulnerable to regional climate changes, such as those associated with changing solar activity (as discussed below).

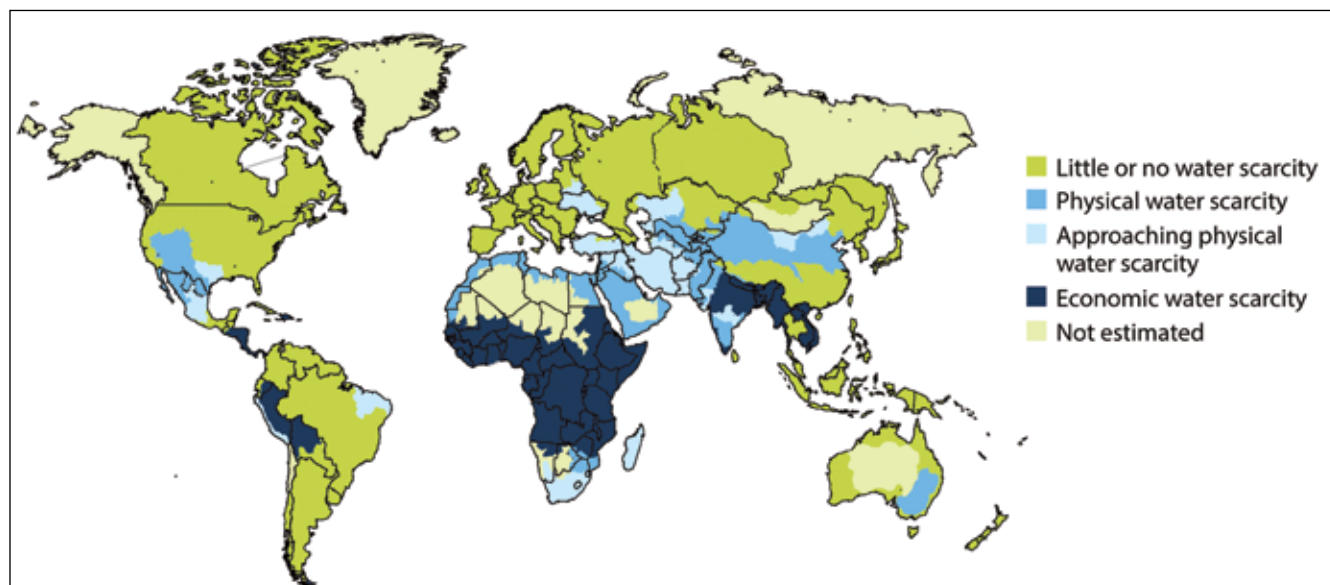
Now, with new technological developments that can be employed en masse on a global scale with the energy flux density provided by a fission and fusion economy, mankind can, for the first time, *look to managing entire continental cycles and even the creation of new cycles through weather modification technologies and desalination systems.* Before investigating the details of these concepts, reflect upon the broader implications.

Until this point, the entire planetary terrestrial water cycle had been solely under the dominion of the Sun, providing all desalination (ocean evaporation) and water vapor inland transport with solar energy. But now, for the first time in the history of Earth, a new power has emerged. Though relatively small in its beginnings, mankind, in line with Vernadsky’s understanding, is beginning to overtake the role of the Sun on Earth, through the manipulation of atmospheric moisture flows (with weather modification), the manufacture of freshwater (with desalination), and the distribution of these new sources of freshwater throughout terrestrial systems.

Lyndon LaRouche has emphasized that the solution to the water crisis requires embracing the scientific re-



FIGURE 2

**Global Physical and Economic Water Scarcity**

Source: World Water Development Report 4, World Water Assessment Programme (WWAP), March 2012

alization of Vernadsky—mankind, wielding the power of scientific thought, is a geological force, responsible for the improvement of the global water system as a whole. For an advancing mankind, the needed water resources exist; it is the effective organization of the powers of human society that has been lacking.

This is the scientific basis governing the following section of this report. First, to properly situate the challenges that need be addressed, the dimensions of the global water crisis are briefly reviewed, with selected examples chosen to illustrate the principled nature of the challenges facing mankind. Then the prospects for the future of a top-down, global approach to the world's water crisis are discussed.

## I. Dimensions of the Crisis

The lack of water availability globally can be summarized simply. Of today's total world population, nearly 900 million people do not have safe water to drink and 2.6 billion do not have sanitation systems, for lack of water.<sup>4</sup> When the metric is properly set higher, to include those people without safe and reliable tap water

in their homes, the number lacking these arrangements is up to 4 billions. Moreover, for many millions who have had good water—in the Southwest of the United States, for example—their future water security is threatened.

Another dramatic expression of the world water management crisis is seen in the prevalence and increase of waterborne illness. Cholera is a marker disease for lack of basic water management. The number of cases increased 130% worldwide, from 2000 to 2010, according to the World Health Organization (WHO). WHO estimates that every year now, there are 3 to 5 million cholera cases, with 100,000 to 200,000 deaths. This is a conservative guess, given that WHO estimates only 5-10% of cases are officially reported.<sup>5</sup>

A concept-map of the global distribution of the water crisis was featured in the 2012 United Nations World Water Development Report, identifying two aspects to the water crisis: “economic” and “physical” (Figure 2).<sup>6</sup> “Economic” refers to locations where the basic infrastructure has not been developed to make use of available water. “Physical” refers to locations where

4. United Nations “World Water Development Report 2014—Water and Energy,” page 7.

5. World Health Organization Fact Sheet No. 107; reviewed February 2014.

6. World Water Assessment Programme (WWAP), 2012. The United Nations World Water Development Report 4: Managing Water under Uncertainty and Risk. Paris, UNESCO.



the needs of society have outpaced existing local water supplies.

While Figure 2 serves as a snapshot of the global characteristics and geography of the water crisis, as of this writing the analysis is more than five years old, and conditions in certain regions have gotten worse.

In the following section, on the dimensions of the crisis, four aspects of the global water crisis are examined, starting with a brief focus on insane policies that are unnecessarily accelerating the water crisis and must be ended immediately—hydraulic fracturing and biofuels. Then two aspects of the water crisis are examined—the depletion of ground water stores, followed by the deficiency in or lack of management of surface water supplies. Lastly, we examine the role of changing solar activity, with emphasis on what is known about previous major shifts in regional climate and water patterns associated with the type of solar changes that we may be experiencing in the coming decades.

The already existing depths of the water crisis, seen against the future possibility for solar-driven changes in regional terrestrial water cycles, defines the top-down overview of a single planetary crisis to be addressed in the latter half of this article.

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## A. Policies Accelerating the Crisis

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The combined impact of many factors, such as depletion, physical and economic constraints, and intentional obstruction of infrastructure and technologies, has brought the world to its present point of water availability crisis. Yet, despite this, certain nations are accelerating additional practices making an already bad situation, catastrophic. The most glaring are hydraulic fracturing and biofuels. These policies not only waste water, but they waste water for energy sources that are effectively a net drain on their economies.

### Hydraulic Fracturing

The fast-expanding use of water for hydraulic fracturing (fracking) for oil and gas extraction is a direct threat to water availability in certain areas. While the specific water requirements vary per well, depending on the type of shale deposit (e.g., how many times the hole is fracked or what quality of water is used), the practice is clearly detrimental.

In the United States—the world leader in fracking—and Canada, nearly half (47%) of oil and gas

wells opened by fracking *are located in areas of high water stress*, including California, North Dakota, and Wyoming in the High Plains and Texas and New Mexico. Drought-stricken Texas leads all states in the number of such wells, with more than 9,000 opened in extremely water-short areas, and another 9,000 in dry-prone locations. Only about 5% of all water used for fracking in these areas has been recycled; that is, 95% is “consumed” and gone. The volume of water consumed in these wells overall in the United States and Canada, over a 2.5 year period, amounted to 367 million m<sup>3</sup> (97 billion gallons). That is an annual rate equivalent to the municipal water use of a city of 1 million people.

