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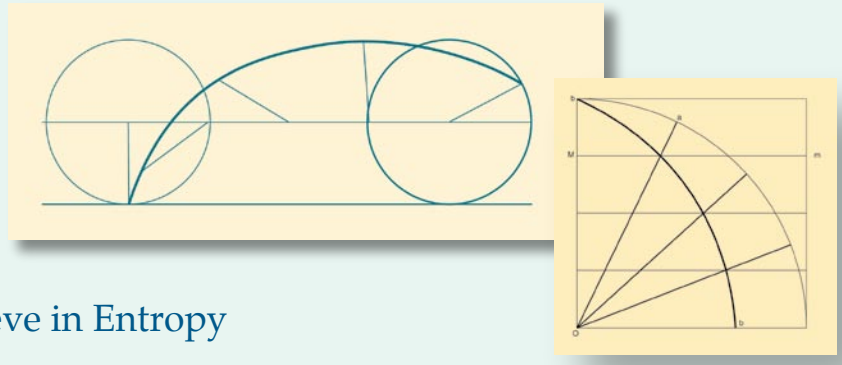

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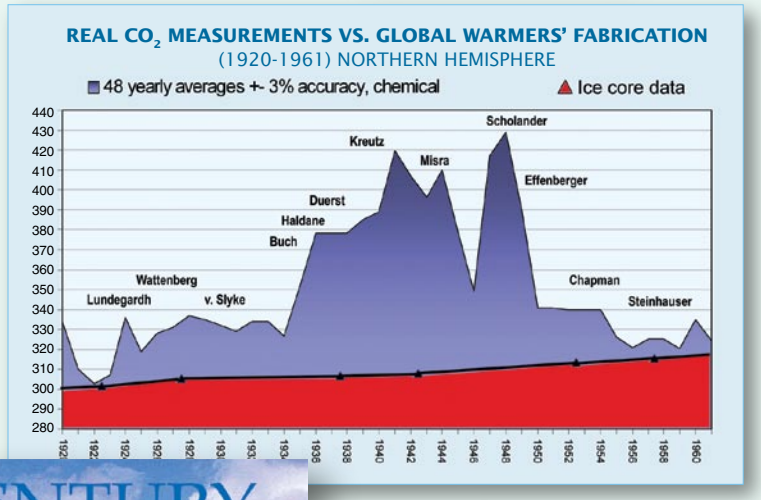

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Mohd Peter Davis

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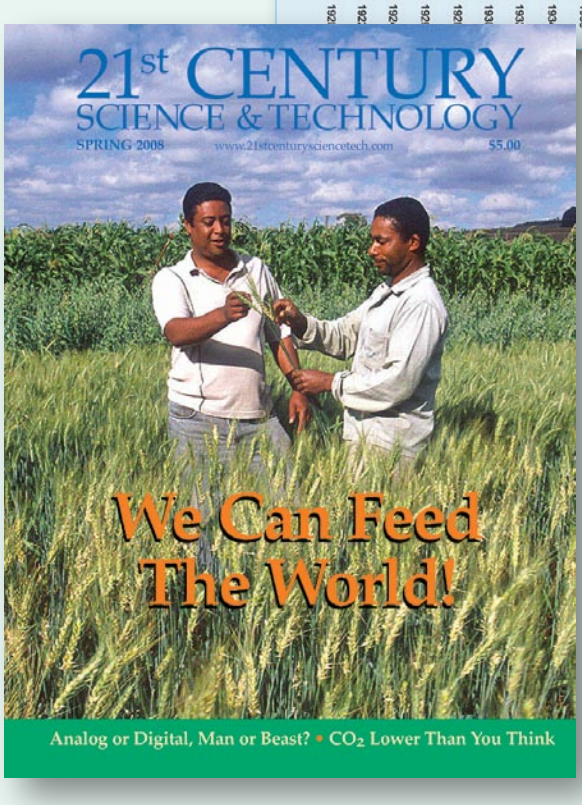

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EIR

From the Managing Editor

The farce of the G-20 meeting in Washington on Nov. 15—which some had mislabeled the "New Bretton Woods conference"—was predetermined, when the decision was made to bypass Lyndon LaRouche's proposal for a *Four-Power* alliance of the United States, Russia, China, and India, to work out the foundations of a new global financial system. There was a good reason that LaRouche insisted on those four powers. You can be sure that once the British cooks get their spoon into the pot, any possibility of a positive resolution will be precluded. As Prime Minister Gordon Brown said a few weeks ago, *his* version of a new monetary system would ensure that "for generations to come London and Britain remains home to global finance." Clearly, the 19 other members of the G-20 did not have the guts, or the inclination, to put Brown in his place.

LaRouche stressed once again, in his briefing to a private meeting in Washington on Nov. 11, transcribed in this issue, that the key role in reversing the crisis must be played by the United States, operating from a standpoint opposite to that of the Bush Administration. The U.S. Constitution uniquely provides the concept and historical precedent for a *credit* system, rather than a (British) *monetary* system. That idea, enunciated in its most universal form in the Preamble to the Constitution, is what makes the United States different from the parliamentary systems of Europe: A government ruling in the interest of the general welfare will not serve Wall Street and the City of London; hence it will not focus on money, but rather on extending credit to the benefit of all, and our posterity.

The consequences of failing to adopt LaRouche's approach could not be more grim, as he told the Washington meeting, and as he emphasizes in his written introduction to it, "The Subject Is 'Dynamics': There Is But One Issue!"

In our *Feature*, "Kepler's Actual Discovery: Mathematics Is Not Science," LaRouche lays out in more detail his epistemological approach, which, like that of Johannes Kepler and Bernhard Riemann, is based on dynamics. That accounts for the extraordinary success of those scientists in their time, and of LaRouche's economic forecasting today.

Susan Welsh

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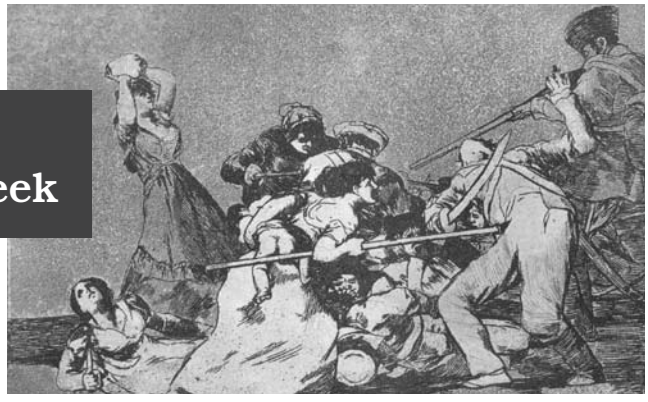

"And they are beasts," from "The Disasters of War," Francisco Goya, 1863.

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THE SUBJECT IS 'DYNAMICS':

There Is But One Issue!

by Lyndon H. LaRouche, Jr.

November 15, 2008

The existing world monetary-financial system is in the end-phase of a disintegration of that system into a breakdown-crisis. Only a replacement of that useless monetary system by a credit-system in the image of U.S. Treasury Secretary Alexander Hamilton's design could prevent the plunge of the entire world into a prolonged dark age comparable to that of Fourteenth-Century Europe, but far worse in depth and duration. Foolish governments, let by the most foolish of all, that of U.S. President George W. Bush, Jr., and the United Kingdom's Prime Minister Gordon Brown, are leading the discussion of an assortment of petty arrangements and sordid, global schemes, none of which address the issue on which the fate of civilization now depends.

On this past Tuesday, I led a discussion, among a select group assembled, partly in Washington, D.C. and partly in New York City, at which I outlined the only possible escape from the presently onrushing global, economic-breakdown-crisis currently in accelerating progress. The essential features of my proposal are published following the introductory remarks here.

These days, as the worst U.S. Presidency in more than a century, and the recent nearly two years of the worst session of the U.S. Congress experienced in recent decades, come to their respective, miserable ends, both the United States and the world at large are left with only one chance for escaping from a presently ongoing, global "new dark age," the worst such since the "New Dark Age" which occurred during Europe's Fourteenth Century.

That is the alternative which I outlined to the special audiences in Washington, D.C., and New York, this past Tuesday.

On this occasion we should be reminded that there are no tragic figures in real world history; there are, rather, tragic nations and peoples, such as those described by the Homeric ***Iliad***, and the tragedies presented by Shakespeare and Friedrich Schiller, a virtual ***Comédie Humaine***, whose leaders have incurred the misfortune of being what the people of that culture had, like the citizens of our U.S.A., chosen to place positions of leadership.

This is not to say that all such misleaders were bad people. Some, like both George Bush administrations, were, admittedly, malicious. The fault of others, is that they gave the people the administration which it seemed that popular opinion desired; but, perhaps, they lacked the will to do better, since they lacked the stuff of which a President George Washington, a John Quincy Adams, an Abraham Lincoln, and a Franklin Delano Roosevelt were made.

A qualified leader of a great republic, especially one with that special quality of Constitution such as our own United States, is to know what the destiny of the nation and its people require, as Presidents Abraham Lincoln and Franklin Roosevelt did, and to deliver the

effort needed to bring the nation to safety, and, also, to contribute to the well-being of the community of nations generally.

I must concede the point, even as I must note the failures of the performance of recent Presidents, since Franklin Roosevelt, who were not bad, but who intended good, but lacked the standard of leadership. Leadership, especially in times of grave crisis—and this is now the greatest crisis in the history of all modern civilization—must be commitment to provide that mission which is required at that time, and, more than that, the destiny of coming generations.

For this reason, while there is a hopeful escape from the present general breakdown-crisis of the planet as a whole, there is only one course of action which could plausibly enable the planet to escape a global catastrophe now. I presented that option, in summary, in my leading remarks this past Tuesday.

Only My Reforms Can Save The Planet from a Dark Age

Lyndon LaRouche made the following remarks to a private meeting in Washington, D.C., on Nov. 11, 2008. The transcript has been edited, and subheads added.

EIRNS/Stuart Lewis

"We have an existential crisis on this planet," LaRouche told those gathered at a private meeting in Washington. He is shown here at a webcast on Oct. 1.

As you know, probably, as of last July, I forecast that we were at the end of a phase of the system. And within three days, after my forecast, on July 25 of last year, the breakup of the present monetary system began, with what was called by some people who didn't know any better, a "subprime crisis." It was never a subprime crisis: The idea that a real estate bubble exploded and had a chain-reaction on the world is nonsense. That didn't happen: It happened the other way around.

The system which was to explode, or implode, just broke loose at its weakest point. But the problem lies, today, not in the real estate area or otherwise; it lies in financial derivatives. The financial derivatives system of the world is what is in the process of collapsing. And the financial derivatives system totals to over $1 quadrillion U.S. dollars in estimated value! And this is the great speculative bubble which has built up from 1987 on, under Alan Greenspan and others. This is the bubble that is now collapsing.

This is a hopeless collapse, in terms of the present system. *No mere reform of this present system, will save the planet.* The nearest event comparable to this, in all European civilization's experience, occurred in the 14th Century, with the general collapse, called a "New Dark

Age," in which the entire system of Europe collapsed. The number of villages collapsed by one-half, the population of Europe collapsed by one-third, and it took several decades before even the beginning of civilization returned.

The crisis we have today, worldwide, is of a similar form: A great financial bubble, which has been growing at a great rate, while the rate of net physical production per capita, has been collapsing. This system is doomed in its present form. And there is no minor reform, there's no monetary reform that could save this system. We are headed for an *absolute, total collapse of the planet, unless a change is made.* There is no hope, for any remedy, within the framework of what's called a monetary system. But rather, as I shall emphasize here, the alternative is the establishment of a credit system, to replace the present monetary system.

JFK Library

Charles de Gaulle attempted to establish an American-style Presidential system in France, as against the European Parliamentary systems. He is shown here with U.S. President John F. Kennedy at the Elysée Palace in 1961.

The Crucial Role of the United States

Now, the model for the credit system lies in the United States, historically. If you study the U.S. Constitution and the peculiarities of the U.S. Constitution, as opposed to those of Europe, our system of government has no resemblance in essentials, to any European system of government. European systems of government are essentially parliamentary systems, not federal systems. There are reforms in European states, which have moved in the direction of a Presidential system. The best example of an attempt in that direction was Charles de Gaulle, as President of France, in his Fifth Republic. There was a serious attempt to establish a nation-state system in Europe, by de Gaulle. But since that time, there has been no successful effort, to establish a true nation-state system, as opposed to a parliamentary system.

Therefore, the United States has a crucial significance in this, and without a crucial role by the United States, which seems extremely difficult right now, because of the present Presidency and so forth—without the United States, there is no hope for avoiding what will be a plunge into a new dark age, resembling that which occurred in Europe, which occurred in the 14th Century. That's the situation we face. No simple reform, no adjustment, no monetary agreement, nothing of that sort will work.

There are, however, very specific measures, of agreements among governments which could change the system, could change it without anything too radical, but it would get us through.

Now, the first thing that has to happen is, in practice, is that unless there's an agreement of a certain type among the United States, Russia, China, and India, we have reached a condition, where it would be *impossible to save the world from a collapse*, a worldwide collapse. The form would be this: It would be the change of the present world monetary system, the elimination of the present world monetary system, to replace it by a credit system, which is consistent with the principles of the U.S. Federal Constitution. Remember that our Constitution, and our Presidential system, was not based on a parliamentary system; it was not based on a monetary system. It was based on what's called a credit system.

The difference is obvious to all of you: You have two types of systems in the world today, of any significance. One, there are credit systems: A credit means that the money issued by a government, is issued *by* a government, in the name of the government, and is backed by the promises of the government to support

the credit. This credit, under law, can then be monetized and supply a money currency as well as credit for development.

This is distinct from a monetary system. A monetary system represents a system of money, which is *outside government*, but which may or may not have agreement *with* government. European systems, today, are not credit systems, they are monetary systems. The monetary system, which is tied to the IMF, today, and has been since 1971, 1972—that period—the monetary system is what is collapsing. The monetary system is collapsing, because it is tied, specifically now to the credit bubble, the derivatives bubbles. And this is what's collapsing. There's no possibility at this stage any longer, of saving the monetary system in its present form. That is, a reform made internal to the monetary system will not work. It's too late. We could have done something in that direction, back a year ago, July a year ago, back in 2007. The system is so rotten today, that it would not be possible, especially the changes that have been made by the U.S. and other governments, in the recent months, are so radical, that it would be impossible to reform this system. You have to completely overhaul it and revolutionize it.

But, our American System allows us to do that, under our Constitutional system in our history.

A Four-Power Agreement

Now, what we have to do is, is establish a power bloc, to force through a change among nations. Western Europe, despite the fact that there are positive elements, as the case of [Economics Minister Giulio] Tremonti in Italy, or some efforts on the part of [President Nicolas] Sarkozy in France; there are some initiatives in the direction of useful reforms. There are desires for useful reforms from other parts of the world. But the requirement here, is to have a sufficiently powerful agreement, *to force through* the reforms in a timely fashion. This can only occur by an agreement among the United States, Russia, China, and India. If the United States, Russia, China, and India function as a bloc, other countries will join them, and we can force through the reform. In my view, without that particular agreement, it would be impossible to ram through the reform, politically, at this time—not in time. We might eventually agree to it, but it would be too late. We need change now: The world system is collapsing at such a rate, now, that we do not have years to play with. We do not even have many months to play with. By the end of the year, we must be in the direction of making some kind of reform, in this direction.

Now, what it means, is this: As those of you from China know, and other countries, the change in the system, especially since 1971 and 1972 on, the change was a change in the relationship of China, from the United States to China and other countries. The change was essentially to what is called "globalization": to move production out of Europe and the United States, and to move it into countries which have low per-capita incomes: in other words, cheap labor. And thus production, and infrastructure, were moved *out* of the United States, and increasingly *out* of Europe, especially after 1989-1990, into other countries, Third World countries in particular, which operate at a cheap-labor price. Today, most of the production of the world depends critically, on a margin of production in these countries, which are the export countries, which replaced European production, U.S. production, and so forth.

So therefore, at this point, you have two things: First of all, the system is collapsing. Now, by the nature of the system, it means that the countries which were used as substitutes for production from Europe and the United States, for example, are now collapsing, because the purchases from other countries are collapsing, as in the case of China, where the collapse of China is a potential time-bomb for the entire planet. Because if the collapse of China's exports continues at the present rate, this will be a time-bomb for the entire system; and some people understand this. Therefore, the unity of four powers, the United States—which has a certain special power—Russia, China, and India, represents a bloc that can force through reforms of the type that are needed.

A Credit, Not a Monetary System

What is required is this: We have to eliminate the monetary system, by a credit system. A credit system is not some mysterious thing. It's essentially something which is traditional to the United States in particular. European systems today, are monetary systems: that is, despite agreements with government, money is controlled by agencies outside government. This is a characteristic of parliamentary systems—not a true Presidential system, but a parliamentary system. And thus, money exists *independently* of the control of government, although with agreement with government, but nonetheless, under the control of outside agencies: international, financial agencies, which actually control

the monetary system, control and regulate the money, and government plays, less and less, a role in the control of money, in control of the monetary system. This is characteristic in Europe, particularly since 1989-1991, in which the control over money, with the Maastricht agreements and similar kinds of agreements, Europe has absolutely no control over its own monetary supply: It's controlled by outsiders, largely through London, and through things like the oil price market.