While this is already a waste of water occurring in the context of an existing crisis, there is a push to greatly expand this insane policy.

### Biofuels

The production of ethanol, biodiesel, and gasohol is underway at levels diverting huge volumes of water for biomass agriculture and processing—a direct loss to food production, as well as a waste of water. World ethanol production for 2014 is expected to reach a record 90 billion liters (23 billion gallons). In the United States, the world leader in ethanol, fully 40% of the annual corn harvest is now going for biofuels.

The water required, ranges from 7 liters of water for every 1 liter of corn-derived ethanol, up to 2,000 liters, depending on whether the corn is irrigated. Thus 90 billion liters of ethanol worldwide consumes at least 637 billion liters of water, equivalent to the annual municipal water use of a city of 4.5 million people.<sup>7</sup>

### Backward Policies

This issue is not only that these two specific energy policies, fracking for natural gas and biofuels, use a lot of water. If they also provided an energy source that could upgrade the entire economy, then they could be part of an overall upshifting of the economic system—but *this is not the case*.

The future of mankind’s energy needs lies in the domain of nuclear reactions, with fission and especially fusion power. Fracking for natural gas as an energy supply is a step backward, expressing a physical economic phenomenon known as diminishing rates of

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7. See “Measuring Corn Ethanol’s Thirst for Water,” April 14, 2009, in the *MIT Technology Review*.

return—the amount of physical effort and capital supplied is increased in order to acquire the same amount of energy, and thus the energy return per amount of physical economic input is declining. This is characteristic of a typical attrition process, when a resource base is being depleted, and the physical effort of society is increased just to maintain previous levels of production. While technological advance has certainly offset the increased physical cost by increasing the productive powers of labor, much higher order energy sources are available with nuclear reactions, rendering fracking for natural gas as a source of power, a net loss to society.

To a certain degree, the biofuels program is even more insane. In the United States, for example, the production of biofuels from corn is so energy intensive that the energy provided by the combustion of the biofuels is only 1.3 times the energy put into the production of the fuel.<sup>8</sup> When compared to other major energy sources in the United States, which provide 10 to 100 times more energy than the energy input required, ethanol corn is the lowest. The pitiful energy payback, combined with the water requirements and the diversion of food needed for consumption, shows support of biofuels through government subsidies to be a criminally insane policy.

Again, the future of energy and power lies in the control of atomic reactions. In addition to providing power, these higher energy flux density systems will enable mankind to solve the world water crisis. Having briefly touched on policies accelerating the water crisis, we now examine the challenges posed by groundwater depletion and surface water deficiency (and/or lack of management).

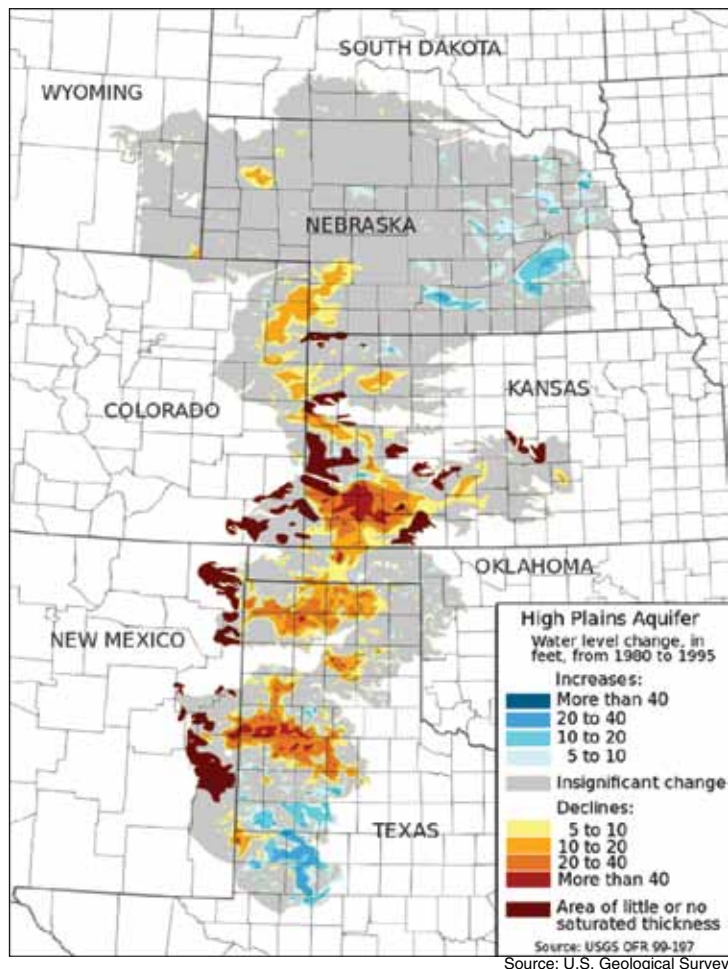
## B. Groundwater Depletion

The location and condition of major world aquifers has been mapped by many science agencies, in particular, UNESCO (U.N. Educational, Scientific, and Cultural Organization), whose International Hydrological Program in 2008 made available an extensive world database. The drawdown of groundwater resources in

8. United States Department of Agriculture, "The Energy Balance of Corn Ethanol: An Update," by Hosein Shapouri, et al., July 2002.

FIGURE 3

### Groundwater Level Decline in High Plains Aquifer, North America, 1980-1995



many places has reached the crisis stage, necessitating ever deeper pumping, while producing poor quality water. Many regions are suffering land subsidence.<sup>9</sup>

**Figure 3** shows this for the High Plains (Ogallala)

9. However, there are certain critical locations where accessible, usable groundwater has not been exploited at all, and should be developed to secure immediate water needs as a step toward the development of more advanced systems. For example, in Africa, in northwestern Sudan, where people are desperate for lack of water, there has been no infrastructure installed (pumps and storage and transmission systems) to make use of the Nubian Aquifer. A policy for peace in that region should provide plentiful water for agriculture, food processing, and domestic use for all in this region. This was called for by Dr. Farouk El Baz, space geologist and a specialist in satellite remote sensing and identification of water under the desert. See, "Farouk El-Baz, Ph.D.: Geologist Proposes 1,000 Wells for Darfur; Use Science To Serve Mankind," *EIR*, Sept. 14, 2007.

Aquifer in North America.

The general reason groundwater supplies can be problematic is that many aquifers have relatively slow recharge rates.<sup>10</sup> Returning to the opening concept of the terrestrial water cycle, the ultimate source for all groundwater is precipitation brought over land by the action of solar radiation. This is what built up freshwater aquifers, and is the process that maintains them. For many aquifers their cycle is so slow that it is easily outpaced by human activity. This results in a drawing-down of the cycle, and mankind must either accelerate the cycle (through the creation of new recharging systems), or create new cycles to bring in water to augment or replace groundwater use. To illustrate this, examine three examples from the United States.

The Ogallala aquifer, one of the largest in the world, supports about one-quarter of the irrigated land in the entire United States, and provides drinking water for 2 million people. According to a 2007 report by the United States Geological Survey (USGS), the water available in the entire aquifer is nearly 10% less than in 1950, and about 310 km<sup>3</sup> less than its “predevelopment” levels (in some regions, the water level can fall 5 feet in a year).<sup>11</sup> According to a 2002 USGS report to Congress, the annual depletion rate averaged over the 1987 to 1999 interval was about 5 km<sup>3</sup> per year<sup>12</sup> (about equal to California’s allocation of the Colorado River), and the depletion rate since then has been increasing.

Another example is California’s Central Valley. Covering 60,000 km<sup>2</sup>, less than 1% of the United States’ total farmland, the Central Valley produces 8% of the nation’s agricultural output (by value), making it one of the world’s most productive agricultural regions. According to a February 2014 water advisory from the University of California Center for Hydrologic Modeling, the Central Valley aquifer has lost about 75 km<sup>3</sup> between 1962 and 2013; that is, the groundwater is being withdrawn at rate of 1.5 km<sup>3</sup> per year faster than it is being recharged.<sup>13</sup> With the California drought in-

tensifying, groundwater use is accelerating.

A third example from the western United States is the Colorado River basin. The basin covers well more than half a million square kilometers, and the Colorado River itself supplies water for more than 33 million people across seven states, although its flow has significantly diminished over the past decade. In July 2014 a research team led by scientists from NASA and University of California, Irvine, determined that the basin lost 65 km<sup>3</sup> of freshwater between December 2004 and November 2013—nearly twice the volume of Nevada’s Lake Mead, the largest reservoir in the United States. This is a rate of loss of more than seven km<sup>3</sup> per year (nearly half the current flow of the Colorado River), and the study determined that 75% of this loss is from groundwater.<sup>14</sup>

Looking at the global picture, the going estimate is that worldwide aquifers have been drawn down some 20% from their former levels in recent, modern history. The annual worldwide groundwater drawdown is increasing by 1-2% each year (having tripled over the past 50 years), with a crude estimate for 2010 being about 1,000 km<sup>3</sup> withdrawn.<sup>15</sup>

Again, these aquifers are not finite stores; they are being continuously replenished, but at rates too slow to match the needs of society. As discussed below, one example of a solution for the cited three aquifers and regions of the United States had been proposed a half-century ago—moving to a higher level of control through the management of the continental water cycle that subsumes these particular aquifers—the NAWAPA proposal.

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## C. Surface Water Deficiency

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Despite the fact that an immense amount of freshwater precipitates over land, the distribution of surface water is terribly uneven. The interactions of climate, geography, and weather ensure the “natural” availability of water differs dramatically for different regions of

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10. Some aquifers do have fast recharge rates, while others no longer recharge at all, and represent finite stores of “fossil water.”

11. “Changes in Water Levels and Storage in the High Plains Aquifer, Predevelopment to 2005,” V.L. McGuire, <http://pubs.usgs.gov/fs/2007/3029/>

12. “Report to Congress—Concepts for National Assessment of Water Availability and Use U.S. Geological Survey Circular 1223,” 2002.

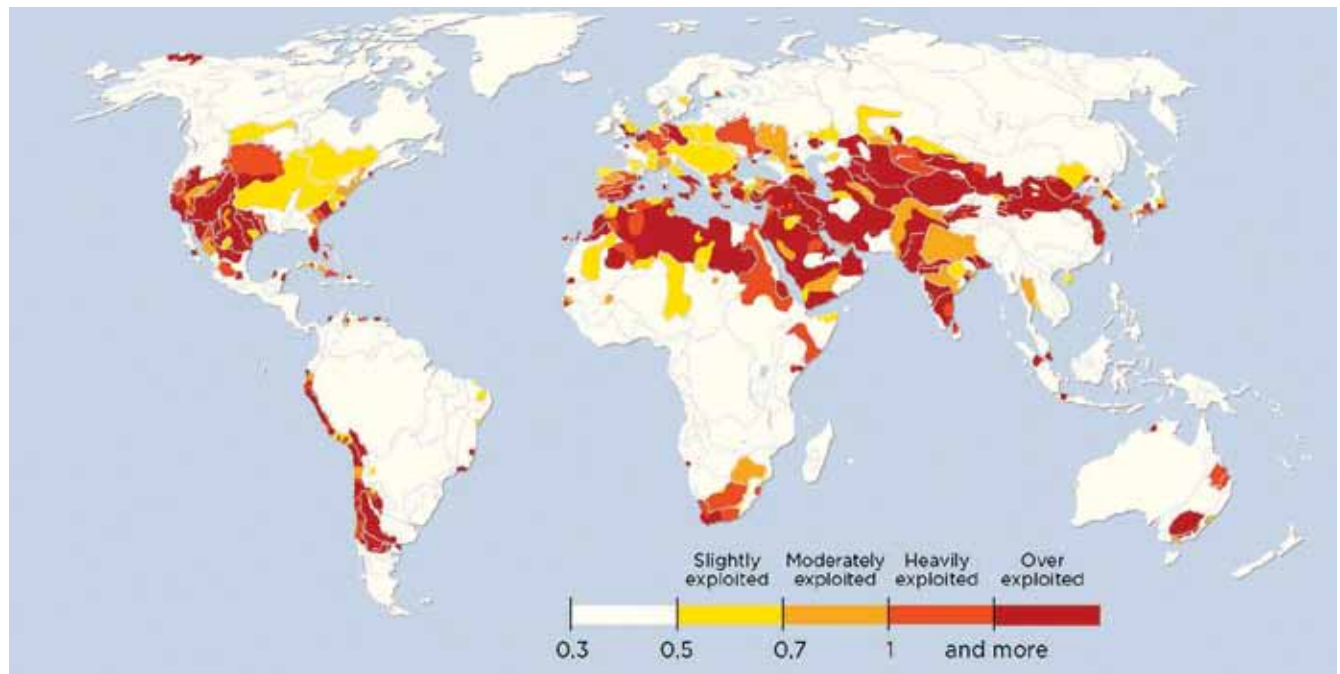
13. “Water Storage Changes in California’s Sacramento and San Joaquin River Basins From GRACE: Preliminary Updated Results for 2003-2013,” UC Center for Hydrologic Modeling, University of California, Irvine; UCCHM Water Advisory #1, February 3, 2014.

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14. The loss isn’t all from pumping, but also from the drought conditions. “AGU: Satellite study reveals parched U.S. West using up underground water,” July 24, 2014. NASA, AGU joint release.

15. Of this, 67% is used for irrigation, 22% for domestic purposes, and 11% for industrial purposes. See, “United Nations World Water Development Report 2014,” Chapter 2; “Water and Energy Vol. 1,” UNESCO; and “Water Balance of Global Aquifers Revealed by Groundwater Footprint,” Gleeson et al., *Nature* magazine, Aug. 8, 2012.

FIGURE 4

**Global Water Stress Indicator (WSI) in Major Basins**

World Water Assessment Programme, UNESCO, 2012.

the planet, different regions of the same continent, or even different regions of a nation, state, or province. This is reflected in **Figure 4**, which illustrates the regions of “water stress,” where existing water supplies are inadequate to meet the needs of society.

Rather than living with such disparity, mankind can manage and improve these terrestrial water cycles in two categorical ways: by ensuring the surface water is distributed in a useful manner, and by increasing the productivity of the existing cycles. This is largely accomplished through basic infrastructure systems such as dams, reservoirs, canals, pumps, irrigation, water purification, and sanitation.

In most regions this type of development has been held back, and huge potentials remain unutilized. There are two outstanding exceptions—in North America in the first half of the 20th Century, with the Tennessee and the Colorado/California River Basins; and today in China, with the great South-to-North Water Transfer System, regulating and redirecting flow from the Yangtze Basin to the Huang Ho Basin.