So therefore, the creation of a credit system to replace a monetary system, is where the solution lies. There's no way to save this monetary system in its present form. It's so full of junk, with the financial derivatives far in excess of a quadrillion dollars in claims, against the nominal size of the actual production of nations, it is impossible to reform this monetary system in its present form. You have to put the monetary system, itself, *through bankruptcy*. You will have to wipe out the greatest portion of nominal monetary assets in the world today! Cancel them! Because the system as a whole is hopelessly bankrupt.

White House/Shealah Craighead

About the time that President Bush was awarding Fed chairman Alan Greenspan the Presidential medal of freedom, in 2005 (shown here), Greenspan's galactic-size bubble, built up since 1987, had begun to burst.

Now, what do you do in that case? Well, what you do for a monetary reform to a credit system, you use the U.S. Constitution. Because of our Constitution, we can create, as Roosevelt did that formally, we can create a credit system. To replace a monetary system.

Now, what you do under this case, and with agreement with the United States, and its Constitution, with Russia, China, and India, it can be done. What you do, is you say, we put all the claims which are equivalent of monetary or credit claims in two piles. One pile we call "monetary." That's the manure pile. The other we call the "credit" pile. Now under the U.S. Constitution, money, when the Constitution is followed, is created only by the will of the government. It is done by the Executive branch of government, with the consent of the House of Representatives, and things flow from that. This credit being issued, is also authorized for monetization: So, the credit can be issued as loans for projects, or international loans, and part of it can actually be monetized, under the condition under which it was uttered. Particularly, if we had a national banking system, which we don't have presently, we could convert the Federal Reserve System, which is bankrupt, into a national banking system, as Hamilton proposed. Then it would do that, automatically. We *do* need a national banking system in each country. That doesn't mean they're the only banks, but it does mean you use a national banking system to control the relationship between government and the banking system as a whole, in general.

Put the System Through Bankruptcy Reorganization

If you do that, then you do a bankruptcy reform: You take the hopelessly bankrupt system—we're talking about *quadrillions of dollars of claims*, of monetary claims, especially as located in these speculative markets of derivatives and related kinds of things—we have to wipe most of this off the books! It can never be paid. It was foolishness, it was a lie, it was done largely since 1987, under Alan Greenspan's insanity. This we have to wipe out.

What do you do? You have to protect those things which are productive, and are necessary for the government and necessary for the population. Therefore, you create a pile called the "credit pile." What you do, is you take every obligation, and every asset, which is valuable to society, currently, or necessary and meritorious—you take the monetary value of that, and you assign that to the creation of credit, government credit, a credit system. *And you leave the remainder to rot.*

Then, at that point, you enter into agreements, with governments—and this is where the relationship of

the United States, Russia, China, and India occurs; there are many ramifications to this thing—under the case, what we do first of all, is you create among these governments, and others who will join them, you create a credit system to replace the present monetary system. That doesn't mean that every nation is involved immediately; it means these nations and others who wish to join, will join immediately. Now, we enter into an agreement which amounts to a revival of the Bretton Woods system. What we do, therefore, is, we create a credit system, as an international system, as a *fixed-exchange-rate system*. And we issue credit, by agreement among these countries, as a fixed-exchange-rate system. We then proceed, to expand world production, involving these countries, *through* the new credit system, leaving the useless money, the useless claims, to rot.

ESA

Asia and Africa contain many of the raw materials assets required for the development of production around the world. The Brutish empire has prevented this development from taking place. Shown: the Palabora copper mine, Pretoria, South Africa.

In doing that, two things happen, particularly with these countries involved, because the future of the planet, economically, is concentrated in Asia, where the greatest single concentration of population and the need for growth exists. The other area, which has a similar character, is Africa. Now, Asia and Africa are also two areas, which contain a lot of the raw materials assets required for the development of production in the world.

Therefore, if this part of the world develops, several things happen: First of all, you have in China, and you have in India, and other countries in Asia, you have a tendency where 60-70% of the population is essentially destitute, because of the present structure of prices, prices paid. A small part of the population of these countries, varying from case to case, has, shall we say, a modern standard of living, a modern ability to produce. A great part of the population remains outside! While there's infrastructure development in China, it is not sufficient to compensate, for example, for these needs. The development of resources for developing raw materials, that is, mineral raw materials, is not sufficient. The raw materials, the minerals, lie there in the ground, but you just can't extract them, you have to develop these resources. And you have to mobilize the flow of this into the expansion of production to include that: India, China, are typical of this—but also all of Asia.

You have a parallel situation in Africa. Africa is one of the larger repositories of raw materials, necessary for humanity in the coming period. But under the present conditions, with the lack of infrastructure, you can not develop those raw materials! So therefore, what you have, is a part of the world, over 40% of the world in Asia, essentially, and a large part in Africa, and you have comparable situations in South America, where you have large resources, which are undeveloped, which could be developed, but the infrastructure development needed, has not occurred yet.

The Challenge of Development

So therefore, we have not only the question of a reform of a monetary system, to prevent a collapse of the system; we have the challenge now, of taking these areas of development, which involve large raw materials deposits, at the same time, a very large part of the population—and a large part of the population of the world is living at substandard conditions, with no immediate prospect of significant improvement—therefore, the frontier of humanity, for centuries yet to come, involves this thrust of development. It means, then, a *reversal* of the present tendencies in Europe and in North America, away from becoming post-industrial societies, toward playing a key supporting

role in freshly generating technologies which will support this development in Asia and in Africa, and also similarly, in South America. But South America's much closer to the United States, and so forth, has largely a European cultural population, and therefore, dealing with that is much different than it is in dealing with other parts of the world which have a different cultural heritage.

So therefore, there are two things involved: First of all, is to mobilize a section of the planet, which can be mobilized, which *has* to be mobilized—Russia knows it needs to mobilize! Russia is facing an existential crisis, not as severe as China's right now, but it's an existential crisis. They can not simply continue to function the way they're going. Changes are required. China knows that a change is required, from the present situation. India is less unstable in some respects than China, because its characteristics are different, but all of Asia is in this condition. Africa's in a *known* condition. The problem in South America, even though it's a different part of the world, and has different characteristics, is similar.

So therefore, we have to think not merely about a monetary reform, or a credit reform: We have to think of a credit reform in terms of a mission-orientation, of a system of sovereign nation-states, globally, for an extended period to come. Automatically, in this kind of process, if you have this agreement of the type I've indicated, among the four leading nations, and those who join them immediately, you will go immediately to a gold-denominated, fixed-exchange-rate system. So you will begin to operate in one part of the world, even if the rest of the world has not yet joined; you'll be operating under treaty agreements, among a bloc of nations, a powerful bloc of nations in these terms. And you're moving back in the direction we have to get, to solve these problems: a fixed-exchange-rate system.

What we would do, *probably*, and I would do in the United States, if I had my druthers, is take the Federal Reserve System, which is now bankrupt; the Federal Reserve System is hopelessly bankrupt. I say it: It's true. Merely, the axe has not the head off, yet, but it's gone! What you have to do, is put *it* through bankruptcy reorganization. Now, since it has a Federal government relationship, which the Federal government has to deal with, you simply do what Alexander Hamilton would have done, and intended to do, had he had his choices, despite Andrew Jackson—and convert the Federal Reserve System, as a set of assets, and use the power of government by an Act of Congress, and the Executive branch, to convert it into a National Bank. That does not mean it's the bank that controls everything in the banking system. You are going to restore the private banks, the state banks, and the Federal banks, the chartered banks. But you need a vehicle interfacing between government and the Treasury Department, and the private part of the banking system, to mediate the handling of long-term agreements, and the handling of other things which are done on behalf of *both* government interest and on the part of the institutions.

So, if we create this seed crystal, of these four nations, and others who join them, we now can have, any time we decide to do it—if the President of the United States says, to the President of Russia and to the President of China, and to the government of India, and some other countries: "Let's make this agreement!", the United States has Constitutionally, the Constitutional apparatus and the authority, to do this! So we don't have to worry about what somebody in England says, or some other part of the world says—if these countries agree, on a certain mission-orientation, to act now, we can start a process toward a recovery of the planet as a whole. And once we start that process, we then can go on to the major business of getting other parts of the world involved in it. But we need to make a break.

The American Presidential System

Now, we have, of course, a new President-elect of the United States, and provided he lives—I understand there are some threats to his life—the prospects don't seem good on the surface from his behavior, but if forces like that combine, the way the American Presidential system works, the President of the United States will be *shaped* by the approach to such an agreement. Sometimes a President determines the way the U.S. government goes, sometimes he does not. Sometimes he dominates, in a bad way. Sometimes he dominates in a good way. But our system is not a system of a President; it is a *Presidential system*, in which the entirety of the Federal government is essentially a Presidential system in its character. And the other branches of government are essentially auxiliary to our control-mechanism, which determine and shape the Presidency.

But if the United States Presidency decides to move in that direction, the forces of the Presidency can control the President of the United States. And therefore,

EIRNS/Stuart Lewis

Our system, LaRouche stated, is not a system of a President; it is a Presidential *system, which invovles the entirety of the Federal government. Shown: President-elect Obama campaigning in Leesburg, Va., Oct. 22, 2008.*

the President of the United States will be inclined and steered to do useful things, for the sake of the United States and for its allies. So that's what's required.

If we do that, then we can deal with other parts of the world, which eagerly join. The problem now, is the attempt to pick off one country at a time, to agree with this—the kind of negotiations that are occurring between London and Sarkozy of France, is completely hopeless! Nothing good can come out of this! It's absolutely useless. And the results we'll see, in the coming meeting [the Nov. 15 G-20 meeting—ed.], will be terrible results. They'll be inconsequential; it'll be chaotic. *No solution will be presented!* Something may be presented and called a "solution." But, calling a pig a person does not make it human. This will not work.

Nothing presently planned, by the coming meeting, will do any damned good, at all—but will only make things worse. Only a reform of the type I've described, is within sight as a feasible change in the system.

What I've said, also implies that we would go away from a floating-exchange-rate system, not only to a gold-reserve system, or a regulated system of the type that Roosevelt prescribed in 1944, as opposed to what Truman did after 1945: What Truman did, what was done under Truman, was not Roosevelt's intention. Remember, that Franklin Roosevelt's intention was to eliminate all imperialism, to get rid of colonialism, and to use the vast economic power we had assembled in the war, to build up other countries, through a partnership to eliminate colonialism, and to establish a system of nation-states on this planet.

Truman was different: Truman was actually an enemy, a political enemy of Franklin Roosevelt. He belonged to a different faction, an opposing faction. Roosevelt died. Truman took over—in a sense, Winston Churchill took over. And if President Roosevelt, who had intended to *eliminate* colonialism throughout the planet, through a process of development, was replaced by a President who cooperated with the British to *restore colonialism*—as in the case in Indochina, as in the case in Indonesia, and so forth and so on, around the planet.

So what happened under Truman, was *not* the actual intention of Roosevelt. If we go back to 1944, at Bretton Woods—against Keynes! Keynes was a fascist and an imperialist! That's frankly what he was; his famous 1937 *General Theory*, published in Berlin, in which he said his system would work better in Nazi Germany than it would in a free country. He was right. The Keynesian system was adapted to a colonial/imperial system, and we functioned under a monetarist system, with imperialistic characteristics, especially since 1971 to the present time: It's been one of our big problems.

So, going back to the *Roosevelt* intention, of 1944-early 1945, with a reform of this type, does give us an answer. This means that we have to have a fixed-exchange-rate system; we have to have a hard-currency system; it means we have to have a lot of regulation of prices. You can not have free, floating prices. Because, if you're not covering the costs of production, by undercutting prices, so that you try to produce below the cost of production, you're not going to have development.

The World Needs Infrastructure

This also means, that this will not work without a very large-scale investment in basic economic infrastructure. For example: Take the case of Asia, North Asia.

North Asia is a repository, part of Russia, but North Asia in general; the Siberian area and below, is a repository of concentration of raw materials which are

National Archives

Franklin Roosevelt's intention was to eliminate all imperialism and colonialism, and to use the vast economic power the United States had assembled during the war, to build up other countries, and to establish a system of nation-states. FDR is shown here with President Edwin Barclay of Liberia, January 1943.

necessary for the development of Asia as a whole. But you just can't go in there, and get those raw materials; you have to have a system of development, which develops the territory in which the raw materials lie. You can't just go down and dig them out. You have to have a system, and Russia used to have a system of that type, under the old Russian system, in infrastructure, in minerals. And therefore, to develop this area, you require large-scale, modern transportation systems; you need power systems, which means nuclear power systems, and so forth; otherwise you can not develop these territories. This means developing magnetic levitation systems in place of rail systems, restoring rail systems where they fit the bill, and all other kinds of infrastructural development which are necessary for high-technology investment and production. Without that, we can not accomplish our mission.

Therefore, we have to have very large-scale international agreements on creation of credit, for large-scale infrastructure projects, of especially international interest. You can do nothing in Africa, without a large investment in basic economic infrastructure: mass transportation, power, water management, and so forth. These countries, given freedom—true freedom—could tend to develop themselves. *But!* Without large-scale infrastructure, which they're not equipped to develop, they couldn't launch that kind of development.

This means, also, the world itself, at large, requires a return to large-scale rail or magnetic levitation transportation systems, which we've been destroying in the post-war period. It means other kinds of development of that type.

It means also, a new tariff system, a protectionist system, which guarantees to each nation, that its investment in production, which everybody has supported, presumably, is going to be protected in price. We can not have a low-price economy. The problem in China, for example, is, the prices at which China is able to have an export market, the prices are too low! You can not maintain China's population with those prices. And the reason this was done, was to lower the price of production below the *cost* of production! So we moved production *out* of Europe, and out of North America, we moved it to prices *below the actual, physical cost of production*, considering the capital investment in technology. Therefore, you take and dump on China and other countries, you dump an export market for them, but then you don't allow them to earn enough to support their entire population in development. The same thing happens in Africa. The same thing has happened in South America and Central America, in recent periods, mainly since the 1970s.

So we need these kinds of reforms, now! And that's the direction we have to go in. That's the option.

Billions Are Already Imperiled

If we're not willing to move in the direction I've indicated here, in these remarks so far, today, then, I tell you, that the situation for humanity on the planet as a whole is worse today, than it was in Europe in the 14th Century, in the onset of what was called the New Dark Age. We have over 6.5 billion people living on this planet today. With the present conditions, much of that population is already imperiled: the question of food supplies, alone, problems of disease and related things; the food crisis is grave on this planet, today, as many of us know: Without an increase in productivity, *physical productivity*, which means a change in these conditions, and the introduction of protectionist conditions, we're going to have a holocaust. We now have between 6.5

and 7 billion people on this planet: If we don't do something now, we're going to end up, in a couple of generations, with about 1 billion, or less.

So, we have an existential crisis on this planet. The present monetary system, the present systems, especially since 1968-71/72, the *net physical output of the United States, since 1968*, since the fiscal year of '67-'68—the net physical output per capita of the United States *has been continually shrinking! There has been no net physical growth, per capita, per square kilometer, in the United States since fiscal year '67-'68.*

KCI Konecranes

If the U.S., Russia, China, and India agree to establish a New Bretton Woods system, other nations, such as Japan and South Korea, will leap at the chance to join them. Shown: Enormous cranes at a port in South Korea.

You have a similar condition, but a worse condition, in Europe today, especially in Germany: In Germany, the most obvious collapse has occurred.

So, if these reforms are not made, with the goal of a protectionist system, which ensures that long-term investment is promoted and encouraged, and technological progress and the investment that goes with it, is encouraged, *we are headed—right now—for a new dark age!* Not some time down the line. What has happened, at an accelerating rate, since the end of July of 2007, has already been a run into a crisis.

One of the problems here, is that every economist who engages in forecasting has failed, in this entire period. They failed in the long term, but they've also failed, in particular in the past year and a half. Every economist in the world, that I know of, has been generally incompetent in forecasting, during this period. Incompetent, particularly—you have people who are publishing reports to the effect that this crisis will soon be over. It will never be over! Without this reform I've indicated, it will never be over! Life on this planet is headed for a dark age, unless the kind of reforms I've indicated occur now. There *is* no other solution. And any forecaster who says differently, you know is incompetent.

And that's why I say—I return to it—the key to a reform, as I see it today: There's no possibility of a necessary reform, unless you reach agreement of the United States, Russia, China, and India. If those countries agree on the general directions I indicate, and are prepared to act in that direction, other nations will join them—obviously, Japan will join them, automatically! Korea will automatically join them! Other countries will immediately join them, because they're part of the same system, the East Asian system. That whole area of East Asia, Northern Siberia, the area around Korea, the same thing—these are areas that have *immediate* potential for very significant development! And these countries, given the chance, will leap to that, and take advantage of that.

But without that kind of reform, without that orientation, without agreements where we can create large masses of *new credit*—that is, under a credit system, while junking the old monetary system—if we can't do that, there's no chance for humanity at all. And anyone who forecasts differently is *wrong, and dangerously wrong.*

If we don't make this kind of reform now, we're not going to have a decent planet to live on for some time to come.

KEPLER'S ACTUAL DISCOVERY:

Mathematics Is Not Science

by Lyndon H. LaRouche, Jr.