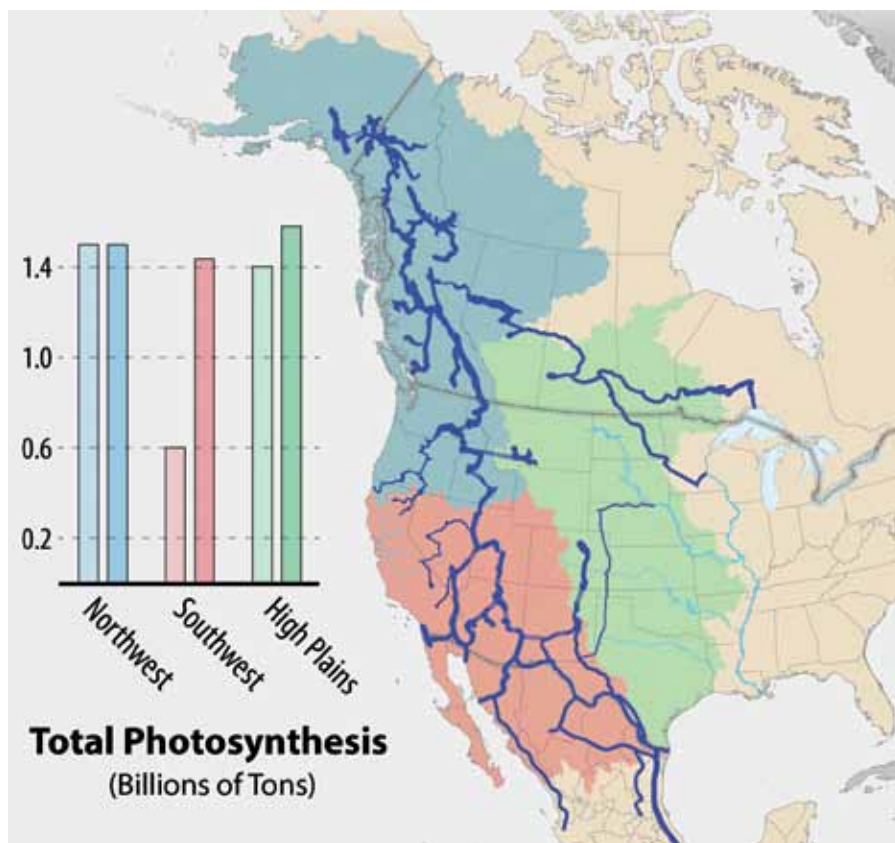
In the 1930s, Franklin Delano Roosevelt’s Tennessee Valley Authority (TVA) tamed the wild and erratic conditions of the rivers of the Tennessee Valley. Periodic flooding and fluctuations in water availability se-

verely limited the potential for development. The TVA constructed a series of dams and reservoirs to ensure the steady and regular flow of water, during times of excess and during times of scarcity. This greatly improved agriculture, and enabled new navigation and transportation, as well as the development of hydroelectric power. The project transformed a region that suffered from poverty and diseases such as malaria, into a cornerstone of the most advanced scientific research project ever conceived at the time, the Manhattan Project (see section on the TVA).

The dry western region of the United States faced a greater challenge. The larger territory of the Colorado River basin was brought under control through a series of major dams, reservoirs, and irrigation and related systems, led by the famous Hoover Dam and Lake Mead. Currently the agricultural, industrial, and domestic needs of up to 40 million people depend on the management of the Colorado River with dozens of major dams, hundreds of miles of canals, and irrigation water provided for 16,000 km<sup>2</sup>. The development of the West continued with the Central Arizona Project branching off the Colorado River, and the California Water Project regulating the flow of the Sacramento and San Joaquin rivers. This is how California’s Central



FIGURE 5

**NAWAPA, PLHINO, PLHIGON and Photosynthesis**

Source: Benjamin Deniston/EIRNS 2014

The waterways shown are the North American Water and Power Alliance system, diverting run-off from Alaska and the Yukon southward through the U.S. Southwest; and in Mexico, the diversion northward of water from the Southern and Western Sierra Madre run-off, through the systems of PLHINO (Northeast Hydraulic Plan) and PLHIGON (Northwest Hydraulic Plan). See box on photosynthesis next page.

Valley became a breadbasket for the nation, producing nearly one-tenth of the nation's crops on less than 1% of the national farmland.

However, while each of these regional developments in the American southwest have been highly successful, the total water flow of the Colorado, Sacramento, and San Joaquin rivers is relatively small for the size of the land area to be supported by them. Starting in the 1950s and 1960s, it was recognized that the larger issue that needed to be addressed is the great *continental* discrepancy between water excess in the northwest, throughout Canada and Alaska, and the water scarcity in the southwestern United States and northern Mexico. Measured by river flows, this northwestern quarter of the continent has about ten times the water availability of the southwestern quarter.

By the 1960s, designs for the grand North American Water and Power Alliance (NAWAPA) were developed to rectify this great imbalance, by proposing a continental water management system that could bring approximately 20% of the freshwater runoff from select rivers in the northwest, down throughout the southwest. From 2010 to 2014 the LaRouche PAC Basement research team re-examined NAWAPA and proposals to further augment and expand the project.<sup>16</sup> (See **Figure 5**) When the potentials for expansion are taken into account, NAWAPA could increase the water available for entire southwestern states by between 50% and 200%, and first order estimates indicate that it could increase the photosynthetic productivity of the water cycles of the western river basins by 30%, and the photosynthetic productivity of the entire North American continental water cycle by 10% (see box, “Increasing the Physical Productivity of the North American Water Cycle”).

Because water availability in the northwest is not a limiting

factor in photosynthesis, taking this relatively small fraction of water from there would have minimal effects on northwest photosynthetic productivity. Thus the total productivity of the water cycle of the western regions (northwest, southwest, and High Plains) could increase from 1.8 to 2.3 tonnes of photosynthesis per km<sup>3</sup>—a nearly 30% increase.

The productivity of the entire continental water cycle (including regions not directly affected by NAWAPA) could be increased from 2.3 to 2.6 tonnes of photosynthesis per km<sup>3</sup>—a 13% increase for the entire continental cycle, done without increasing the net water input, but by better management of the existing cycle.

16. See, “Nuclear NAWAPA XXI: Gateway to the Fusion Economy,” *21st Century Science & Technology*, 2014.



However, despite significant support, the NAWAPA project was killed by the zero-growth movement gaining power by the late-1960s and 1970s.<sup>17</sup>

17. See the 2011 feature documentary, NAWAPA 1964, <http://larouchepac.com/nawapa1964>

## Increasing the Physical Productivity Of the North American Water Cycle

The North American continental water cycle can be estimated to be about 3,150 km<sup>3</sup> per year (as measured by freshwater river runoff). Of that, 1,466 km<sup>3</sup> flows out of the northwest, and only 113 km<sup>3</sup> from the southwest. Using measurements and analysis from NASA earth monitoring satellites, the total amount of photosynthetic production can be estimated for these same regions. Comparing these two values allows for a simple, but insightful measure of the productivity of the continental water cycle, and of its respective basins. The figures below are measuring “billions of tonnes of photosynthesis per year” divided by “cubic kilometers of freshwater runoff per year,” to measure the productivity as “tonnes of photosynthesis per cubic kilometer of freshwater flow.”

<b>North America:</b>	7.4 billion tonnes / 3,150 km <sup>3</sup> = 2.3 million tonnes per km <sup>3</sup>
<b>Northwest:</b>	1.5 billion tonnes / 1,466 km <sup>3</sup> = 1 million tonnes per km <sup>3</sup>
<b>Southwest:</b>	0.6 billion tonnes / 113 km <sup>3</sup> = 5.5 million tonnes per km <sup>3</sup>
<b>High Plains:</b>	1.2 billion tonnes / 251 km <sup>3</sup> = 4.8 million tonnes per km <sup>3</sup>

These figures show, in terms of photosynthetic production, the water of the southwest is five and a half times more productive than the water of the northwest. This is a confirmation of what is intuitively clear, there is an excess of freshwater in the northwest, where the cold climate and lack of sunlight limit a more productive use of that water. By these values, a first order estimation of the effect of NAWAPA can be made, by estimating the potential increase in photosynthesis, and the increase in the productivity of the continental water cycle.

**Southwest:** 159 km<sup>3</sup> of new freshwater from NAWAPA, at a productivity of 5.5 million tonnes per km<sup>3</sup>, could increase the annual photosynthesis of the southwest from 0.6 to 1.5 billion tonnes.

**High Plains:** 37 km<sup>3</sup> of new freshwater from NAWAPA, at a productivity of 4.8 million tonnes per km<sup>3</sup>, could increase the annual photosynthesis of the High Plains from 1.2 to 1.4 billion tonnes.

The TVA was seen as a model the world over, and variations on it were proposed in many countries. In some, such as the Indus Valley in southern Asia to the North of Scotland and the Murray-Darling River basin in Australia, variations were applied. In other areas, such as Jordan, Africa, South America, and Southeast

Asia, plans to apply the TVA model were developed, but blocked.

In dramatic contrast, China's grand inter-basin South-North Water Diversion (SNWD) project now stands as the near solitary, but exemplary, model of large-scale surface water organization. The three-route SNWD complex, shown in **Figure 6**, is now partially complete. The concept is to convey a portion of the abundant water supplies in the monsoonal southern Yangtze system, to the arid north. First proposed in the 1950s, designs were debated for decades; then in late 2002, construction began, and since 2009 the project has been accelerated.

The Eastern Route Project (ERP) became operational in December 2013, delivering water to the eastern provinces of Jiangsu, Anhui, and Shandong. By 2015, water in the Middle Route Project (MRP) will flow to Beijing, Tianjin, and environs. In September 2014, testing of water quality began on the MRP, preparatory to activating the full flow. The Western Route, which would capture and divert water from three tributaries of the upper Yangtze River, is still in the planning stages; it involves demanding engineering and construction work.

The SNWD dimensions are significant. The Eastern Route uses upgrades on the 1,500-year-old Grand Canal, a waterway likewise linking the south to the

FIGURE 6

## South-North Water Diversion Project



Sources: Chinese Ministry of Water Resources; futuretimeline.net; Will Fox

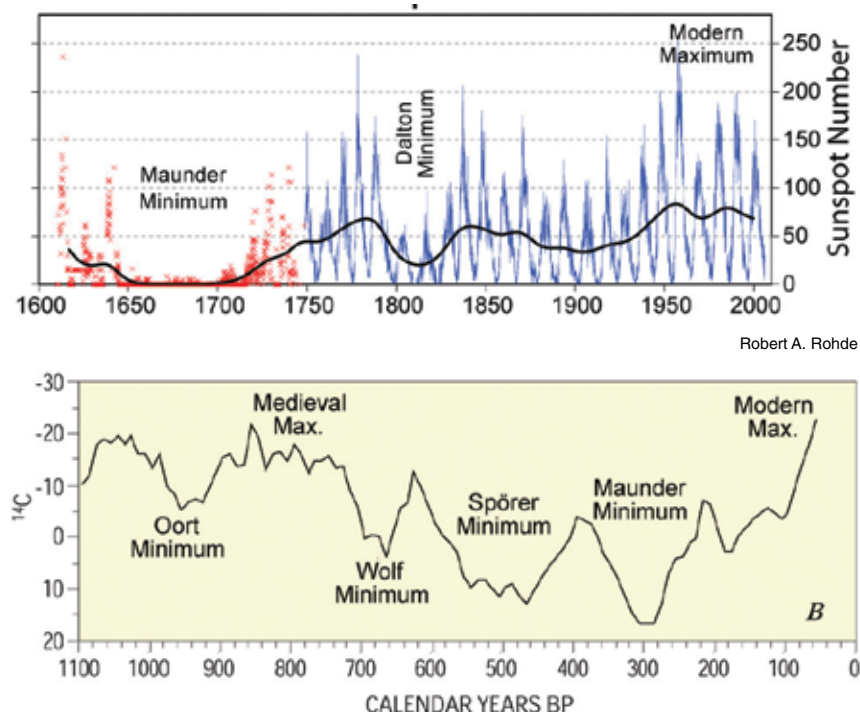
north. Today, the ERP transports some 14.8 billion m<sup>3</sup> of water a year. The Middle Route will carry 9-13 billion m<sup>3</sup>. This channel required 1,400 km of new construction, with its starting point at the Danjiangkou Reservoir.

The concept of the Western Route is to transfer flows from the headwaters of the Yangtze into the headwaters of the Yellow River, to augment its flow. The hydro-engineering involves major dams and tunnels to move the water across the Qinghai-Tibetan Plateaus and Western Yunnan Plateaus, and to cross the Bayankala Mountains. These watersheds are all within China's borders; initial feasibility studies are in hand.

When complete, the three-route SNWD would transfer 20 to 40 billion m<sup>3</sup> from the Yangtze Basin to the dry north. In addition, there is the idea of diverting northward, some of the flow of the transboundary rivers—the Brahmaputra, Salween, and Mekong, which would vastly increase overall SNWD volume.

Against this background sketch of what has been done, what could be done, and what must be done with respect to surface water management, recent evidence indicates the need to re-examine all aspects of the global water crisis from a higher perspective, starting from the Sun.

FIGURE 7

**400 Years of Sunspot Observation**

Robert A. Rohde

*Solar activity over 1,100 years, measured by changes in production of carbon-14 in the atmosphere. More carbon-14 is produced by the increased galactic cosmic radiation the Earth experiences when the solar activity is low.*

**D. Solar-Driven Climate Changes**

Return again to the basic concept of the terrestrial water cycle. Ultimately all surface and groundwater stores and flows depend on the precipitation of evaporated ocean water, and, as is now being learned in the western regions of the United States, there is no basis to assume that these precipitation patterns are static, unchanging systems. Recent studies of the climate history of this western region indicate that the past thousands of years have seen extreme variations, ranging between so-called mega-droughts to mega-floods, and, against this longer background, the 20th Century had been one of the most stable and wet centuries on record.<sup>18</sup>

It appears the western United States could now be departing from this lucky period of climate stability

18. "The West Without Water: What Past Floods, Droughts, and Other Climatic Clues Tell Us About Tomorrow," by B. Lynn Ingram and Frances Malamud-Roam, Berkeley; University of California Press, 2013.

and relative moisture availability. One example could be the above-cited Colorado River, which averaged a flow of 20 km<sup>3</sup> per year from 1900 to 2000, but a flow of only 15 km<sup>3</sup> per year from 2001 to 2011, and with the accelerating groundwater loss, the river's flow is expected to fall further.

This is just one example of the types of changes in climate and precipitation patterns that regularly occur, challenging existing water management systems. Many factors can be involved in such changes, including cyclical and other changes in the ocean systems and changes in the biosphere, but here we focus on the activity of the Sun. While it is not the only factor involved, changes in solar activity is one of the most ignored and important factors.

**Solar Cycles, Grand Minima, and Regional Climates**

The Sun goes through a roughly 11-year cycle, as measured by the increasing and decreasing number of sunspots visible on its surface. While sunspot counts are the most long-standing observational measure of solar cycles (with regular records going back to the 17th Century), we now know these are just one expression of much more dynamic, and little understood, periodic changes of the Sun's activity, changes which extend far beyond the Sun's surface, permeating the solar atmosphere which envelops all the planets, including Earth.

While the average length of a solar cycle is 11 years, the actual length of a given cycle can vary, as can its strength. There can be longer periods of a series of strong solar cycles (measured by large numbers of sunspots), periods of a series of weaker solar cycles, or even periods where the sunspots seem to disappear for decades (see **Figure 7**). For example, the first few cycles of the 19th Century were very weak, defining a period known as the Dalton Minimum. Earlier, between 1650 and 1700, there were few or no sunspots at all, as if the solar cycle simply disappeared for more than half a century, a period now known as the Maunder Mini-

mum. This has been called a solar “grand minimum,” and was just the most recent of several grand minima over the past 1,000 years.

The period of the Maunder Minimum is famous for another reason; it corresponds to the time of the little ice age throughout Europe. The prospect has been raised, that perhaps these periods of solar grand minima can have significant influences on the Earth’s climate systems.

There are now many studies that point in this direction. From a survey of various investigations of past climate and hydrological variations in locations all around the globe, an interesting pattern emerges. During periods of solar grand minima, multiple records from the northern regions show evidence for significant cooling (at least four different sites across Eurasia); records from the tropics show an increase in average precipitation (at least three different sites across Africa and South America); and records from the subtropics show less precipitation and increased drought (at least ten different sites across Asia and the Americas).

Typical of these studies is a 2012 paper by members of the Chinese Academy of Sciences, which used tree ring measurements from the Tibetan plateau (where trees are very sensitive to water availability) to show that periods of low solar activity and solar grand minima correspond to periods of drought.<sup>19</sup> Different studies have been done for the South China Sea, Pakistan, Southwest Asia, eastern India, and several sites in the region of the Caribbean, Central America, Florida, and Mexico—all indicating less precipitation during periods of solar grand minima.