November 5, 2008

I am, as you know, an old man, but, do not worry about me on that account; for me, being old has sometimes had some very important advantages. These are advantages which include such benefits as knowing, as most leaders of society today do not, what correctable errors sent us down the wrong path of the habit-making of our society two generations or so ago. Such were the errors which caused the almighty mess our nations now seem to insist on becoming, or, even worse. This is a mess which only rare cases of the more experienced persons among us would be likely to understand today.

For example, some decades ago, I wrote, that poetry must supersede mathematics in science. Some readers, even among my close associates in scientific work during that time, were shocked by what I said, but, they failed to heed my warning; rather, at that time, most of the relevant persons, even among my political associates generally, often bungled their way ahead, rather than facing up to my challenge that they free themselves of their often misguided notions of competence.

That contaminating element of incompetence to which I refer as already extant then, was of a type which persisted even among broader circles of those leading scientists with whom I was more or less closely associated in shared advanced programs of that time. The error by most among them whom I had addressed on this matter then, persists as a crippling factor in what, unfortunately, passes for learned opinion, still today.

Therefore, the following is a story well worth telling here. It is fully as important for the grievously perilous times today, as then; and is certainly far much more so today; because, as result of that element in our past, we are now living in the most perilous times of all recent history for our planet as a whole, today.

NASA-JPL

LaRouche's early discoveries in the work of Leibniz and Riemann led him to "the experience of knowing the meaning of Johannes Kepler's own discovery of the principle of universal gravitation." Shown: Kepler; the M81 Gallaxy from a composite of NASA's Spitzer and Hubble Space telescopes and the Galaxy Evolution Explorer.

The Thesis:

> ***"Es führt dies hinüber in das Gebiet einer andern Wissenschaft, in das Gebiet der Physik, welches wohl die Natur der heutigen Veranlassung* [mathematics] *nicht zu betreten erlaubt."***[1]
>
> —Bernhard Riemann, closing sentence of 1854 ***Habilitation Dissertation***

For me, fifty years ago, the struggle involved in my first, very painstaking reading, and re-reading through the German of Bernhard Riemann's 1854 habilitation dissertation, was one of several such experiences in my life which have had the relatively most important, and persisting influences in shaping my world outlook, up to the present day. The only comparable, earlier experience in science, of the quality of empyreal joy of recognizing the intent of what I was reading on such an occasion, had been my first, adolescent encounters with some of the work of Gottfried Leibniz.

Then it was the closing sentence, itself, of that dissertation which delivered the crucial effect—an effect on me, as among doubtless some others, which I am fully persuaded that Riemann had intended in leaving that particular, very boldly courageous sentence to the conclusion of his address on that occasion. Riemann had already recognized the danger to society in attempting, as the empiricists had presumed, to substitute mere mathematics for actual science. The specific effect which that concluding sentence had on me, was rooted in the fact that that was the necessary outcome of the same Riemann dissertation's two opening paragraphs. This configuration defined: a relationship between those two "bookends," the one at the outset, and the other in the close of that same composition, were the likenesses of the opening and close of a great play, in defining the meaning of what lay between them.

I urge the informed reader to recognize that crucial aspect of the whole matter, now.[2]

1. "This path leads out into the domain of another science, into the realm of physics, into which the nature of this present occasion [mathematics] forbids us to penetrate."

2. To re-experience the effect which I had on that occasion, read the two opening paragraphs of Riemann's dissertation, and then skip to the con-

Since that experience, I have enjoyed a confrontation with similar qualities of discoveries of principle, but none of them as profound for me as these two most fundamental discoveries from the work of Leibniz and Riemann. Even Kepler's uniquely original discovery of universal gravitation had less impact upon me, not because it lacked fundamental importance, but because I had, already, adopted the same principled conception of man's knowledge of the universe from Leibniz and Riemann, at the time I had first read Kepler's ***The Harmonies*** seriously, about what is now about three decades ago.

It should be recalled by any person familiar with what became, over decades, my customary argument on the subject of method, that on all relevant public occasions, I had always insisted on locating the reality of experienced knowledge in the process of generating a conception, rather than in what usually seemed to pass among others, for the simple "bottom line" on the relevant topic. Reality is not where one had been dumped by a trolley-car conductor at the end of a line; it lies within the process by means of which you, for example, might have discovered the meaning of that way which leads toward that destination.

Therefore, as I shall emphasize in this report, my experience with those discoveries taken from Leibniz and Riemann which I have referenced just above, should warn us, that, in matters of science, in particular, we must look beyond not only the realm of mathematics, but, also, even the much higher realm of physical science as such. We must reach toward that concept of the very existence of the universe itself, on which our comprehension of the possibility of the existence of the uniqueness of that universe depends.

Such is the experience of knowing the meaning of Johannes Kepler's own uniquely original discovery of the principle of universal gravitation.

On account of similar experiences during the years before the crucial experience of my early-1953, initial settling of accounts with Riemann's habilitation dissertation, I had had experiences in other domains which were similar to that electrifying reading of Riemann. This experience with those other domains included certain encounters with the poetry of John Keats and Percy Bysshe Shelley which are, in fact, relevant to the notion associated with the referenced, concluding sentence of Riemann's dissertation.

Among such relevant other items was, most emphatically, such a grand experience as that of the concluding, fairly long paragraph of Shelley's ***In Defence of Poetry***, in which Shelley had summed up, with the most elegantly poetic expression of profundity, his view respecting "the power of imparting and receiving the most profound and impassioned conceptions respecting man and nature." What Shelley wrote there, in the paragraph as a whole, corresponds to my entire retrospective and prospective view of the proper organization of our attempted insights into the dynamics of the social processes of human experience and development.

It was the convergence of my sense of things respecting both such fundamentals of physical science, and of great Classical poetry and drama such as that, which has defined the heart and mind of my conscience, from my adolescence, through today. For me, as I emphasize in the two chapters which follow these introductory remarks, this recurring, life-long experience of mine goes to the heart of what I am, personally, most passionately committed to convey to the benefit of coming generations, including the promise of that which awaits them, emergent, as within some parts of the young adult generation of the present moment.

A Certain Crisis in Science

So, consequently, on the occasion of a meeting convened at Ibykus Farm back during the mid-1980s, I shocked the assembled scientists of our international Fusion Energy Foundation (FEF), by insisting that the problems of physics which were confronting us then, must be addressed by aid of attention to the details of Kepler's discovery of the principle of universal solar gravitation. I situated my argument to that effect, in the domain of my special competence as, as, in effect, already, then, a leading physical economist of the world today. Such was my tested competence in a Riemannian science of physical economy. Most among those assembled at that meeting had been enraged by my introduction of this as a matter of policy, excepting, from a somewhat older generation, Chicago's celebrated Professor Robert Moon.

That rage, from many at that table, expressed, essentially, a knee-jerk reaction to any attack on what had been presumed by them, academically and similarly, to have been the absolutely sacred utterances of the Black Magic specialist, Isaac Newton. For them, Newton was

cluding sentence with which he ended. Then, after absorbing the impact of that, read what lay between. As in Classical drama, poetry, and Classical musical composition according to the principle of J.S. Bach, defining the space within which the development lies, defines the outcome of that which is developed within.

deemed almost sacred among true believers. The believers included many otherwise competent scientists of outstanding accomplishment, but, nonetheless, still victims of youthful classroom indoctrination in what had been built up into the form of a shabby cult-ritual around that dubious English creature.

In retrospect, looking back over the twenty-odd years since that particular FEF meeting, I had been completely correct in every feature of what I delivered, on the point of my argument then. The relevant evidence re-examined, repeatedly, in recent times, has shown my argument, then, to have been thoroughly sound.[3]

Notably, the rage expressed when the same matter came up again during two subsequent meetings of the FEF, although considerably lessened, showed evidence that a large part of the such errors spread among scientists at that time, and still today, are a reflection of the fact that the generation of scientists produced from among returning World War II veterans had studied virtually nothing of Kepler's actual work. Most among them knew almost nothing about the way in which the deepest issues of modern science, which had been posed, uniquely, by those kinds of discoveries typified by Kepler's own, had been fraudulently put aside during the centuries, put aside despite the ***De Docta Ignorantia*** of the actual, Fifteenth-Century founder of modern physical science, Cardinal Nicholas of Cusa.[4]

EIRNS/Philip Ulanowsky

LaRouche shocked a group of scientists in the 1980s, by insisting that the problems of physics, "must be addressed by aid of attention to the details of Kepler's discovery of the principle of universal Solar gravitation." Only Dr. Robert Moon (shown here giving a science class) had a positive response.

This same, inherently destructive error by my own critics, within FEF and elsewhere during the 1980s, and, again, now, lies in what they copied from the Newton cult's libels against Kepler. The influence of that same philosophically reductionist cult traced from Wenck, Zorzi (Giorgi), Fludd, and Sarpi's lackey Galileo, is a tradition which persists today, usually in a more vicious form today than that of the past. The folly of that cult is now a tradition which has been formed under the influence of the far greater decadence which has been recently accumulated in the dogmas and expositions among leading academic institutions. Such has been the effect, for science and science education today, which is to be recognized in the tattered condition of higher education today, since the passing away of most among the representatives of three adult generations of matured adults, including the two preceding my own.

Those have been three generations which had repre-

3. As the argument against the Leibniz calculus from the Eighteenth-Century empiricists, such as D'Alembert, Euler, and Lagrange, typifies the case, empiricism, in fact, permits no explicitly mathematical consideration of a universal physical principle's impact upon the process of society considered as a whole. As financial accounting and related aspects of economic practice illustrate the point, today's taught mathematics permits no efficient consideration of this role of universal physical principles. This has been a crippling feature in the attempt of many professionals to assess the impact of fundamental discoveries of physical principle on the increase of the physical productivity of investment of science on labor, infrastructure, and other matters of crucial importance. My argument was a proposal to address the principled implications of any science-driver program.

4. First, by John Wenck's ***De Ignota Litteratura*** (circa 1442-43), but, later, the modern attacks on Cusa's founding of modern physical science had come from a figure otherwise notorious as the Venetian marriage counselor to England's King Henry VIII, Francesco Zorzi (a.k.a. Francesco Giorgio). Zorzi played a leading part in breaking the peace of Europe among Spain, France, and England during that time. The third notable attack came from the circles of Paolo Sarpi. The modern attack on Cusa and the work of Kepler copies the attack from the followers of the medieval irrationalist William of Ockham, the circles of Paolo Sarpi who founded modern empiricism.

EIRNS/Eric Thomas

Above, a statue of Leonardo in Florence; his panoramic, view of the Arno Valley.

Filippo Brunelleschi introduced the physical principle of the catenary function for crafting the cupola of the Cathedral of Florence, and Cusa follower Leonardo da Vinci revolutionized the notion of sight, preceded Kepler, in challenging the superstition of sense-certainty, represented by Euclid's Elements.

Ricardo André Frantz

Courtesy of Pennie Sabel

Filippo, above, looks up at his great dome; the interior of the cathedral; the inset shows a cutaway of interior structure.

sented a certain quality of relative scientific competence which has been largely lost, or threatened with virtually total loss, today. These three past generations, whose existence as a group of three generations, is dated largely from about the beginning of the Twentieth Century, still represented a repository of some degree of "pre-68er" relative competence. Theirs was a competence, if sometimes a bit damaged epistemologically, which was relatively commonplace among professionals, still a generation ago, before the takeover of almost everything by the continuing, corrosive effects of the 1968 insurgency of the virtually Dionysian cult of the "post-industrial" age of "globalization."[5]

The most notable feature of the post-1968 process of accelerating moral and intellectual degeneration of modern academic and related institutions, had been its nature as a successor to and an outgrowth of the successive steps toward utter degeneracy in the teaching of science marked, at the close of the Nineteenth Century, by the decadent "mechanics" of the positivist Ernst Mach and his immediate followers, and, then, the numerologists' Twentieth-Century lunacy of the cult of Bertrand Russell, and of such among the devotees of Russell's sordid ***Principia Mathematica*** as Norbert Wiener and John von Neumann.

The spread of the existentialist, deconstructionist cult into its currently prevalent form of utter moral depravity, would not have been sustainable to this effect, had the natural forces of opposition to unreason not been corrupted in that way. Typically, that corruption is symptomized by the fact, that today's source of that incompetence which is illustrated, typically, by principal

5. The "birth" of that "68er" phenomenon is to be located in the correlatives of the founding of the existentialist forms of moral and intellectual depravity associated with the London-steered founding of the radically existentialist (e.g., Dionysian) Congress for Cultural Freedom, under British direction, in Europe, and the launching of the existentialist depravity of Theodor Adorno and Hannah Arendt in the United States.

objections which have been employed against Kepler, is to be found in the intentionally justly derogatory implications of Friedrich Schiller's use of the term, ***Brotgelehrten***. For example, for the generation of students entering universities during the terms of President Truman, or later, the intent to be awarded their degrees, and to secure advances into post-graduate employment, were frequently overriding concerns. "Truth?" "Yes, of course," they say, "whenever possible; but, you have to be practical, if you do not wish to risk your career." The sophistry of the high priesthood of Old Babylon was always the nastiest phase of that ancient society's successors.

That sort of corruption of the body of academic and related practice of physical sciences goes on, and on, and on, worse than ever, since then, today. Some of the worst has been encountered lately among the faculty at Harvard University; but, corruption of a similar quality is also pervasive in today's relevant institutions.[6]

So, whereas that sort of corruption already existed, in a milder form, among what were otherwise useful scientists twenty or more years ago, the prospects for competence in scientific practice today, under the corruption now represented by the acute mental disorder of the "68ers" pestilence of so-called "environmentalism," are often catastrophic.

Among the older representatives, among even the same circles still associated with me today, the case is, that excepting the independent type of young adults of university age typified by those who have been engaged recently in programs such as my "basement" projects, there is virtually no sign of oncoming new waves of scientific competence in the matter of method as such, in the U.S.A. or western Europe today; the very worst, is to be found usually among the digitalized devotees of "information theory."[7]

As some would say, when reflecting on the state of the world economy today, "Kissing buttocks may yield academic honors and (temporarily) well-paid appointments, but does not promote insight into times ahead."

In any clinical study of the direction and rate of degeneration of the teaching of physical science, for example, over the recent forty-odd years and longer, we can not overlook the shift from a productive economy, to a "post-industrial" state of general intellectual and moral rot of the minds and habits of physical-economic practice of what are considered the "best professionals" of our economy of the present time.

In Cusa's Time, and Ours

Thus, that decay among professionals which has become representative of prevalent opinion and practice around the professionals of academia and kindred locations today, occurs as the pervasive decadence of the recently prevalent trend, downward, in our society's widely accepted standards of opinion. This downward trend is expressed by the view that there is no possibility of rescuing civilization from a post-industrialist's recently accelerating rate of destruction of a civilization now nearing a terminal phase of disintegration. Despite the issue which I had posed, during the mid-1980s, respecting an attempt to return to the founding, as by Kepler, of a competent comprehensive form of practice of modern physical science, there is apparently scant chance, today, for a resumption of civilized life on this planet, for generations yet to come.

However, while the foregoing is a true statement of the recent trend in the state of world affairs, I am not a pessimist. I am only warning, that unless we are successful in that economic reform which I am attempting on behalf of all humanity now, a planet-wide new dark age of humanity were virtually inevitable now.

We have had dark ages of civilization in the past, and there have been recoveries from them. The Fifteenth-Century Renaissance associated with the A.D. 1439 Council of Florence and the work of Cardinal Nicholas of Cusa and his followers, is the most relevant example.

In the broader sense of the matter, all competent forms of modern physical science are typified by the case of that Filippo Brunelleschi who introduced the physical principle of the catenary function for crafting the cupola of the Florence Cathedral of Santa Maria del Fiore. It is typified, even far more significantly, by the contributions to fundamentals by the Cardinal Nicholas of Cusa whose ***De Docta Ignorantia*** launched all competent specification of method for modern physical science. Although Luca Pacioli and Pacioli's student Leonardo da Vinci continued the legacy of Cusa with some brilliant steps forward, a competent general prac-

6. See LPAC website feature ***Harvard Yard***, www.larouchepac.com.

7. The progress of systemic devolution in the evolution of modern European scientific method has proceeded from the original empiricism of Paolo Sarpi and the hoaxster Galileo, into the rise of mechanist hoaxes such as those associated with the positivist Ernst Mach, to the nadir of radical reductionism represented by the numerology of such followers of the virtually Satanic Bertrand Russell as Professor Norbert Wiener and John von Neumann.

tice of modern physical science itself, is rooted in the methods employed by Cusa follower Johannes Kepler, as in the original discovery, as in the ***Harmonies***, of the principle of universal gravitation around which the Solar System is organized.

The universality of Cusa's mind required an experimental discovery of some specific, universal physical principle to match the far-sighted outlook of that mind. The uniquely original discovery, by Johannes Kepler, of a universal principle of gravitation governing our Solar System, provided that successful experiment.

Against that historical background, Kepler's discovery of a general principle of gravitation, as in his ***The Harmonies of the World***, has an exceptional significance today. It is a significance emphasized afresh by Albert Einstein's emphasis on the fact that all competent physical science today depends upon comprehension of the specific act of genius by Kepler, on this account.

By contrast, the assertion that gravity was discovered by Isaac Newton, has been typical of not only the greatest frauds against science in modern history, but of the capacity for corruption and stupidity even among what are reputed to be the best educated personalities of our time.