While there is still much to understand about the effects of changing solar activity on the Earth’s weather, climate, and hydrological systems, there is increasing evidence that the Sun is currently weakening, and could be going into a new period of prolonged lull, perhaps a new grand minimum.

No one knows for certain what the Sun will do, and no one knows for certain what the exact effects of a new solar grand minimum would be. But we do know that dramatic shifts in climate and hydrological patterns do occur, and they have been associated with solar varia-

tions in the past. However and whenever such shifts occur, mankind must be prepared to handle such changes.

This means that solely relying on existing patterns of precipitation, and the existing levels of surface and ground water flows created by those precipitation patterns, may not be enough. Even large-scale river diversion systems could be vulnerable to such shifts. Ultimately the future of water on this planet requires not only managing historical surface and groundwater flows, but investigations into managing the subsuming atmospheric moisture flows, and large-scale desalination for the creation of completely new, man-made terrestrial water cycles.

This completes the review of the qualitative characteristics of the water challenges facing mankind, laying the basis to examine the concepts needed to solve these issues.

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## II. The Future of Water: A Global Perspective

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The technology exists to develop new water resources. Working from the standpoint of the terrestrial water cycle, we can define two broad categories of action. First, managing and improving use, efficiency, and productivity of existing terrestrial water cycles. Second, recognizing the expected fluctuations in these natural cycles, mankind must be prepared to go to a higher level of control over existing water cycles, and even creating new ones.

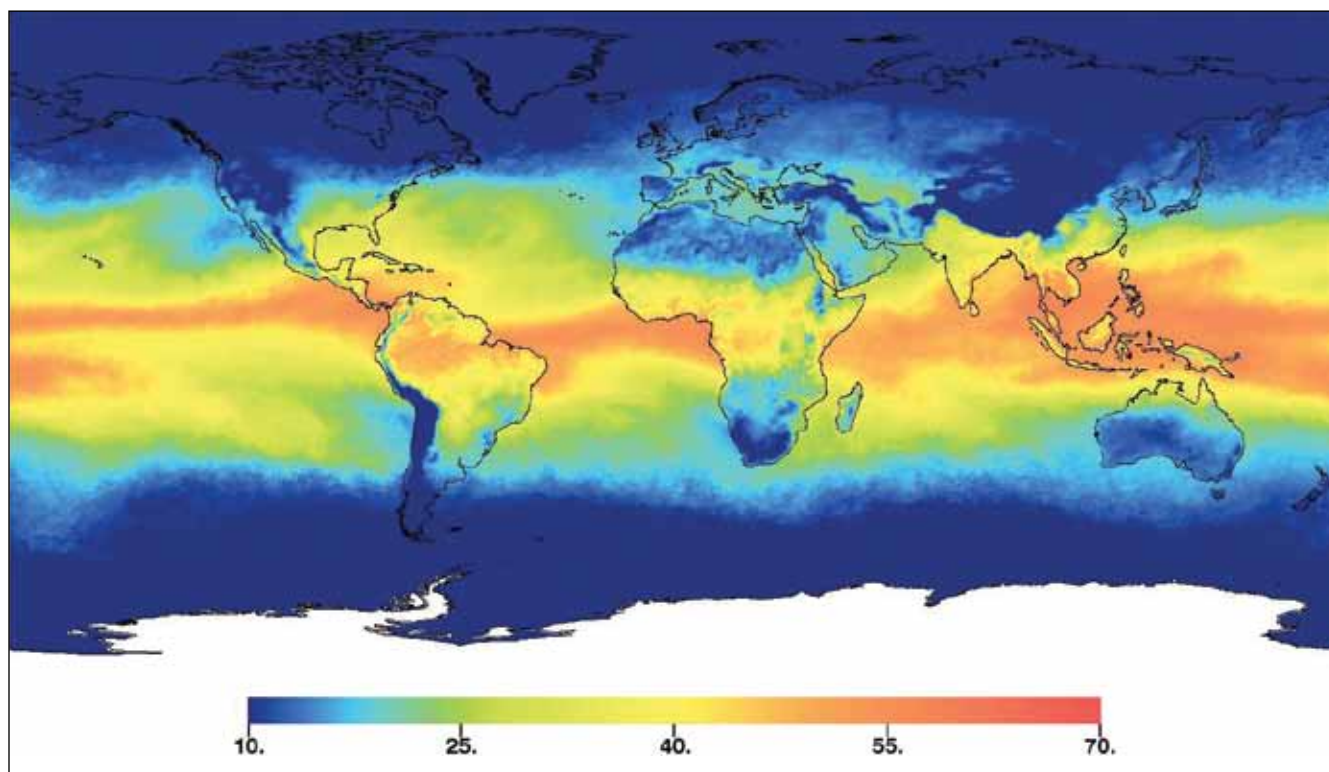
In the first category, managing existing cycles, there are two subcategories of action that can be taken. First, improved water management systems can increase the efficiency and reuse of existing water supplies, increasing the productivity of existing cycles. Second, river basins and continental river systems can be developed and improved with large-scale river diversions, dams, and irrigation systems. Examples of existing and proposed regional and continental river diversion and management systems were discussed above. These are crucial and must be developed, but, as California and nearby states are now experiencing, they may not always be enough.

This takes us to the need to focus attention on the second category—controlling existing water cycles and even creating new ones, and two distinct subcategories

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19. “Tree Ring Based Precipitation Reconstruction in the South Slope of the Middle Qilian Mountains, Northeastern Tibetan Plateau, over the Last Millennium,” by Sun and Liu, 2012. *Journal of Geophysical Research: Atmospheres*.





NASA/JPL

*Aqua/Atmospheric Infrared Sounder (AIRS) Total Precipitable Water Vapor (mm) May 2009*

that can be defined therein. First, atmospheric moisture flows and rainfall can be influenced, and potentially controlled, with weather modification technologies. Second, with the development of abundant power from nuclear fission and thermonuclear fusion level economies, new freshwater resources can be produced with ocean desalination systems on a large scale. First, on weather modification.

## A. Resources 'In the Sky'

Referring back to the global water cycle estimates, less than 10% of ocean evaporation precipitates over land, meaning there is an immense store of untapped freshwater in the atmosphere. The flux of moisture from the oceans into the atmosphere is incredible, equivalent to about 1,000 Mississippi Rivers, flowing up, from the oceans into the sky at all times.

Can this atmospheric water be induced to fall where it is most needed, or kept from falling where it causes harm? Cloud seeding has shown limited success under certain conditions, and various other

schemes have been proposed to induce atmospheric moisture to come down to land. However, here we highlight the potential of a lesser-known approach, based on the electrical properties of the atmosphere and of weather systems—that of atmospheric ionization systems.

This technique uses towers and arrays of wires, through which a precisely tuned current is run, ionizing the surrounding atmosphere. Increasing the ionization of the atmosphere can help to facilitate the formation of clouds and rainfall. Operating on the right scale, these systems could be able to draw more ocean moisture over land, increasing the overall terrestrial water cycle. These techniques have been used in Russia, the United Arab Emirates, Mexico, Israel, and Australia. We examine a few case studies.

### Case Study: Mexico

In the 1990s, the then-director of the National University of Mexico's Space Research and Development Program, Dr. Gianfranco Bissiachi, began collaboration with a Russian scientist, Dr. Lev Pokhmelnikh, who had worked on weather modification in Russia



since the 1980s. Supported by Heberto Castillo, then-president of Mexico's Senate Committee on Science and Technology, in 1996, Pokhmelnikh and Bissiachi oversaw the development of an initial network of three ionization stations based on Pokhmelnikh's designs. The initial results generated enough interest and support that the system was expanded from three stations in 1999, to 21 by 2004, and further success led to the expansion to 36 stations by 2006.