That said, I will now yield to others among my young associates the honor they have earned for their elaborating afresh the case for Kepler's discovery, in detail. I have made the point respecting Kepler's work repeatedly over a period of decades. My young associates have made the point, independently, in their own work. My adopted task here, is to provide certain crucial remarks, pointing toward the seed-crystal of the relevant argument, *with emphasis on the specific argument respecting the root of science to be found, still today, in the Classical poetry of two adult generations earlier.*

In this location, below, I summarize the most crucial, and, also, the least understood, but most essential feature of Kepler's discovery of a principle of universal gravitation. I follow that part of my summary, by a related, relevant summary of the case proving the absurdity of the presumption of the existence of some categorical separation of physical science from competent expression of Classical artistic composition.

Considering my age, I complete this report, and thus leave it to younger generations of promising talent to transmit and to enrich, in improved detail, what we have achieved thus, on this twofold account, so far.

1. Kepler's War Against Venice

The essential key to the solution which led Kepler to his uniquely original discovery of a principle of that universal principle of gravitation underlying the organization of the Solar System as a whole, was his recognition of the elementary irony posed by the contradictory effects of, first, examining the organization of the Solar System from the standpoint of a quasi-Euclidean idea of vision, and, then, examining the same motion from the standpoint of the harmonically ordered composition (hearing) of the relationships-in-motion of the Solar System as a whole.[8]

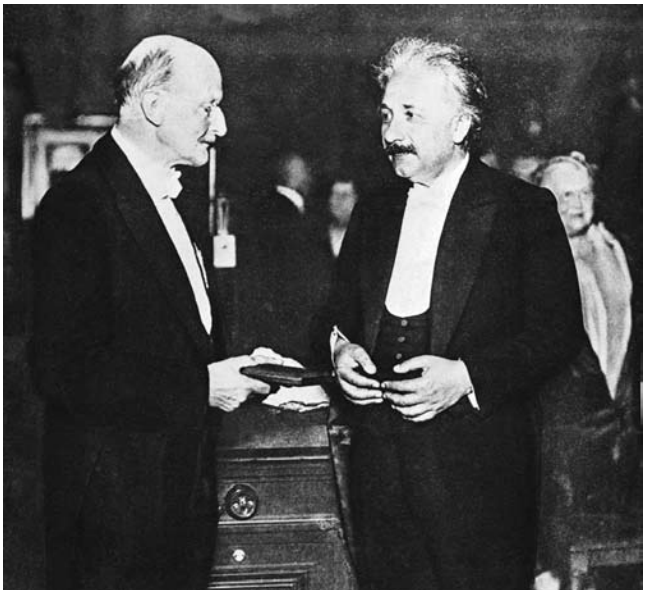
The systemic incongruities of the two dominant modes of human sense-perception, sight and hearing, guided Kepler to discover the principle on which all competent modern science education, and also Classical modalities in modern art, depend: *the recognition that the mere mathematical portrayal provided by sense-perception, is, at its best, the mere shadow cast by those true scientific principles which lie, ontologically, outside the domain of that which could be known through the formalities of mere mathematics.*

What is truly most important for science today in Kepler's discovery of universal gravitation (within our Solar System) on this account, is the implications of posing the discovery, to ourselves, of the notion of our ability to understand the organization of both inorganic and living processes, such as the *non-digital* principle of human hearing, as this experience is associated with the function of counterpoint, as discovered, uniquely, by J.S. Bach, existing within the presently known bounds of our Solar System today.[9]

This discovery of a universal gravitation of the Solar System, by Kepler, demonstrated the systemic absurdity of all assumptions to the effect that the universe is orga-

8. Famously, e.g., the very idea of a "three-body paradox" in a Solar System viewed by Laplace et al., (a problem which does not exist for Kepler's Solar System) is a devastating proof that Laplace's method, and that of his associate, Cauchy, and such followers of Cauchy as Clausius and Grassmann in the theory of heat, is itself a fundamentally incompetent one.

9. This implies that the concept of the Solar System, as such, must be extended to incorporate the relationships commonly underlying the respectively inorganic, living, and human cognitive functions within that Solar System (and beyond). This is implicit in the view of a Kepler-Riemann universe by Albert Einstein, and also in the work of Max Planck, as Planck's work is antithetical to the Mach-Russell positivist perversions of the Platypus-like images of "Quantum mechanics,"—the case of the curious hybrid, Russell, called "the scientist who quacks."



All competent approaches to matters of essential principle, since the discovery by Kepler of universal gravitation, depend upon locating the principle of reason which governs the universe ontologically in the human mind. This is reflected in the genius expressed by Max Planck (left) and Albert Einstein (right).

nized according to the notions of simple sense-certainty. Kepler did that in the most profoundly comprehensive, and conclusive way. All competent approaches to matters of essential principle since that discovery by Kepler, depend upon locating the principle of reason which governs the universe *ontologically* in the human mind, such as the mind of Helen Keller, rather than the mere senses. That is what is reflected in the genius expressed in common by Max Planck and Albert Einstein, in their opposition to the frauds of the respective followers of bad Ernst Mach and far worse Bertrand Russell.

The essential point to be recognized in reading Kepler's uniquely marvelous stroke of genius in that discovery, lies in the fact that, for the first time in modern science, he, as a follower of Cusa and Leonardo da Vinci, and also Brunelleschi, had directly challenged that superstition, called sense-certainty, which had been the leading obstacle to the successful development of scientific method in European science, since the fraud of the root-method of ***Euclid's Elements***. Euclid's is the same fraud spread otherwise as the notion of allegedly "self-evident" presumptions respecting the nature of the human powers of sense-perception, which has come to dominate the classroom in modern secondary and university education today, British neo-Ockhamite empiricism most notably. The point is, as Albert Einstein was to emphasize later: he challenged this matter in a truly universal way.

Kepler's attention was aimed at the paradoxical lack of systemic coincidence between two sensory aspects of the observed evidence which astronomy laid before him: *vision* and *hearing*.[10] It is fairly stated that both of these senses, like all aspects of human sense-perception, do not present us reality directly; rather, like all good scientific instruments, they present us with *evidence bearing upon what should have been our desire to be shown the existence of ontological paradoxes which the mind must then solve by aid of the tests conducted in the mode of suitable experimental methods*.

The result of Kepler's discovery to this effect, was to shift modern European science's concept of reality, once more, from the falsely assumed, "self-evident" reality of mere sense-perception, back to the higher domain of universal physical principles, the domain of actually efficient reality.

The first problem which Kepler had faced in his role as a follower of both the founder of modern European science, Nicholas of Cusa, and the relevance of the work of Cusa's outstanding follower among Kepler's own predecessors, Leonardo da Vinci, was to adopt a critical approach to the assessment of the role of those mere instruments of sense-perception which we know, in simple-minded terms, as sight and hearing. Leonardo da Vinci had revolutionized the notion of sight; Kepler was thus to be recognized as being a forerunner of the great Max Planck, in the implied development of the implications of the function of hearing (i.e., the harmonics of a Classically dynamical mode of physical space-time, including sub-atomic space-time, rather than "digital hearing" or linear "seeing").[11]

10. E.g, the absurdity of presuming that digital recordings could ever replicate actual music.

11. A relevant account of the work of Max Planck and his notable adversaries in science has been supplied recently by Caroline Hartmann for the occasion of Planck's 150th Birthday ("On Honesty towards Nature," Wiesbaden: ***Neue Solidarität***, 18:2008). The frauds against Planck by, first, the followers of Ernst Mach, during the period of World War I, and the later frauds by the circles of Bertrand Russell, are a relevant subject for those wishing to follow up my discussion here. Classical dynamics, as introduced to modern science by Leibniz, in the 1690s, references the Pythagoreans and Plato, and anticipates Riemann, Max Planck, and Albert Einstein. On this account, the absurdity of such as Euclid, Claudius Ptolemy, the modern empiricists, and the pathological cases of the followers of Ernst Mach and Bertrand Russell, are implicitly referenced here.

The evidence that neither sight, nor hearing, presents us with the real universe, impels us to shift our idea of reality to the higher domain, in which the notion of universal physical principles, rather than sense-perception as such, *is* recognized by the human individual mind as the location of the reality within which the human individual, his society, and the effect of his actions are actually located.

Science & Religious War

Although I have covered this in locations published earlier, we have the following.

The success of the founding of the modern sovereign nation-state had been accomplished, to a large degree, on the initiative of Nicholas of Cusa, as prior to, during and beyond the great ecumenical Council of Florence.[12] This success of the great ecumenical Council of Florence, prompted a reaction from the already resurgent, imperial power of that same Venice which had, earlier, brought the Fourteenth Century's "New Dark Age" upon Europe through aid of the Lombard League of the Fourteenth Century New Dark Age.

In the later half of the Fifteenth Century, the ancient evil of usurious Venice was then regaining much of the predatory, usurious, political power of its financier class. It was focusing that power strategically, politically, with the intention of breaking-up the unity of leading sections of western and eastern Christianity through the special operations against targets Moscow, the Balkans, and Constantinople. This led to the outbreak of a long period of religious warfare throughout Europe, from the launching of the expulsion of the Jews from Spain, in 1492, until the 1648 Peace of Westphalia.

The motive for the philosophical reductionists' systematic denial of the human individual's access to that reality of cause-effect which lies beyond the domain of mere sense-perception, was the intent of the rulers of society to make virtual slaves of their subjects, by denying those subjects access to *secure knowledge of those creative powers of the human individual mind which set the human species above all other species*. So, the denial of the knowledgeable use of "fire" by the Olympian Zeus of Aeschylus' ***Prometheus Bound***, degraded mortal human individuals, as the followers of Britain's Prince Philip and his lying lackey, former Vice-President Al Gore, do, into virtually mere cattle of the rulers of empires and their like.

There are two of today's representatives from among the tradition of the most notable Venetian scoundrels of the Sixteenth- and early Seventeenth-Centuries' pandemic of religious warfare, a certain Francesco Zorzi, the sometime marriage-counselor to England's Henry VIII, and, later, Paolo Sarpi, who have a very special historic significance, still today. This latter pair's strategic pranks against modern civilization, have been of crucial significance for understanding the roots of the types of problems which continue to afflict today's now globally-extended European civilization: the types of problems represented by the enslavement of mankind by the Olympian Zeus' prohibition of ordinary human individuals' access to useful knowledge of "fire."

The first relevant case of such would-be Olympian ideological oppressors in modern European society, is typified by the case of the Venetian super-spy and bitter adversary of the work of Cardinal Nicholas of Cusa's founding of modern physical science, Francesco Zorzi (a.k.a. Giorgi). That was the Zorzi who was crucial in the work of organizing the general religious warfare among Catholics and Protestants, an effort he conducted through aid of his orchestration of the role of Venice's agents such as Cardinal Pole and Thomas Cromwell. The effects of this included the case of Anne Boleyn, the latter she who was used as a mere sexual plaything by Zorzi, in his special role as marriage-counselor to England's Henry VIII, in orchestrating the division of Europe between a Protestant North and a Catholic South. The turning of England in this way, was crucial in the perpetuation, and spread of the religious warfare which would not be ended until the signal intervention by Cardinal Mazarin into the process which became known as the 1648 Peace of Westphalia.

The second case, of more immediate importance than Zorzi for today's modern scientific and strategic controversies, is the Paolo Sarpi who is the true father of British imperialism and of the evil it has spread throughout the world, down to the present day.

Both of these odious creatures, Zorzi and Sarpi, played crucial contributing roles in the crafting of that corruption of European science and morals known as British (or, better said, "Brutish") imperialism and empiricism. On this account, Zorzi is notorious for the attack launched in his ***De Harmonia Mundi*** (A.D. 1525), which was his attack on Nicholas of Cusa's ***De Docta Ignorantia***. (A.D. 1440). Zorzi's attack was

12. ***Concordancia Catholica***, ***De Docta Ignorantia***, ***De Pace Fidei***, et al.

conclusively rebutted for physical science, later, by Kepler, in Kepler's ***Harmonies of the World***. The fresh attack, then, from Sarpi's version of irrationalism, is the most significant for history since the close of the Sixteenth Century.

The key to understanding the physically strategic significance of the difference between the modern Aristoteleans and Sarpi, is to be recognized in the effects of the unleashing of a limited degree of technological progress in social relations and productive powers of labor by Sarpi's followers, who thus attempted to catch up with some of the strategically significant technological advantages which had been the immediate result of the scientific revolution launched in Florence through the work of Brunelleschi, and, more emphatically, Nicholas of Cusa. The strategically crucial issue here, is the scientific and technological superiority of a culture rooted in science, over the sterility of both the Aristotelean tradition, and the surrogate for Aristoteleanism met in the mystical reductionism of the empiricist, positivist, and existentialist followers of Paolo Sarpi: *modern philosophical Liberalism*.

The Venetian superspy Francesco Zorzi promoted the marriage (in 1533) of the seductress Anne Boleyn (above), to the English King Henry VIII, as part of his campaign to divide Europe between warring Catholics and Protestants. The spread of religious warfare would continue until the 1648 Treaty of Westphalia. The portrait of Henry is by Hans Holbein the Younger.

The Great Lie of Liberalism

Thus, until Sarpi's emergence as a leading power of his faction, in the wake of the Council of Trent, the most crucial strategic weakness of the Venice-directed campaigns of war against the modern nation-state, had been the crippling effect of the influence, on the Venetian cause, of the Aristotelean argument copied by the *a-priori* presumptions of Euclidean Geometry. This was the argument which had been crucial in blocking scientific-technological progress, and therefore strategic capabilities, among the so-called Catholic faction.

Sarpi's strategically crucial innovation was his evasion, if only in a relatively significant degree, of the self-inflicted problem of stagnation, inherent in Aristotle's doctrine; this is the relative weakness which Sarpi overcame partially, through a swindle, his resurrection of the teachings of a medieval irrationalist, William of Ockham (Latin: Occam).

Sarpi's adoption of Ockham's irrationalism allowed Sarpi's Venetian faction some latitude for the strategically significant, mechanistic application of technological progress, but, at the same time, relied on Ockham's principle of obscurantism to prevent the spread of knowledge of the actual scientific principles. This specific kind of irrationalism permeated Sarpi's adoption of Ockham; this form of systemic irrationalism became known as empiricism, or modern Anglo-Dutch Liberalism. So, Sarpi bent the law of anti-creativity associated with what Aeschylus had treated as the Olympian Zeus, but without actually violating that characteristic principle of ancient and modern Euro-Asiatic oligarchical systems.

The specific types of frauds which the followers of Sarpi employed for methods of suppression of knowledge of the discovery of actual principles of science, are typified by the Anglo-Dutch Liberal empiricist's fraudulent suppression of the evidence of Kepler's actual, uniquely original discovery of the principle of gravitation. Later, from the second half of the Nineteenth Century, more radically irrational forms of empiricism were adopted by the Liberals, as this was typified by the followers of the positivist Ernst Mach, and, then, Bertrand Russell. The claims for discovery of gravitation by Isaac Newton, are entirely a product of those deliberate, pagan, quasi-religious frauds of the empiricists, frauds presently dominant in many university science departments to the present day.

The more general outcome of the kinds of empiricist frauds spread by the followers of Sarpi in modern university programs, has been the substitution of mathematical formulas for actual discoveries of principle *—the substitution of shadow (the mathematical formulation) for substance (the crucial experimental experience)*. As in the case of Kepler's discovery of general gravitation in the Solar System, the actuality of the action of gravitation is expressed in terms of a quality of infinitesimal which is to be defined as ontological, rather than mathematical in nature.

Einstein's Truth

In opposition to the pagan religious fanaticism of reductionist cults in the tradition of Sarpi, the standard Twentieth Century argument for defining Kepler's unique originality in the matter of the historically actual discovery of Solar gravitation, is that which was made by Albert Einstein. I restate that case as I have identified it in earlier locations.

The great difficulty which had been introduced to weaken, intellectually, the astrogation-based science (e.g., *Sphaerics*) of the great ocean-going cultures which colonized the Mediterranean region's emergence, since about 17,000 B.C., from the long glaciation of the period, had been the turning away from the earlier discovery of great physical principles "enclosing" the dynamics of the stellar map, by, in effect, imposing a "land-lubber's" virtual "flat Earth" map in place of the stellar one of leading, ancient, ocean-going maritime cultures. The Sophist's imposition of the *a-priori* definitions, axioms, and postulates copied into Euclidean geometry, typifies this degeneration of science to levels below those of the *Sphaerics* of earlier, higher forms of maritime-inspired civilizations. Thus, instead of treating the universe as enclosed by great universal principles, as much of the idea of geometry as survived from the great mariners' science, was subjected, by aid of Euclid's a-priorism, to the crude sense-certainties of the local, brutish land-lubbering lout, or his incarnation as a modern British landlord.

The evidence of ancient known calendars, attests to the role of the containment of the visible universe by known quasi-spherical cycles of up to very long periods of tens of thousands of years, and even higher orders of magnitude.

Instead of proceeding from the stellar universe, downward to the locality, the Sophist pseudo-science had demanded that the Heavens submit to the dirt-bound view of the Heavens as an extension of the immediate horizon of the flat-Earthers' individual vision. Hence, the defective, *a-priori* presumptions of Euclidean geometry and the like.

From the considerations just so stated, a panorama of implications emerges for the thoughtful observer. Most important, the evidence of ancient calendars attests to the human mind's ability to adduce great principles of long span as enclosing the stellar system. This tells us something much more than the related evidence of modern astronomy. It shows us that the mind of the human individual has been capable, for as much as hundreds of thousands of years, in adducing great principles controlling our universe, "as if from the outside," that done through the agency of the cognitive powers of the individual member of the human species.

In other words, the ancient, medieval, or modern believer in Euclidean geometry's notorious *a-priori* "principles," is to be considered either as a hoax, or the outcome of a degeneration of human culture relative to what are for us today extremely ancient times—both options being pretty much the same thing, in effect.

This brings us back, directly to what Albert Einstein recognized as the authority of Kepler's uniquely original discovery of the principle of universal gravitation controlling the organization of our Solar System. It points directly to the absurdity of adopting the assumptions of a Euclidean geometry as the foundations of an empirical body of physical science.

What did the modern Einstein say about the unique discovery by Kepler, to this effect?

Einstein's argument assumes the form of pointing out that that infinitesimal of that Leibniz calculus, is not a *mathematical* infinitesimal, but, rather, an *ontological* one. The smallness of the infinitesimal of a Keplerian space seen by Leibniz's calculus, is as "small" as the inversion of the universal physical principle which it reflects. So, as Einstein demands, the universe as a whole is self-bounded by the set of universal physical principles of which it is composed.

The further conclusion is, that the universe is finite in this sense, although we can not presume that its evolution is *ontologically* finite in the larger, reductionists' sense of finiteness. We can not presume that the universe is not negentropically finite, rather than of a simply fixed finiteness. Hence, Einstein, in praising Kepler as the implied founder of modern Riemannian physical science, identified the universe as finite, but unbounded.

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Helen Keller, who lost both sight and hearing as a child, but went on to become a leading intellectual, epitomizes the principle that, "All really intelligent people are those who may be fairly described as creatures of sense-uncertainty."

Helen Keller's Science

This brings our attention back to the ironical juxtaposition of sight and harmony, in Kepler's uniquely original discovery of a solar principle of harmonically ordered universal gravitation: a Solar System bounded, externally and internally so. The senses of sight and harmonics are employed, but neither "contains" the phenomenon of gravitation *ontologically*. Sight and harmonics are merely "instrument readings," but not, in themselves, ontologically, that whose effects they measure.

This is true for all our sense-perceptual experience, and the same notion extends to all of the instruments which we synthesize for exploring the universe in the astronomically extremely large, or in the microphysically, subatomic small.

All really intelligent people in the practice of science are therefore those who may be fairly described as creatures of *sense-uncertainty*. We know the universe, not through sense-perception as such, but through appropriate experimental methods akin to those of ancient mariners adducing the efficiently ontological actuality of the demonstrable, measurable, so-called "universal" periods of the astronomical system.

To restate the most crucial point, we come to know the real universe as the outcome, for our mind, of the specific type of experiment which has universal authority in the same general sense as the ancient trans-oceanic mariners recognized the cycles which contained the universe within which they dwelled.

What we discover in that way—what we may rightly term "universal physical principles," or the like—become the means of our power to influence our universe creatively through knowing the universal principles which regulate its existence. Our power to exist, as a human species, distinct in essence from all forms of mere animal life, lies obviously in our willful assimilation of knowledge of the principles which are universal, in the sense that they, like the universal gravitation discovered, uniquely, by Kepler, are the power provided to the knowing, to act in ways which change the behavior of the universe we inhabit.

So, the relevant LYM teams of researchers discovered the principles of physical science which I had defended, earlier, against many erring scientists, both in the Fusion Energy Foundation sessions, and in principle otherwise, as once more, here, today.

2. Poetry as Science

A conception which was subsequently proven to be very important, began for me back in 1947. I was strongly provoked by the effects of my reading of, and the consequent intensive debate within myself, concerning, the revised edition of William Empson's celebrated ***Seven Types of Ambiguity***,[13] a book which I had purchased at a bookstore which I frequently visited off Boston's Copley Square. In the end, I was "provoked by" would be the best description of that encounter with Empson which I might present to today's audiences. I came, thus, to recognize the indispensable role of the modes of Classical artistic composition in reaching a true insight into the most essential features of physical science.[14]

My reaction to that book of Empson's, had been shaped by my earlier, adolescent and later engagement

13. Empson, William, ***Seven Types of Ambiguity*** (Harmondsworth: Peregrine/Penguin Books, 1961).

14. As in the composition of Classical music in the Bach, Mozart, Beethoven tradition, it is necessary to situate the subject within the universe, such as the phase-spatial universality of the specific setting within which all relevant development is contained, and with emphasis on the principled form of action of development which occurs as a process of transformation of that chosen domain.

with the works of Shakespeare, Keats, and Shelley. Still later, my understanding of the significance of the crucial role of Kepler's insight into solar harmonics, settled matters respecting the coherence of the principle of physical science with Classical artistic composition.

I had first become familiar with the work of these poets during my adolescence, from approximately the age of fourteen, onward; but, in the immediate post-war years, I read these afresh, and Empson, too, with increasing emphasis on that same modality, called Classical irony, which conductor Wilhelm Furtwängler sometimes described as reading (and performing) from "between the notes." By "between the notes," I would suggest, as illustration, a comparison to the implications of experiencing a well-staged and directed performance of the situationally ironical opening quartet of Beethoven's ***Fidelio***. This is truly Beethoven's mastery of the creative principle of irony in his expressed approach to composition. Without the irony of the juxtapositions of the mutual misunderstandings of the characters playing those parts, there could have been, technically, nice music, but, actually, no opera to have inspired the composition of ***Fidelio*** by Beethoven.

Important ideas reside not in the attributable literal intention of words and phrases, but in the irony which transports the mind's perception of the intended meaning to something which is not a deductive form of literal meaning. *Thus, the* ***New York Times'*** *comma-sparse style-book prompts the reader to proceed at highest speed without being obliged, by the author—or a keyboard artist, to pause for actually thinking.*

The combined effect of my adolescence's fascination with Classical works, and the excitement provoked in me by both discovering the principle of genius in Furtwängler's conducting,[15] and what prompted me, under conditions of my preceding, war-time experience, and my 1947 encounter with Empson's work, as a matter which prompted me to reopen for consideration: sparked a genuine revolution in fostering what became my rounded world outlook from that time, onwards.

In Classical Drama

All great individual minds have been the stages of a theater of the mind where the great dramas written by the spirit of Classical poetry could be performed. In most serious thinkers whom I have known well enough to recognize such distinctions, the outlook on reflections of both physical and social processes, has tended to develop in a way which unites the two kinds of subject-matters into an at least approximate, single, coherent world-outlook.

The best illustration of such connections is found in reflections on the principles to be recognized in thinking about the way the Classical stage, Classical artistic composition, and Classical poetry, inform what tends toward becoming a deepening insight into all aspects of human individual and social mental life.

Notably, for our purposes here, all great Classical composition and performance of performing art opens with the presentation of a virtual statement of the global bounds of that in which a crucial germ of irony is presented as included. Take the example of the roles of Papa Rocco and Fidelio herself (Leonore) in the opening quartet of Beethoven's ***Fidelio***. Another among the most magnificent examples of this principle, is the first part, ***Wallenstein's Camp*** of Schiller's ***Wallenstein*** trilogy, or the opening statement of a great Bach or Beethoven composition. An adequate comprehension of the working implications of what I have just stated here can be adduced by closer examination of these and kindred cases.

In drama situated in real history, which Schiller's fidelity as an historian illustrates, the principled notion of development is shown in such cases as ***Don Carlos***, ***Jeanne d'Arc***, and ***Wallenstein.*** The Classical historian-dramatist's intention is never the production of entertaining fiction, nor silly homilies in the alleged service of "morality." As I have emphasized the point for the case of the Homeric ***Iliad***, the essence of all effective Classical drama, is to use the audience's powers of imagination to unmask the ghost which is the guise adopted by the corrosive principle of true tragedy. This is never the Romantic's silly idea of the "failed individual hero," but the systemic quality of moral failure of the society itself, a failure merely expressed by the doom which the society itself imposes upon that notable individual figure who does not cause the tragedy, but, rather, lacks that will, personal integrity, and insight which he, or she would have needed, to overturn the doom which his, or her submission to the society's own popular culture has demanded of the leader which it has preferred, and, thus, doomed, for that society's sake.

In the history of the U.S.A., for example, the recur-

15. A discovery which occurred during my brief, earlier sojourn in a replacement depot near Calcutta, in early 1946. My first hearing of an HMV pressing of Furtwängler's conducting a Tchaikowsky symphony changed my life-long insight into music on the spot.

The characters in Classical tragedy are induced to cause their society to doom itself by the influence upon them of the whisperings of conspiring gods and demi-gods, like the whispering Iago of Shakespeare's Othello *(shown here).*

ring assault on our republic by the tragic principle, takes the principal form of ensuring, often successfully, that intellectually and morally failed persons will be brought in to occupy the Presidency itself. The miracle of the U.S. Constitution is that the republic has survived, so far, despite inherently failed Presidents such as, most conspicuously, Richard Nixon, Gerald Ford, Jimmy Carter, George H.W. Bush, and George W. Bush, Jr.

The power to resist such corruption as those Presidents, or nephew-of-the-Confederacy Theodore Roosevelt, child-of-the-Ku Klux Klan Woodrow Wilson, the Calvin Coolidge who exhibited the prudence to shut up, Herbert Hoover, or the corrupt Andrew Jackson, Martin van Buren, or Polk, earlier, argues for the special virtue of a Constitution which is not a collection of do's and don't's, but a systemically thorough expression of a single, universal principle, as identified, most emphatically by the systemically anti-Locke Preamble of the Federal Constitution, a Preamble which represented a sacred devotion to defeating the great evil which dominated the world of that time, our great foe, then and now, the Paolo Sarpi heritage's "Brutish," Anglo-Dutch Liberal Empire.

The Principle of Tragedy

To state the case briefly, the root of tragedy is the element of systemic bestiality specific to certain human cultures. The brutalized mass, which has been subjected to the quality of reign which the beastly Olympian Zeus of Aeschylus' ***Prometheus Bound*** prescribes for mortal mankind, is the source of the depravities and threatened doom of entire cultures which submit to that notion of a beast-like, seeming changelessness of the principled characteristics of popular traditions.

In such a depraved society, tradition, as expressed by the Olympian Zeus or the Delphic cult of Apollo-Dionysus, prescribes the intended doom of those prospective leaders of society who resist submission to the imperative expressed, as against Prometheus, by the Olympian Zeus, or the Delphic priesthood of Apollo, or the Pythian priesthood's weird incantations. Such is the world of self-inflicted doom portrayed by the ***Iliad*** and of the Classical Greek tragedy generally. It is that culture itself, which is the systemic criminal of the tragedy.

The tragic figure in Classical drama, and in real life history, too, is not the individual, but the society which holds that individual brutally in its grip. The true hero, is he, or she who violates that popular custom which is, itself, the true villain, the virtual Iago, of that history. The intellectual *castrati* of society tend to breed defective children, and then wonder, "Why?"

Christianity, for Example

Hence, in authentic Christianity, it is the freeing of mankind to become mankind truly, through throwing out the devils which reign as do the gods in the ***Iliad***, which is the spirit of man's experience of resurrection. So, what is most fairly identified today as "The Brutish Empire," is the singularly best example of pervasive expression of evil today.

So, this taken into account, what appears, if only in the opinion of the brutishly insensitive opinions of the ignorant members of the audience, to be the failed hero, is actually an imagined figure who is often all too typical of the pervasive moral failure permeating the institutions and population of that entire society. It is the, contrary, exceptional figure of great Classical drama, like the quality of leader represented by the exclusion of the legendary and real-life Cicero of Shakespeare's ***Julius Caesar***, who is key to recognizing where the tragic fault lies—not within some mere leading figure, but within the systemic features of the society thus brought on stage. Hitler did not create Nazism; the British empire of such figures as the Bank of England's Montagu Norman brought forth Nazism out of the same

British motives which had given continental Europe that Seven Years War which, in the end, had established the British East India Company of Lord Shelburne et al. as an Anglo-Dutch Liberal form of British Empire.

Nations and their people, in times of greatness, bring forth and select leaders from among them who are the essential instruments by which a people uplifts the spirit of the nation. Decadent nations perpetuate their own self-inflicted ruin by selecting mediocrities or worse as what are considered "more suitable" representatives of themselves. Such has been the essential, true internal history of our United States.

For example, in the Classical conception of tragedy in European culture since the Homeric ***Iliad*** and ***Odyssey***, tragedy is typified by the way in which the whisperings of the Gods and demi-Gods, excepting the figure of Athena, typify the way in which the mortal folk among the figures on stage are induced to cause their society to doom itself by the influence upon them of the whisperings of those conspiring gods and demi-gods, like the whispering Iago of Shakespeare's ***Othello***. It is the whispering gossips of popular culture and custom among the people, which induce the tragic outcome, just as a nation's majority may be induced to elect the President whose very nature, will mislead those who have chosen him, to their own doom.

For example, it is the clear fact of history, that it was the British who actually, intentionally created Adolf Hitler, as what founded the victory of Britain through that Seven Years War which had created the British Empire itself. Hitler was a disease, but it was the British system which created, and intentionally deployed that disease, as it, as represented lately by the Fabians of the lying Tony Blair government associated with the David Kelly case, have deployed my own and Africa's personal, typically lying, and mass-murderous Fabian and related enemies in the tradition of H.G. Wells and Bertrand Russell, still today.

In the crafting of the composition and performance of great Classical drama, the playwright creates a special universe, as, for example, Leonardo da Vinci creates space. In this space created on stage at the outset, the germ of an unfolding crisis is presented, as in the instance of Papa Rocco and the Leonore disguised as Fidelio. In good direction and performances, the lifting of the curtain shifts the attention of the audience's mind from figures on a stage, to the costumed spirits acting within a self-bounded universe, a universe of the imagination, bounded in a space and time all its own, but, as Percy Bysshe Shelley pointed out, in the likeness of the true spirit of actual history. Through the imaginations of the members of the audience, and the audience as a dynamic of its own, thus provoked, the development of the idea of true history, unfolds.

Thus, as Friedrich Schiller emphasized, the citizen enters the theater as an individual in his society, but leaves it a better citizen.

This is not fantasy, but the calling forth to the powers of the mind to see and feel the passions which move the souls of the phantoms on stage. The purpose of this device, is to guide the mere members of the everyday audience to see the real world of the mind in which they actually live, the world, usually unseen, but present, in which the fates of nations are decided.

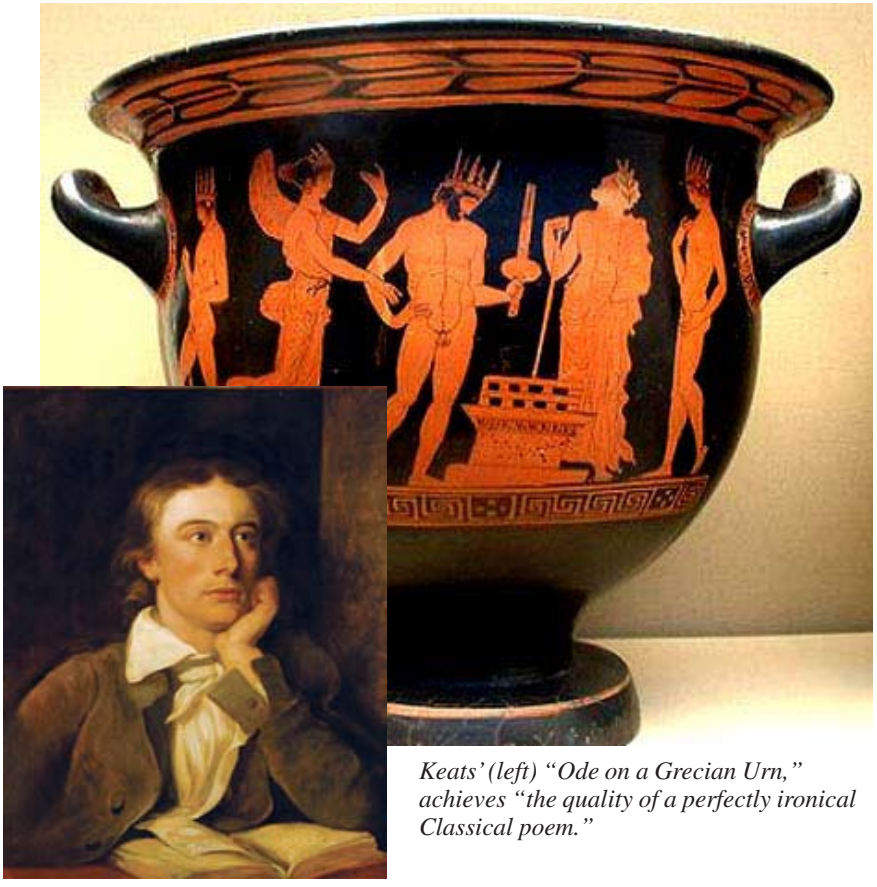
In physical science, the same principle is illustrated by the role of dynamics, as dynamics was defined for physical science, most notably, by Gottfried Leibniz and Bernhard Riemann. A Classical drama, or the composing and performing of a qualified Classical musical composition's Bachian counterpoint, requires that element and its function within a coherently composed and performed composition which selects each ostensibly isolable element of the drama according a unifying concept of the development of the composition as a whole.