In 2003, the Massachusetts science publication *Mass High Tech* ran an article discussing the potential use of ionization systems in the United States, based on the precedent set in Mexico. It describes the success of the first Mexican ionization station as follows:

*"That country's first [ionization] station, in the drought-stricken state of Sonora, increased average rainfall from 10.6 inches to 51 inches in the first year, according to Mexican department of agriculture statistics. When a lack of state funds shut down the station the following year, area rainfall measured 11 inches. In the third year, with the station operational again, the area recorded 47 inches of rainfall. [In 2003 the technology was operational] in eight states in the driest regions of Mexico, and some areas [reported] a doubling or tripling of annual rainfall."*

In 2004, *IEEE Spectrum* also covered these Mexico operations, citing a doubling of the average historical precipitation in Mexico's central basin, resulting in a 61% increase in bean production in the affected areas. A 2008 paper on the potential use of these ionization systems in Texas analyzed the rainfall levels in the central and southern regions of the Mexican state of Durango. Each year from 1999 to 2003 showed a significant increase in rainfall over the expected levels. The authors of the paper calculated that there was less than a 1 in 400 billion chance that this could have happened by happenstance.<sup>20</sup> Despite these indications of successful results, the Mexico operations have lost the needed financial support.

### Case Study: Israel

Lev Pokhmelnikh began developing ionization-based weather modification systems in Israel, using an installation of three stations. Starting in late 2011 they induced increased rainfall in the Golan Heights area,

filling seven reservoirs to full capacity, something which has not occurred in the 40 years since the construction of these reservoirs.<sup>21</sup>

### Case Study: Australia

In 2007, the weather modification company Australian Rain Corporation was formed, with the intention to develop ionization systems to stimulate rainfall. In 2007 to 2008 the Australian Government's National Water Commission funded some initial trials. From 2008 to 2010, Australian Rain Technologies ran three trial programs:

**Paradise Dam, Bundaberg** (January-May 2008): Resulted in a 17.6% increase above anticipated rainfall in a 30° downwind arc from the system.

**Mt. Lofty Ranges, Adelaide** (August-November 2008): Produced an increased rainfall of 15.8% above the anticipated levels over a 120° arc downwind from the system.

**Mt. Lofty Ranges, Adelaide** (August-December 2009): Generated an increase of 9.4% over an area roughly twice the size of the previous trials.

In 2011, the company submitted a proposal to the Parliament's Standing Committee on Regional Australia, requesting \$11 million to construct 14 ionization stations distributed around two catchment areas in southeastern Australia (Gwydir River and Hume-Dartmouth catchment) to increase the rainfall going into the irrigation systems of the Murray-Darling Basin (one of the most significant agricultural areas in Australia, which is facing a major water shortage, largely because of environmentalist-imperial policies).<sup>22</sup>

### Case Study: United Arab Emirates

In early 2011, a barrage of media reports covered a leaked report of a weather modification program in the United Arab Emirates. The story broke when the London *Sunday Times* detailed a contract with a Swiss company, Meteo Systems International, to build a series of ionization stations to bring rain to regions of the UAE, including the capital, Abu Dhabi.

The initial coverage claimed evidence for success-

20. See, "Expanding NAWAPA XXI: Weather Modification To Stop Starvation," *EIR*, August 9, 2013.

21. "Inducción Experimental De Lluvias Por Ionización Atmosférica En Las Alturas Del Golán, Israel, En El Período Invernal 2012-2013," by Mario Domínguez and Lev Pokhmelnikh, May 2013.

22. See, "Expanding NAWAPA XXI: Weather Modification To Stop Starvation," *EIR*, August 9, 2013.

ful operations in 2011, pointing to 52 unanticipated rain showers, and citing interest from numerous scientists involved.

According to the website, the company was started in 2004, ran trials in Switzerland in 2005, and then started trials in the UAE in 2006 and Australia in 2007 before getting funding for an additional trial in Al-Ain, UAE. The website proclaims, “Meteo Systems’ WeatherTec™ is an old idea that has been developed and enhanced over years of scientific research and trials.”<sup>23</sup>

These four case studies have indicated the potential of these ionization-based weather modification systems. More work needs to be done, and perhaps other methods will be developed, but this opens a critical window into an entire category of action for mankind. Instead of relying on existing precipitation patterns and surface water availability, mankind could potentially take a higher level of control, by affecting atmospheric moisture flows, gaining a greater degree of control over the terrestrial water cycle, and even increasing the rate of the cycle by drawing more ocean moisture over land.

This takes us to the second subcategory of the second general category of action, using higher levels of energy flux density to create completely new terrestrial water cycles through desalination.

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## B. EFD and Desalination

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Everything up to this point has depended on solar evaporation for desalination and transportation of freshwater. But now, for the first time in the entire history of the planet, a new force has emerged.

Mankind can produce freshwater directly from the oceans with desalination systems, opening up the first freshwater production in the biosphere that is not controlled by solar activity. The technology and methods exist, and are improving in their efficiency. What is needed is the mass development of fission and fusion power, in order to be able to expand desalination to the scale needed by mankind. This is a clear expression of the role of higher energy flux density in changing the resources available in an economy.

With the higher quality power sources of fission and fusion, the power available per person in an economy

can be greatly increased (the national economic energy flux density), enabling more power to be applied to the development of resources that could not be developed for large-scale use at lower levels of national economic energy flux density. This is the case with the production of water via desalination.

There are already several well-developed industrial methods for the desalination of salt water, processes that have been continually improved over decades, and their merits demonstrated in years of use in large-scale non-nuclear installations and a few small scale nuclear-powered facilities.<sup>24</sup> At present, non-nuclear desalination is providing some freshwater for about 300 million people worldwide, when many millions more are in need, located where no adequate freshwater sources exist.

The total number of desalination facilities globally, is more than 15,000, almost all of them fossil fuel-powered. The top echelon of large plants in this inventory are concentrated in Southwest Asia—in the Persian Gulf, and recently, in the transJordan in Israel. These big plants account for most of the world’s annual capacity of nearly 30 km<sup>3</sup> of freshwater produced by desalination. The thousands of other, smaller, low-volume desalting plants, are mostly located in remote communities, in such places as hotels on resort islands in the Caribbean and Mediterranean and for high-value food processing. While the current world capacity of 30 km<sup>3</sup> per year is impressive—equivalent to twice the Colorado River, or one-fifth the discharge of the Nile River (a sizable increase from the desalination capability of 20 years ago of 5.5 km<sup>3</sup>)—today’s output is nevertheless far short of what is required to meet the needs of those in the many water-short dry-land areas internationally.<sup>25</sup> Recall that in 2011 about 1,000 km<sup>3</sup> of groundwater were depleted, 33 times more than the current global desalination rate.

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24. Two main methods involve the use of heat to evaporate water and the use of membranes to filter water. These desalting methods are described in the “Expand Nuclear Power for the World’s Survival” section of this report.

25. The geography of priority locations for nuclear mass-output of desalinated water is obvious. It includes the entire Middle East–North Africa region; the southern Indian Subcontinent; Southwest Asia from the Mediterranean through to Pakistan; the water-short areas of the Pacific Rim in northern China, southwestern North America, and along the west coast of South America; parts of the South Atlantic, including northeastern Brazil and Southwestern Africa; and parts of Australia. In addition, there are priority inland regions of Eurasia, including the Aral Sea Basin, dry-lands of Mongolia, and elsewhere.

23. Ibid

While the oil- and gas-rich nations of the deserts of southwest Asia (led by Saudi Arabia) have pioneered the development of hydrocarbon-powered desalination, it will be the energy flux density of the nuclear era that will enable the true breakout of desalination on the global scale needed, matching and outpacing the depletion rates of regional water cycles. This can be illustrated with a pedagogical example. As cited above, the Colorado River basin is losing water at a rate of 7 km<sup>3</sup> per year. To provide this much water with the most efficient desalination systems currently available<sup>26</sup> would require a very large amount of power, and an incredible supply of fuel, when using anything but the power of the atom. If coal were used to desalinate as much water as is being lost from the Colorado basin, it would require 6.7 million tonnes of coal per year—enough to fill 67,000 rail cars, equivalent to a train that would stretch the entire length of California, from Mexico to Oregon.