The celebrated "To be, or not to be," opens Hamlet's monologue as a dialogue within himself. The two elements of that opening define the characteristic motion of the entire drama of that soliloquy, and reflect the principle of all that which came before and will follow, *dynamically*. All great works for performance on the stage, or in other modes, must begin as does Part I of Friedrich Schiller's ***Wallenstein*** trilogy, with the global parameters within which the entire, unfolding remainder of the drama must express its unifying principle of unfolding development. If you do not see the evil of the true history which that trilogy expresses, you understood nothing of either the intention of Schiller as a leading historian of that time, or of the history whose essence that drama expresses.

Here, within that certain wholeness with which the entire composition presents itself on the stage of the audience's mind, lies the appropriateness of the subject of the unfolding development as a whole.

'In Defence' of Beautiful Souls

There are two works from Classical English poetry, one Keats' ***Ode on a Grecian Urn***, and the other, Shel-



Keats' (left) "Ode on a Grecian Urn," achieves "the quality of a perfectly ironical Classical poem."

ley's ***In Defence of Poetry***, which have affected me most strongly since my adolescence.[16] The first, for its achievement of the quality of a perfectly ironical, Classical poem; the latter, especially its concluding long paragraph, peering into the mirror of my soul.

In all valid science and true Classical artistic composition and its performance, the quality of message which sets the product of human creativity apart from the beastly creature's emphasis on simple literal pointing, is what is called *Classical irony*.

Return, briefly, to the second leading point posed by Percy Shelley in his ***In Defence of Poetry***. Here, in that paragraph considered as a whole, Shelley has summarized the principle of dynamics, as intended by Leibniz, but as applied to the higher realm of social processes, the realm of the existence and role of mankind in the universe as a whole. Look at the complementary aspect of what Shelley adds to what I had referenced from the same paragraph earlier in this location, as follows:

"…The person in whom this power [to lead society to great advances in the human condition] resides, may often, as far as regards many portions of their nature, have little apparent correspondence with that spirit of good of which they are the ministers. But even whilst they deny and abjure, they are compelled to serve, that power which is seated on the throne of their own soul. It is impossible to read the compositions of the most celebrated writers of the present day without being startled with the electric life which burns within their words. They measure the circumference and sound the depths of human nature with a comprehensive and all-penetrating spirit, and they are themselves perhaps the most sincerely astonished at its manifestations; for it is less their spirit than the spirit of their age. Poets are the heirophants of an unapprehended inspiration; the mirrors of the gigantic shadows which futurity casts upon the present; the words which express what they understand not; the trumpets which sing to battle, and feel not what they inspire; the influence which is moved not, but moves…."

Sometimes, I think of the period of association of Goethe with Schiller; but, then, I think, at other times, of another side.

Here, in poetry, we sense the dynamic principle of all those discoveries which empower the individual to generate ideas of principle which move societies, and, the planets, too. Science moves planets. Classical artistic genius moves the individuals, who move the society, who will move the planets, then the stars, and then, perhaps, the galaxies, too.

16. Sometimes, an autobiographical element is relevant. For this discussion, I reference the crucial fact, that about the time I was 13, my paternal grandmother bestowed upon me a complete set of the ***Harvard Classics***. This represented a significant, if minor part of all of the comparable kinds of the sources accountable for my education during my adolescence. What proved important in this, was the way in which some of the items within that collection did more to provoke me to look elsewhere, than to shape my knowledge through reflections on the text itself: Kant, for example. Among these, Keats' poem I found a precious stroke of genius, and Shelley a large-sized philosophical mind, a mind which can not be adequately understood today without assimilating the ironies of his ***In Defence of Poetry***, especially the long, concluding paragraph (in the ***Harvard Classics*** edition) of that work.

How Much Longer Will We Tolerate These Parasites?

by John Hoefle

Nov. 14—The Anglo-Dutch Liberal financial system has failed, the corrupt attempts to save that system through taxpayer-funded bailouts have failed, and the global financial and economic collapse is accelerating. Virtually every sector of the economy, and every part of the world, is plunging into Hell, and the world's leaders, on the whole, are either paralyzed or rushing flight-forward into the abyss.

Here in the United States, the Bush Administration seems more intent on escaping than on solving the problem. President Bush, in the state of schizophrenic denial for which he is infamous, praises free trade and decries big government, all while presiding over the corporatization of large swaths of the economy. Treasury Secretary Henry Paulson, the hapless financial dictator, is now on his third bailout plan, as his master plans fall apart even before they can be implemented.

Then we have the spectacle of British Prime Minister Gordon Brown, the errand boy of the British Empire, doing all he can to use the crisis to implement a global bankers' dictatorship. The U.S. must ally with Britain, he says, to create a new "international order," a "truly global society"—in a world run by Brutish methods.

Instead of being given solutions, we are being looted, our economy and our people being sucked dry and thrown into the bottomless pit of a dead financial system, via policies that have no chance of working and, indeed, have failed at every turn. Our so-called leaders have abdicated their responsibilities. If we are to survive, new leaders must emerge, picking up the challenge laid down by Lyndon LaRouche.

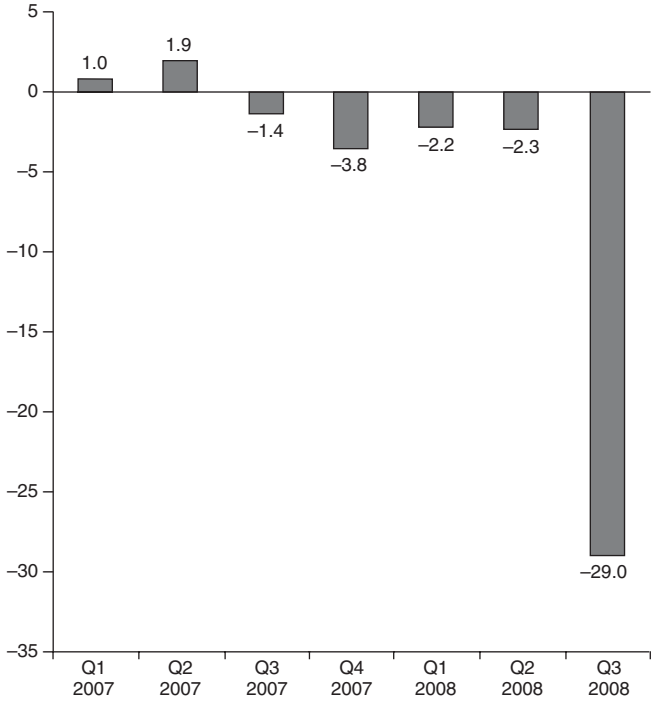
Failure Upon Failure

Paulson this week officially pronounced the troubled-asset portion of the Troubled Asset Relief Plan (TARP) dead, when he declared that the purchase of "illiquid mortgage-related assets … is not the most effective way to use TARP funds." Instead, he declared that he would continue to inject capital into banks through the purchase of preferred shares, and would begin injecting funds into selected non-bank institutions as well. In addition, Paulson said he would use the TARP money to buy asset-backed securities, as a way of spurring consumer finance. The asset-backed securitization market, Paulson declared, "is critical to consumer finance."

What Paulson means by this was made clear in the expansion—for the second time—of the so-called bailout of the AIG insurance giant. The first intervention came in September when the Fed lent AIG $85 billion; the loan was "secured" by AIG's assets. It effectively made AIG a subsidiary of the Fed. Three weeks later, in early October, the Fed authorized an additional $38 billion for the company.

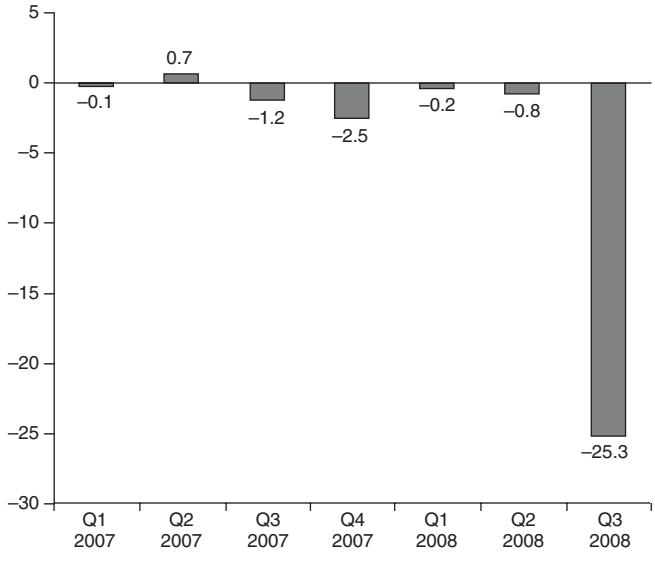
The next iteration of this ongoing bailout came Nov. 10, when the Treasury and the Fed announced that the

FIGURE 1
Fannie Mae Net Income
($ Billions, Net Quarterly Income/Loss)



Sources: company reports.

FIGURE 2
Freddie Mac Net Income
($ Billions, Net Quarterly Income/Loss)



Sources: company reports.

funds would be expanded to $150 billion, and the terms of the deal were being modified to give AIG a better deal. Most significantly, the New York Fed is to establish two new special-purpose vehicles, one to buy residential mortgage-backed securities from AIG, and the second to buy collateralized debt obligations (CDOs). The CDO facility will buy securities upon which AIG has written credit derivatives, as a way of reducing the insurer's losses. This program will also help the owners of these securities, who reportedly will wind up receiving full face value for their instruments.

This rescue is not really a bailout of AIG, but of the credit derivatives market, which in turn is a key component of the overall derivatives market. The supposed objective of all of these bailouts is to try to put out the fire raging in the multi-quadrillion-dollar global derivatives market, which is collapsing faster than the bailout packages can be promulgated.

Another glaring example of the futility of the bailout process was shown this week, with the huge losses reported for the third quarter by Fannie Mae and Freddie Mac (**Figures 1 and 2**). Fannie Mae lost $29 billion in the quarter, leaving it with a net worth of just $9 billion, while Freddie Mac's $25 billion loss left it with a net worth of negative $13.8 billion. Freddie said it would seek $13.8 billion from the government, which would still leave it with a zero net worth.

Under Paulson's schemes, Fannie and Freddie have been thrown to the wolves, using their balance sheets to absorb huge losses in the mortgage and mortgage-securities business as a way of protecting the banks and the values of mortgage-related paper.

Foxes in the Henhouse

While the Treasury and the Fed pour trillions of dollars of taxpayer funds into the banking system, nonbank institutions are rushing, like pigs to the feeding trough, to get a piece of the bailout, by becoming bank holding companies. Treasury and Congress are being besieged by lobbyists for banks, thrifts, insurance companies, finance companies, and their trade groups, as well as lobbyists for car companies, car dealers, and maritime interests, all seeking a piece of the pie.

Goldman Sachs and Morgan Stanley already made the conversion to bank holding companies in September, and now American Express, the giant credit card company, has joined the club. A host of other companies, including GMAC, the finance company owned by

General Motors and hedge-fund giant Cerberus, are seeking to become banks to tap into the bailout.

At this rate, every company in the nation will become a bank, and every taxpayer will have to become a bank to get the money to pay the tax bill this incredible boondoggle is creating. It is beyond insane.

In addition to the Fed/Treasury funds and the funds pumped in through Fannie and Freddie and the Federal Home Loan Bank, the FDIC has also been thrown into the breach. The FDIC, whose main job is to provide deposit insurance to protect the public, has been induced to guarantee debt issued by the banks. Indicative of the level of looting, the FDIC's Temporary Liquidity Guarantee Program will also guarantee up to $139 billion of debt issued by GE Capital, a unit of General Electric. By comparison, the FDIC only has some $40 billion in its bank insurance fund, and has already seen more banks fail this year than in any year since 1993.

Greed and Whining

One might think that the bankers would at least have the discretion to keep their mouths shut while receiving all this undeserved largesse, but that would be a mistake. A group of banks, including JP Morgan Chase, Bank of America, and Goldman Sachs, complained in a letter that the FDIC program to guarantee 90% of the face value of debts they issue is inadequate, demanding instead that the U.S. adopt the British model of unconditionally guaranteeing the payments of principal and interest when due. This limitation, the banks whined, puts them at a competitive disadvantage with British and European banks. They also complained the fees charged by the FDIC were too high.

This disgusting behavior is all too typical among the financial institutions of Wall Street, the City of London, and beyond, which view humanity as sheep to be sheared at their demand. Not only are they demanding that we save their worthless behinds, but they have the temerity to criticize us for not giving them more and more and more, faster and faster and faster.

Enough is enough. This bailout is destroying the nation, bankrupting our economy to allow a bunch of greedy parasites another few weeks of existence, before they, too, are destroyed by their criminal stupidity. We have precious little time to change this suicidal policy; join with us so we can save the world, and build a new Renaissance. It sure beats the collapse into a deadly new Dark Age, which is where we're headed otherwise.

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Proposed Act of 1993

Nationalize the Federal Reserve

This report, and the proposed legislation that follows, was first issued by Lyndon LaRouche's 1992 Presidential campaign, LaRouche for President: Independents for Economic Recovery.

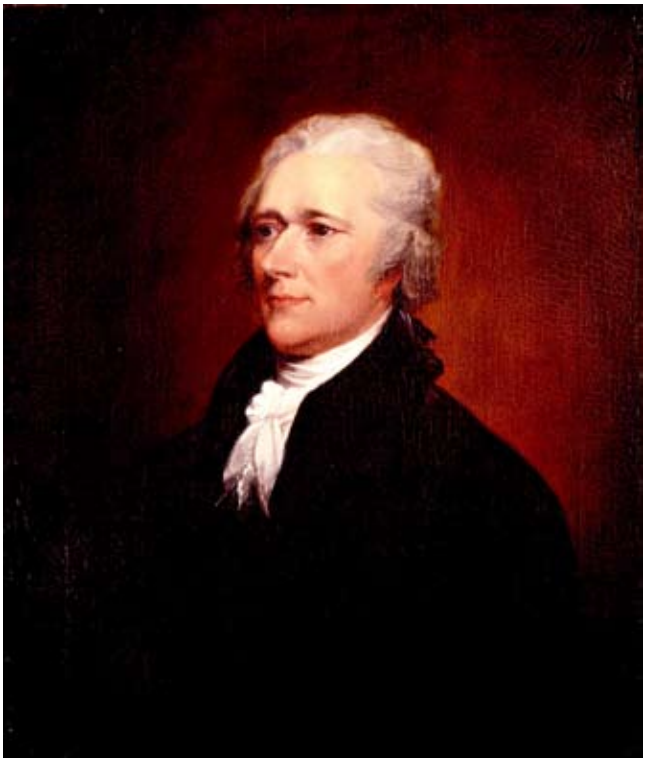
The Presidential campaign organization of Democrat Lyndon H. LaRouche, Jr. announced on Feb. 25, 1992 the release of a draft "Federal Reserve Nationalization Act" to recreate the U.S. central bank on the model of the First National Bank of Alexander Hamilton. The act would nationalize the Federal Reserve System, creating new National Bank of the United States, under the Treasury Department, returning to the U.S. government the right to issue legal tender (currency) granted in the Constitution.

The legislation is based on LaRouche's proposal to return the United States to the method of national banking originally envisioned by Hamilton, rather than the current British system of central banking represented by the Federal Reserve.

Article I Section 8 of the Constitution states: "The Congress shall have power... to pay the debts of the United States... to borrow money on the credit of the United States... to coin Money, regulate the Value thereof, and of foreign Coin, ... and to make all laws which shall be necessary and proper for carrying into execution the foregoing powers..."

The current Federal Reserve System's method of monetary creation via Federal Funds "open-market operations" is "*unconstitutional*," LaRouche states, because it leaves "the power to create credit in the hands of a powerful cartel of private bankers" led by Goldman Sachs, Salomon Brothers, Citibank, and Chase Manhattan Bank. This encourages cash to flow to speculative, nonproductive activities.

LaRouche calls instead for a return to "the constitutional obligation of the federal government" to ensure that the nation's credit goes to productive manufacturers, agriculture, basic infrastructure, and other neces-



National Archives

Lyndon LaRouche's proposed 1993 legislation to nationalize the Fed is based on the method of national banking envisioned by the nation's first Treasury Secretary Alexander Hamilton.

sary public services, to *direct credit* to an expansion of physical wealth.

LaRouche has also requested the drafting of a second, companion Bank Reorganization Act of 1993, to detail how the National Bank shall regulate the rapid write-off of the more than $5 trillion of speculative loans, "derivatives," and paper for nonproductive activities, now on the books of U.S. financial institutions.

The Federal Reserve Nationalization Act of 1993 completely revamps the Federal Reserve Act of 1913, which enacted the Federal Reserve System, establishing a National Bank under the Treasury Department, via amendments which:

1) Forbid creation of fiat money through central bank *open market operations,* known as creating "money supply";

2) Create, instead, large amounts of credit via the new National Bank's *discount window,* providing all loans presented for discounting by banks are earmarked for new physical capital investment, production, or transport of tangible wealth;

3) *Reregulate* bank deposits, strengthening reserve requirements and using them to ensure banks maintain an adequate proportion of lending for real physical production.

1. Curtailing Open Market Operations

The core of the problem with the Federal Reserve is the way in which it creates *central bank money*, also called "money supply" or "reserves." The Fed adds new money to the banking system each week by buying a certain portion of the U.S. Treasury debt. That portion of government debt which is not purchased by cash already in circulation in the banking system, is financed by the Fed creating new Federal Reserve Notes, either as computer entries or as the familiar dollar bill.

This is known as "monetizing the government debt," printing central bank fiat money to finance the U.S. budget deficit. Since the U.S. deficit has ballooned to $200 billion a year of new Treasury debt in the 1980s, the inflationary effects of Federal Reserve open market operations have skyrocketed.

Creation of new money by a government national bank is not by itself wrong. Hamilton, in his *Report on a National Bank*, praised the Bank as "an engine of paper credit" to foster agro-industrial growth. The real question is: "Whose money?" and "To what purposes?"

In practice, the Federal Reserve does not purchase Treasury debt directly from the Treasury. Rather, the entire process is controlled by three dozen Wall Street financial houses, either Treasury bill brokers such as Salomon Brothers and Goldman Sachs, or commercial banks such as Citibank and Chase Manhattan. The Treasury sells its debt each week to these financiers who "make a market" in Treasury debt, buying it for their own investment portfolios, for a customer, or to trade and resell. The level of corruption this entails has been but partially exposed by the mid-1992 indictments of Salomon Brothers officials in a major Fed Open Market Operations fraud.[1]

When the Federal Reserve creates new "reserves," it then buys a portion of these Treasury securities from those Wall Street financiers—with central bank money just created. The brokers and bankers then deposit the cash in accounts at the top 20 New York commercial banks, as "nonborrowed reserves"—new deposits vir-

1. "The Federal Reserve System: Purposes and Functions," Board of Governors of the Federal Reserve System, Washington, D.C., 1984 edition, p. 41.

tually created out of thin air. When the amount of debt issued by the Treasury is increasing, as it has since 1980, the Fed is issuing new cash to Wall Street at a rate even faster than the increase of debt.

The private commercial banks then demonstrate the principle of the *money multiplier*: They create more money out of thin air, by loaning out the central bank deposits to a customer; the customer's loan is then redeposited, and becomes a new deposit, and is reloaned, and so on.

Again, private commercial bank credit creation is not necessarily inflationary. Hamilton notes in the *Report on a National Bank* that commercial banks are a wonderful invention which "will be seen to abridge rather than to promote usury."

The problem again is, "whose money" and "to what purposes?" Until 1982, there were minimal regulations limiting the money multiplier to about 2.5 times the original central bank money printed de novo by the Federal Reserve. Under 1980s deregulation, however, certain "reserve requirements" which limit the multiplier were lowered or removed, and whole new classes of paper created in "derivative" markets which are now treated as cash. This allowed the multiplier to grow exponentially.

With all this credit, why then is the economy crashing?

Whose money is it, and to what purposes is it being used? Control of the *nation's* credit rests with the above *private financial cartel*, not with the U.S. government. Wall Street has a monopoly power over the creation *and deployment* of fiat money by the Federal Reserve. This is not a "technical issue." Technically, if loans and investments from this arrangement had gone to the goods-producing sector of the economy at low rates, many of our economic problems might have been avoided.

If fish had wings, they could fly. Wall Street has had no desire to make such investments; precisely the opposite. More than half of the profits of the U.S. financial houses during the 1970s and early 1980s were made speculating in the inflationary offshore Eurodollar market, and making usurious loans to foreign nations which could never be repaid. During the latter 1980s the speculation turned inward, to the Savings & Loan debacle, real estate speculation, junk securities, and derivative paper.

Since 1979, when the Federal Reserve raised interest rates to 20% and above, loan rates for the public have also been kept usuriously high. Although during 1992 the Fed has brought its own lending rate to the banks down to 2-3% at the Fed discount window and in Federal Funds markets, banks and brokers have kept their lending rates to business above 7-8%, and consumer loan and credit card market rates at 12-19%.

Today, the banks themselves, caught with all this worthless paper, are desperately absorbing every bit of new Fed credit issued just to maintain their own balance sheets from day to day. Scandalously, the Treasury is paying these same banks 8% and more on Treasury debt, so that the banks are making a clear 5% profit on the difference between the Fed Funds they borrow and what the Treasury is paying—right out of taxpayers pockets. Even with the Fed pumping money hand over fist, the money does not reach the capillary system of the physical economy, because the aorta has a leak.

The Federal Reserve Nationalization Act of 1993, therefore, forbids the new National Bank to use open market operations to create central bank fiat money. Section 3 of the act sets a statutory limit to the amount of U.S. government debt the National Bank may hold, and forbids the National Bank's purchase of net *new* Treasury debt.

This means Article I of the Constitution, which arrogates to the U.S. government a monopoly in emitting legal tender, will be reimplemented. New Federal Reserve bank notes will no longer be issued as the currency of the United States.

2. Expand Productive Credit via Discount Window

The act then proposes that new long-term low-interest *national bank credit* in the amount of approximately $1 trillion per annum be issued by the U.S. Treasury, via the new National Bank, to the physical economy. Loans are to be made by an entirely new mechanism: the National Bank is to open wide its *discount window* for lending of *directed credit* to the productive, infrastructure, and related physical economy. The Bank may create such credit indefinitely without inflation, provided it go toward lending for productive wealth.

All new credit and currency of the U.S.A. is to be thus issued by the U.S. Treasury under Article I of the Constitution, as *U.S. Treasury bills*. Such Treasury bills will replace, over time, the old Federal Reserve notes in circulation.

As LaRouche outlined the details in his March 8, 1992 national television broadcast "The Industrial Re-

A shrinking number of powerful Wall Street financial houses have controlled the process of money emission and credit. The level of corruption this entails was partially exposed by the mid-1992 indictments of Salomon Bros. officials in a major Fed Open Market Operations fraud.

covery of the United States," under the act, the President will request Congress to authorize "the issue of more than a trillion dollars in U.S. Treasury bills from the Treasury, to be deposited with the new National Bank, to be loaned at low interest. The federal government will so issue over $600 billion in low-cost loans to *state and federal authorities* for basic economic infrastructure projects" run by federal, state, and local agencies, and subsidiaries. The objective is to employ approximately *3-4 million people* directly in government-run water projects, power generation and supply, transportation, urban infrastructure, construction of hospitals and schools, etc.

These projects will generate additional credit demand of a similar magnitude or more from *private-sector firms* contracted in these projects, which will seek private bank loans. For private firms supplying these government projects, and other desireable high-technology capital investment projects, the National Bank will make up to an additional $400 billion in government credit available for private bank loan discounting. The results in the private sector are estimated to increase employment by an additional 3-4 million operatives.

This will result in a total of over $1 trillion in new productive activity since the private banking sector supplements a portion of this government credit. The total new increase in productive employment of some *6-8 million persons* means that the Treasury will receive more than the monies outlaid through increase in the tax-revenue base of the government.

The Federal Reserve's present discount window currently provides marginal amounts of credit, largely for the banks' use, in their own emergency cashflow needs. Via the window, the Fed loans money to the banks, at a *discount*, against financial paper and bills of trade on third parties presented by the banks.

The advantage, however, of conducting general national bank credit operations via the discount window, is that the window may easily discount large amounts of bills of trade. These bills, held by the banks as loans to productive enterprises, are chits representing actual *physical production* of goods and services, so as to guarantee that new national bank credit goes to creation of new productive wealth.

This will constitute a system of *directed credit*, or what has been called a "two-tier credit system." Private enterprise will be encouraged, but wisely managed enterprises more than others. Enterprises seeking to borrow at the banks for productive purposes, and their bankers, will find the banks can readily discount this paper for cheap credit. Those seeking to borrow for speculative purposes will find discounting difficult.

For example, Chrysler Corp. would be easily able to get a low-interest long-term loan from a Detroit bank, if it can document the funds will be used for productive purposes, because the bank knows it can to take such a loan agreement to the National Bank and discount it for cash at low rates.

To ensure private enterprise continues to be privately run, and to ensure that the private sector bear its share of the risk, the National Bank will require that a private bank put up at least 50% of the value of any loan from its own deposit base. If banks bears 50% or more of risk, banks will make sounder loans.

If Chrysler, however, seeks loans to diversify into real estate, or to relocate old plant and equipment to cheap-wage Mexican *maquiladoras,* its Detroit bank will advise them that the National Bank may not discount such a loan, and therefore the bank must decline, or charge higher interest rates.

The new Act states in Section 4: "Upon the endorsement of any U.S.-chartered bank, any branch of the National Bank may discount up to 50% of the face value of notes, drafts, and bills of exchange arising from the production of tangible wealth or capital improvements.... This shall be defined as the purchase of raw and intermediate materials and capital goods, construction of fa-

cilities, or employment of labor to produce or transport manufactured goods, agricultural commodities, and construction materials; to work mines; to build manufacturing, transportation, and mining facilities or dwellings; to produce and deliver energy in all forms; and to provide public utilities. . . ."

3. Protective Bank Re-Regulation

To protect the safety of the banking system, and ensure private banks do not abuse the money multiplier in speculative lending as credit is eased, the act *re-regulates* strong reserve requirements and other bank regulations.

Until the 1980s deregulation, the law required banks to keep on deposit with the Fed a standard "reserve fund" on all deposits, for use to pay depositors when loans went bad, roughly calculated at an average rate of 16% of a bank's total deposits. This cost banks money, since the funds could not be loaned out at interest, and thus prevented banks from wildly multiplying the redepositing and relending of Federal Reserve credit.

Bank safety laws, however, were gutted by the deregulation of the 1980s. Reserve requirements were reduced on several basic categories of domestic bank deposits. Worse, the 1982 creation of International Banking Facilities (IBFs) at major U.S. banks removed reserve requirements completely on international deposits, those by "foreigners." Because in practice it is impossible to tell which deposits are foreign and which are domestic deposits being moved in and out from offshore, the creation of IBFs effectively merged the U.S. banking system with the offshore Eurodollar market, run out of London.

The rise of the "derivatives" market in unregulated financial instruments created entire new categories of what in fact are types of cash, subjected to no reserve requirements. The resultant speculation has bankrupted our financial houses.

Under the Act, the 16% reserve requirement, a standard post-war U.S. practice, will be reimposed—on *all* deposits in U.S. banks. If foreigners do not choose to keep their "Eurodollars" in U.S. banks as a result, that becomes their problem, not America's, especially since "Eurodollars" were never legitimately issued by the Treasury.

Furthermore, 16% will be a floor rate for bank reserves, such that only banks which maintain at least 60% of their loan assets in the real physical productive activities listed above will be assessed this standard requirement. Otherwise, for every 1% by which the banks proportion of tangible wealth-creating loan assets falls below 60% of total assets, the National Bank shall require an additional 1% reserve requirement charge. That will discourage banks from falling below 60% of productive assets.

The derivatives market will be shut down by provisions in the forthcoming Bank Reorganization Act of 1993.

The Federal Reserve Nationalization Act of 1993

Sec. 1 Sec. 1 of the Federal Reserve Act of 1913 is hereby amended to read: "Under Article I of the Constitution pertaining to the monopoly of the U.S. government in emitting legal tender, the Federal Reserve System is hereby nationalized and placed under the jurisdiction of the Department of the Treasury of the United States. Its name is hereby changed to the 'National Bank of the United States.' Regional headquarters of the Federal Reserve System shall be known as the regional branches of the National Bank of the United States. . . .

"Offices and personnel of the former Federal Reserve System shall continue normal functions at the new National Bank except for the amendments set forth below. . .

Sec. 2 Section 1 of the Federal Reserve Act of 1913 is hereby amended to read: "The Federal Reserve shall immediately cease issuance of Federal Reserve notes as legal tender. As of the passage of this Act, the National Bank of the United States shall commence issuance of all new legal tender obligations of the United States in the form of U.S. Treasury bills, to be deposited with the National Bank by the Treasury Department. . .

"Previously issued Federal Reserve notes may continue to be circulated as currency until such time as the Department of the Treasury shall formulate a currency reform plan for their orderly withdrawal, said plan to be promulgated no later than one year from the passage of this Act. . ."

Sec. 3 Section 14 of the Federal Reserve Act of 1913 is hereby amended to include the following: "The power of the National Bank of the United States to purchase or sell bills, notes, and bonds of the United States shall be limited to these functions:

"a) The anticipation of tax revenues accruing not more than one year from the date of purchase of said bills, notes, and bonds, in order to help maintain an

The new National Bank will open wide its discount window for lending of directed credit to the economy for productive industry, agriculture, and infrastucture. Shown: the First Bank of the United States, Philadelphia.

orderly flow of disbursements by the United States Treasury;

"b) To maintain an orderly market in the bills, notes, and bonds of the United States, and to meet the temporary liquidity needs of regional branches of the National Bank system, and commercial banks in their districts;

"c) The purchase of such liabilities of the United States as may be presented by foreign governments for sale to the National Bank by said governments;

"The Federal government, however, may not create money supply by monetizing United States government debt. To ensure this, the total holdings by the National Bank of bills, notes, and bonds of the United States shall be set as an annual ceiling as of the enactment of this act. Said holdings may vary in size in the course of each year, but may not increase in size at the end of the year, following enactment of this act and at annual intervals thereafter, except as a result of purchases of official liabilities of the United States from foreign governments."

Sec. 4 Section 13 of the Federal Reserve Act of 1913 is hereby amended to read: "Any regional branch of the National Bank may receive from any bank, and from the United States, deposits of current funds in lawful money, Treasury bills or notes, or checks and drafts upon solvent U.S.-charted banks, payable upon presentation; or, solely for exchange purposes, may receive from other regional branches of the National Bank, deposits of current funds in lawful money; or checks and drafts upon solvement private banks or other branches of the National Bank, payable upon presentation. . . .

"Upon the endorsement of any U.S.-chartered bank, any branch of the National Bank may discount up to 50% of the face value of notes, drafts, and bills of exchange arising from the production of tangible wealth or capital improvements, or the necessary trade credits and working capital thereunto. . . .

"This shall be defined as the purchase of raw and intermediate materials and capital goods, construction of facilities, or employment of labor to produce or transport manufactured goods, agricultural commodities, and construction materials; to work mines; to build manufacturing, transportation, and mining facilities or dwellings; to produce and deliver energy in all forms; and public utilities for communications.

"Such definition shall not include notes, drafts, bills, or loans issued or drawn for the purpose of conducting business except in the areas so defined, or for carrying on or trading in stocks, bonds, or other investment securities.

"Any National Bank branch may discount the full value of acceptances which are based on the exportation of goods, or 50% of the value of acceptances which are based on the importation of goods, provided that such goods conform to the restrictions set forth in the preceeding paragraphs.

"All National Bank branches shall meet all such requests for discount of or participation in notes, drafts, bills, and loans made by U.S.-chartered banks, once the National Bank has determined that the purpose of such credit conform to the restrictions set forth above. There shall be no restrictions applied to such discounts in furtherance of tangible wealth creation on the basis of private banks capital positions. . . .

Sec. 5 Section 19 of the Federal Reserve Act of 1913 is hereby amended to include the following: "A minimal *reserve requirement* of 16% is hereby imposed on

all bank deposits, whether of domestic or foreign origin, said designation "deposits" to include all cash accounts, Negotiable Orders of Withdrawal (NOW) accounts, and any other accounts at regulated U.S. banking institutions which may be in any way construed as deposits. All exceptions to this regulation under previous Acts of Congress are hereby rendered null and void.

"The above reserve requirments shall apply in the case that private banks maintain 60% of their total assets in the form of loans, bills, drafts, and advances to tangible wealth-creating borrowers, of a type eligible for discount under Sec. 4 of this Act. For every 1% by which the bank's proportion of tangible wealth-creating assets falls below 60% of total assets, the National Bank shall require that banks place an additional 1% of demand deposits in reserve with the National Bank.

"To permit orderly transition to this later rule, however, it shall apply initially only to the quality of new assets of banks negotiated after the date of enactment of this Act. Prior existing bank assets shall be subject to a subsequent Bank Reorganization Act, supplying a deadline by which all assets must be brought into conformity with this requirement. . . ."

London's War Cabinet Out To Destroy U.S.A.

by Scott Thompson and Jeffrey Steinberg

Nov. 14—Late last year, it appeared that British Prime Minister Gordon Brown was headed for an early ouster. Labour Party losses in formerly "safe" boroughs, including in Brown's native Scotland, and a nasty intervention into party affairs by former Prime Minister Tony Blair, appeared to spell defeat for the former Chancellor of the Exchequer and for Labour as a whole.

Then the bottom fell out on the global financial system, and every major British bank found itself near bankruptcy, requiring hundreds of billions of pounds sterling in rescue capital. Pressure began mounting for emergency action, to either reform or overhaul the global financial system. French President Nicolas Sarkozy, who dreams of seeing Paris replace London as the center of European finance, began making noises about a shutdown of Britain's offshore financial havens, and the elimination of derivatives.