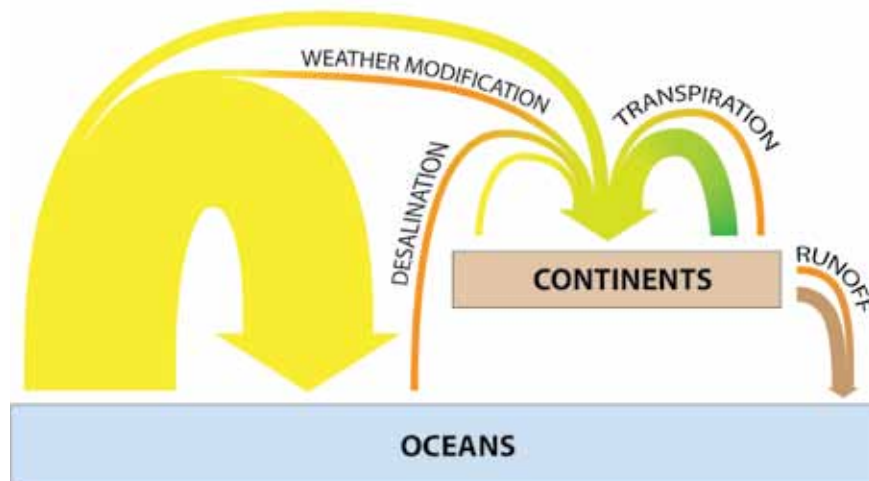
But if the desalination system were powered by a typical uranium fuel cycle for nuclear fission, it would require 100,000 times less fuel by weight, or roughly 50 tonnes per year, which could be transported by a single semi-trailer truck. If the advanced fusion fuel of helium-3 could be developed and used, then only one-third of one tonne of helium-3 would need to be delivered from the Moon to provide the power needed to match the water deficit of an entire river basin (20 million times less fuel than coal). This one-third of one tonne could fit in the back of a regular pickup truck.

This is just one illustration of the five to seven orders of magnitude difference in the energy density of nuclear reactions over any form of chemical reaction. While fusion power is being developed, the most immediate concern will be the development of the nuclear fission systems that can open up this entire

26. Using reverse osmosis, operating at the expected efficiency of the new desalination plant being developed in Carlsbad, California (10.8 megajoules per m<sup>3</sup> of desalinated water).

FIGURE 8

## Global Terrestrial Water Cycle Under Mankind's Control



Benjamin Deniston/EIRNS 2014

new era of water resources for mankind—effectively creating rivers, flowing from the ocean inland. This is beyond water cycle management, and in the domain of water cycle creation, demonstrating the truly unique power of mankind as a creative force on this planet.

## C. A Conceptual Synthesis

The current global water crisis is less about where water is and is not, and more about what mankind is, as a uniquely creative force on the planet. Mankind has before him, either the existing capabilities, or the potential to develop the needed capabilities to handle global water systems as a whole (see **Figure 8**).

As discussed above, the hydrological actions available to mankind fall into distinct principled categories.

**Category 1** – Managing and improving the productivity and distribution of existing terrestrial water cycles:

**Subcategory A** – Improved water management systems can increase the efficiency and reuse of existing water supplies, increasing the productivity of an existing water cycle by ensuring there is a higher amount of productive use per cycle.

**Subcategory B** – River basins and continental river systems can be developed and improved with

large-scale river diversions, dams, and irrigation systems, to ensure the equitable distribution of water across a given land area.

**Category 2** – Modulating, increasing, and creating terrestrial water cycles:

**Subcategory C** – Atmospheric ionization technologies are perhaps the beginning phase of a new focus on influencing and controlling atmospheric moisture flows and rainfall, opening the potential to begin to control terrestrial water cycles on a higher level—moving beyond simply dealing with the water that has fallen on land, and into influencing the atmospheric moisture flows that determine the water distribution on land.

**Subcategory D** – With the development of nuclear fission and thermonuclear fusion energy flux densities new freshwater resources can be produced with ocean desalination systems on a large scale.

There is no single technology that will solve the global water crisis. All these categories of action must be developed and employed in the varying degrees re-

quired for a particular region. The solution to the global water crisis is for mankind to realize his obligation to develop, scientifically and technologically, as a creative force on this planet.

The great Ukrainian-Russian scientist Vladimir Vernadsky scientifically defined the absolute distinction of the human species from forms of simply animal life. This was expressed, for Vernadsky, by the emergence of the domain of mankind's action, the noösphere, which came to dominate and overpower the biosphere. Today, a new stage of the noösphere is within reach, the expansion of mankind's creative influence throughout the Solar System. Perhaps it is only a small beginning, but the prospect for mankind beginning to control and create our own terrestrial water cycles signifies the emergence of this process.

This is mankind beginning to play a role on planet Earth that was otherwise fully reserved only to the action of the Sun itself. Only in that scientific understanding of the significance of mankind's role on Earth, and beyond, will the global water needs of the human species be addressed far into the future.

*Research contributed by Mary Burdman and Marcia Merry Baker*

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### *After Wall Street's Bankruptcy*

The Wall Street system of banks is again facing a bankruptcy crisis—this time triggered by collapsing oil and commodity debt and derivatives. Even central bankers know that it will be as bad as a second 2008 crash, or worse.

These banks have been generally bankrupt since the impact of the elimination of Glass-Steagall. Wall Street's bankruptcy crisis is made worse by the free fall of the euro, and the fact that all the biggest European banks, most definitely including the London banks, are loaded to the gills with toxic debt securities of more and more varieties.

A financial crash worse than 2008 is looming over this whole bankrupt London-Wall Street system. The United States must immediately generate a buffer against this crash for its economy and citizens. LaRouche has the plan:

The Wall Street banks should effectively be shut down, and put through a bankruptcy reorganization so that they may continue some limited function as commercial banks. Their ability to manage things in the U.S. economy must be terminated now.

Launch bankruptcy reorganization of these megabanks by reinstating the Glass-Steagall Act to separate the doomed speculative divisions from their insured, regulated commercial banks—and let the former go.

As a substitute, a buffer of credit must be created—Federal credit—to put people into productive, well-paid work. That means work related to crucial new projects of modern infrastructure.

Provide a source of Federal credit to be used by states and Federal governments to provide skilled employment and economic development. The United States must incur a limited debt to do so, but devoted entirely to this purpose. This has been done before; it must be done again.

Create a Reconstruction Finance Corporation with initial government capital and issue RFC bonds to the public and to commercial banks, to support national and state projects.

And, create a National Bank with an initial capital of new Treasury debt, and provide the great majority of that Bank's capital by the voluntary trade of existing 3- to 30-year Treasury debt. If \$500 billion of U.S. debt is voluntarily invested in the National Bank, the Treasury can issue \$500 billion in Treasury notes to the Bank to start providing credit for productivity and employment.

Most crucial for this new National Bank and RFC: Join the BRICS! Accept China's President Xi Jinping's offer to Obama at the APEC Summit last November.

Use the National Bank and RFC to join with the Asian Infrastructure Investment Bank and the other new international development banks and funds for Silk Road and Maritime Silk Road infrastructure. In the process, multiply the buffer of Federal credit for new infrastructure and productive investments in America.

Create a new economic platform for America's economy, "driven" by development of fusion technologies and thermonuclear fusion power. Relaunch America's presence in the Solar System in competition and cooperation with China's lunar program, now the world's leading space program.

A new Wall Street blowout will hit the economy like a major war. And Wall Street is escalating financial and other warfare actions against "enemies" China and Russia, which is leading toward actual, *thermonuclear war*.

With the LaRouche plan put in place immediately, that can be stopped.



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