Worst of all, from the standpoint of the City of London, Lyndon LaRouche's longstanding call for a New Bretton Woods system suddenly gained serious traction around the globe. And LaRouche has revived the long-forgotten war between Franklin Roosevelt and Winston Churchill, over dismantling the European colonial empires, and the entire Anglo-Dutch Liberal system.

At that point, the City of London powers determined that British "Gong Show" parliamentary politics-as-usual had to be set aside. A hasty truce between Blair and Brown was engineered, symbolized by the return of Blair's political operative—and Brown's avowed political enemy, Peter Mandelson ("Lord Mandy of Rio")—to a powerful spot in the revamped British Cabinet, from his post at the European Commission in Brussels.

From the top of the City of London financial oligarchy, a consensus emerged, according to U.S. intelligence sources who closely monitor City factional developments, to turn Gordon Brown into a reincarnation

of Ramsay MacDonald, the 1920s and 1930s Fabian prime minister of Great Britain, who established a outright corporatist fascist "unity government," at the very moment that Mussolini and Hitler were consolidating Fascist and Nazi dictatorships over Italy and Germany.

Suddenly, a reinvented Gordon Brown was rolled out, branded as the "world's chancellor of the exchequer," and the "man to save the world." Behind this new PR image stood an all-Fabian economic warfare council, to govern on behalf of City of London interests facing an existential crisis.

It is this apparatus that has been mobilized to push a universal fascist agenda, beginning with the Nov. 15 G-20 emergency heads of state summit in Washington. The City of London oligarchy is intent on saving its offshore financial havens at the center of Anglo-Dutch Liberal power, and they propose to refinance and empower the hated International Monetary Fund, as the global dictatorship to rule over a depopulated post-nation-state planet.

The Global Exchequer

In a speech before the UN General Assembly in New York City on Sept. 26, 2008, the newly minted Gordon "Ramsay MacDonald" Brown unveiled London's scheme to try to revive the corpse of the post-Bretton Woods floating-exchange-rate system, despite the fact that *rigor mortis* has already long since set in.

Brown sputtered, "Events of recent weeks have proved beyond doubt that we are now in a new global age, living through the first financial crisis and the first resources crisis of globalization." Rejecting a return to "protectionism," Brown demanded a global corporatist structure, which he called "international colleges for each of the largest global financial institutions," to take regulatory control away from sovereign governments, and place it in the hands of supranational entities. Brown later refined his scheme, into a plan to transform the IMF into a global dictatorial agency. The role of governments would be relegated to coughing up more annual membership fees.

Behind the scenes, British Fabian operatives targeted leading G-20 nations, including Russia, Brazil, and even rival France, to blame the entire global financial catastrophe on the United States. Indeed, according to U.S. intelligence sources, at the heart of the London scheme is the orchestration of a new Cold War, to make sure that no alliance among the United States, Russia, China, and India—precisely the anti-British bloc promoted by LaRouche—can materialize. At the heart of the British scheme for "managing" the financial crisis is the destruction of the United States.

The Economic War Cabinet

On Oct. 3, 2008, the Prime Minister's Office at 10 Downing Street issued a press release, announcing the formation of the National Economic Council (NEC), to replace Brown's dysfunctional Cabinet. London insiders began referring to the NEC as the "National Economic War Cabinet," taking up headquarters at the 10 Downing Street war room, in quarters shared with the ultra-secret Cobra Committee, which makes all national security decisions. But, whereas Cobra (for "Cabinet Office Briefing Room A") was last known to have met in July 2005, following terrorist attacks on London, the NEC has been meeting in almost continuous session since its formation.

The NEC is chaired by Prime Minister Brown and co-chaired by the Chancellor of the Exchequer Alistair Darling. Its 18 members include all the ministers holding portfolios related to the economy and finance. Among the others: Secretary of State for Foreign and Commonwealth Affairs David Miliband; Lord Mandelson, who left his post in Brussels, on orders from Tony Blair, to become Secretary for Business, Enterprise and Regulatory Affairs; Ed Ball, a top advisor to Brown and the Secretary of State for Children, Schools and Families; Secretary of Energy and Climate Ed Miliband, the Foreign Secretary's brother; Secretary of State for Works and Pensions, James Purnell, another Blair asset who served on the policy unit under the former PM; and Lord Paul Myners, the Minister for the City. A former official of N.M. Rothschild and a former chairman of the Fabian-allied Guardian Media Group, Lord Myners was the architect of the London bank bailout.

True to the British system of uncontested private oligarchical power, the NEC works through a network of "Business Ambassadors," consisting of the chairs of every major City financial, raw material, and industrial group. The list includes: Marcus Agius, chairman, Barclays; Sir Victor Blank, chairman, Lloyds TSB; Mervyn Davies, CBE, chairman of Standard Chartered; Dr. Chris Gibson-Smith, chairman of the London Stock Exchange and British Land; Dick Oliver, chairman of BAE Systems; and Paul Skinner, chairman of Rio Tinto. The Business Ambassadors also include the vice-chancellors of Oxford and Cambridge universities.

Israel: Renewed Peace Effort Or Another Assassination?

by Dean Andromidas

Nov. 13—Every November, for 13 years, Israel has commemorated the late Prime Minister Yitzhak Rabin, who was cut down by an Israeli right-wing extremist on Nov. 4, 1995. This year, his courage to fight for peace was reaffirmed as an example for today's Israel and the region.

Speaking before 100,000 Israelis at a ceremony in Rabin Square on Nov. 8, Rabin's daughter Dalia said, "We all came here to tell you, father, clearly and loudly, that we guard your spark and we will never stop doing it." She called on the people of Israel to show responsibility and to vote in the national election on Feb. 10 for "a leadership that will uproot the hatred, and will be wise enough to give hope and prosperity to the silent majority."

Breaking from the "politicial correctness" that has generally characterized commemoration of Rabin's assassination, Prime Minister Ehud Olmert, in a nationally televised address, took the opportunity to become the first Israeli Prime Minister to call for a return to the 1967 borders and the division of Jerusalem. Calling Rabin's assassin a "despicable good-for-nothing," Olmert said: "I feel a need to say a few things not on what has been, but on what will be. Excuse me if I deviate from the standard address and touch upon a few painful points relating to our lives in this country.... [Rabin] understood that if we want to maintain Israel as a democratic Jewish state, we must concede to a lack of choice and to our great torments and give up parts of our homeland for which we dreamt for generations of yearning and prayers.

"We must also give up Arab neighborhoods in eastern Jerusalem and return to the seed of the territory that is the State of Israel up until 1967, with obligatory amendments as a result of the reality created in the meantime," Olmert said, referring to land captured by Israel during the 1967 Six-Day War. He is the first Prime Minister ever to call for accepting the division of Jerusalem. This also brings Olmert's position closer to former President Bill Clinton's plan for an Israeli-Palestinian peace agreement, announced only weeks before he left office. It has been widely considered an unofficial U.S. policy statement internationally, as well as among many Israelis and Palestinians, and could serve as the model for any future agreement.

Warning that Israel must act now, Olmert added, "If, God forbid, we procrastinate, we could lose support for a two-state solution. The decision must be taken now, without hesitation, before ... the narrow window of opportunity to plant [that] solution in the consciousness of our people and the nations of the world vanishes in front of our eyes."

Meanwhile, Israeli President Shimon Peres evoked the slaying of Rabin in the opening of his address at an interfaith conference at the United Nations on Nov. 12: "He was murdered while singing a song of peace. Assassins may take a life, but they cannot kill a dream.... Then came three shots. However, we were not alone in our de-

spair. . . . Arab and Muslim leaders came, and at the time it felt like sorrow shattered barriers. Tragedy had united the sons and daughters of all religions. Our shared agony shed light on our shared hopes, our hunger for fraternity, the dream of peace which we nurtured in our hearts."

Peres was addressing a conference initiated by King Abdullah of Saudi Arabia, a rare occasion in which an Israeli head of state was able to participate in a conference with Arab states with which Israel is technically in a state of war, or without diplomatic relations. The rest of Peres's speech was a warm endorsement of the Arab Peace Initiative, which he called "inspirational and promising, a serious opening for real progress."

UN/Evan Schneider

Ehud Olmert is the first Israeli prime minister to say he would agree to a return to Israel's 1967 borders, including the division of Jerusalem.

Will Next Messenger for Peace Be Killed?

Since Rabin's murder, the progress of peace in the region cannot even be measured in inches, as blood in the region continues to flow. His murderer was not a deranged lone assassin, but a member of a political movement committed to sabotaging any effort for peace in the "land of Israel."

But even as talk of peace was heard, a brutal blockade of Gaza, a reaction to the Hamas election victory, was dominating Israeli policy. After exchanges of rocket fire between Gaza and the Israeli army that began around Nov. 5, Israel imposed a total blockade on Gaza, cutting off food and fuel. By Nov. 14, the United Nations Relief and Work Agency (UNRWA), which is the main source of food, announced its supplies had run out. Crushing Hamas in Gaza, and an Israeli strike against Iran, are two of the major aims of the right-wing networks that killed Yitzak Rabin.

At the same time, Labor Party chairman Ehud Barak, speaking at the Nov. 8 Tel Aviv rally, warned, "We used to call them bad seeds, but now they are tumors with secondary growths. This is no longer a warning sign, it's a threat to democracy, the IDF [Israeli Defense Forces], the police, and all the authorities of a normal society. I promise you we will uproot this evil from within us."

While Barak has clearly identified the threat, he must be reminded that the drive to block Israeli support for a peace settlement is a not a lone Israeli movement, but is supported politically and financially from outside the country. The long tail of this movement stretches to the United States and Great Britain. It would also be wrong to identify it simply as the creature of international right-wing Zionism. This is an apparatus that ultimately serves Anglo-Dutch financial interests committed to keeping Southwest Asia as a cockpit for war and destabilization.

The upcoming elections in Israel could be a real turning point, where Israel could either move to peace with the Palestinians, Syria, Lebanon, and the broader Arab world, through embracing the Arab Peace Initiative, or it could continue on a path which would inevitably lead to more war and conflict. Concretely, the danger is an election victory by Benjamin Netanyahu, chairman of the right-wing Likud Party. Israeli political observers warn that, given the splintered nature of Israeli politics, even if Foreign Minister Tzipi Livni, who heads Olmert's Kadima party (the lead party in the current coalition government), wins the election, she will not have an absolute majority. If other pro-peace parties fail to garner enough seats, she could fail to form a coalition, as occurred last month.

A Netanyahu government would incorporate all the right-wing parties whose roots are deep into the illegal settlements on the West Bank and in East Jeruslaem. This is the environment which gave birth to Rabin's assassin, Yigel Amir.

Netanyahu's Network

We start at the top of this network in Israel: Netanyahu himself.

The man who brought Netanyahu on the long road from his position as a salesman at a furniture store in Philadelphia, to the Israeli premiership in 1996, was

former U.S. Secretary of State George Shultz (see Steven Meyer, "Netanyahu's Fascist Record: All Roads Lead to Shultz," *EIR*, Feb. 24, 2006). Shultz was also the chief architect of the George W. Bush Administration. He is no Zionist, but an agent of the Anglo-Dutch Liberal financial system. As a member of the Nixon Administration in 1971, he was instrumental in dismantling the Bretton Woods system by removing the U.S. dollar's link to gold and letting exchange rates float. (See Scott Thompson and Nancy Spannaus, "Profile of a Hit Man," *EIR*, Dec. 10, 2004.)

U.S. Embassy Tel Aviv/Matty Stern

Likud chairman Benjamin Netanyahu meeting with Secretary of State Condoleezza Rice, Sept. 19, 2007 in Jerusalem. If he becomes the next prime minister, his government would incorporate the persons and policies of the extreme right-wing parties.

In his first term as prime minister in 1996, Netanyahu adopted the policy platform prepared for him, "A Clean Break: New Strategy for Security of the Realm," written by the neocon cabal of Richard Perle, Douglas Feith, David Wurmser, et al., who, five years later, implemented this same policy document in the Bush Administration. The policy dragged the United States into two wars and a clash of civilizations. One can expect Netanyahu to try to finish the job left incomplete by the Bush Administration.

Netanyahu is also the Israeli poster boy for the Christian Zionist movement in the United States, which enjoys massive support among Christian fundamentalists. It has been a source of millions of dollars in support of Israel, on the basis of what it sees as a Biblical prophesy that the founding of Israel would lead to Armageddon and the "Rapture."

Netanyahu's Likud has direct links with the "bad seeds" and "tumors" referenced by Barak. The most notorious is **Moshe Feiglin**, who founded, with the Likud, the "Jewish Leadershp" faction. In 1993, Feiglin founded the Zo Artzeinu (This Is Our land) movement, which staged demonstrations against the Oslo Accords, helping to create the atmosphere of incitement within which Rabin was assassinated. Feiglin's partner in these operations was **Shmuel Sackett**, a follower of the late **Meir Kahane**, the founder of the Jewish Defense League and the Israeli Kach Party (which was banned both in Israel and the United States as a terrorist organization).

Moshe Feiglin

Feiglin is believed to have support of as much as 10% of the Likud, and therefore is likely to get a high position on the party's slate of candidates for the Knesset in the elections, giving him a good chance of entering the Knesset, or even joining a Netanyahu Cabinet.

The Likud is filled with dyed-in-the-wool advocates of the Zionist Revisionism of the late Vladimir Jabotinsky, who was a devotee of Italian Fascism; there are also members with links to the even more extreme religious fanatics and rabbis who were the spiritual guides of Rabin assassin Yigel Amir.

Take for example **Limor Livnat**, former education minister under Prime Minister Ariel Sharon. Her brother is **Rabbi Noam Livnat** of the Joseph Still Lives Yeshiva (Od Yosef Chai) in Nablus, one of the most radical settlements on the West Bank. He reportedly inspired in Amir the zeal for religious Zionism that led him to murder.

If Netnayahu wins the election, he will gather together the Israeli right. High on his list are the "settler parties," which include the National Union and National Religious parties, and other smaller factions which are currently considering forming one party. Among their leaders is **Rabbi Benny Elon**, another of Amir's spiritual guides. His niece was convicted for complicity in the murder of Rabin, because she did not

inform the police when Amir confided in her his intention to kill the Prime Minister. Elon has served as the chief rabbi of the Ateret Cohanim Yeshiva. Located in the Old City of Jerusalem, it is at the center of the fanatic "Temple Mount Faithful," who wish to destroy the mosques on the al-Haram al-Sharif/Temple Mount, which is Islam's third holiest cite. These parties promote the notorious call for the "transfer" of the Palestinian population from the West Bank—ethnic cleansing.

Rabbi Binyamin Elon

Another leader is **Effi Eitam**, a former brigadier general, who is often characterized in the Israeli media as a right-wing fanatic or a fascist.

Juda S. Engelmayer

Effi Eitam

Another likely coalition partner is the Yisrael Beiteinu party led by former Russian nightclub bouncer **Avigdor Lieberman**. A former member of the Likud, Lieberman was Netanyahu's bureau chief in the latter's first term as Prime Minister. He left the Likud to form this primarily Russian-Israeli-based party. Living in a West Bank settlement, Lieberman is a racist, calling for a loyalty test for Israeli Arabs, and their transfer to a Palestinian "state" similar to the bantustans of apartheid-era South Africa.

State Department/Michael Gross

Avigdor Lieberman

Building a Climate of Incitement

At the base of this organizational pyramid for which Netanyahu is the pinacle, are the fanatical settlers. For the last several weeks. they have been on a rampage throughout the West Bank, attacking Palestinian farmers who have been harvesting their olive orchards, and battling with Israeli police and military at various sites. In September, there was an attempt on the life of Israeli peace activist Prof. Ze'ev Sternhell, who was the target of a pipe bomb placed at the front door of his home. Although he was lightly wounded, Israeli Minister of Police and Security Avi Dichter declared, "We should see the explosive as aimed as aimed at killing." He added that the attack "takes us back to the days of Rabin's assassination."

Suspicions for the attempted murder are directed at the "bad seeds" and "tumors," one of whose leaders is currently on trial for assault on Israeli police officers, **Noam Federman**, whose connections bring us again to the United States. Federman is a second-generation terrorist and former leader of the terrorist Kach party. Although no youth, Federman is the leader of the "hill top youth," or third-generation settler crazies, who have set up illegal "outposts" throughout the West Bank. Violent clashes occurred on Nov. 5 when the police dismantled one of these outposts occupied by Federman and his family, and dismantled the shipping container they were living in.

Federman is directly linked to the so-called **Jewish Task Force** in the United States, which is nothing more then a front for the banned Kach party. The JTF is led by **Victor Vancier, a.k.a. Chaim Ben Pesach**, who has been in and out of jail for several terrorist attacks in the United States. Vancier is banned from entering Israel because of his affiliation with Kach. The JTF serves as a conduit for funds from the United States to Kach and other terrorist-fascist groups in Israel.

During the U.S. elections, the JTF also ran the organization Jews Against Obama, which claimed that Obama was a Muslim, and generally spread Islamophobia. If their campaign continues, it could constitute a threat to the President-elect.

The JTF is part of a network of organizations throughout the United States that builds political support while raising millions of dollars for the settlements. A key figure in this apparatus is a New York State legislator from Brooklyn, **Dov Hikind**, who was one of Meir Kahane's first disciples. His wife, Shani, is the spokesperson of the Jerusalem Reclamation Project, which raises funds to buy property in the Old City of Jerusalem, and to fund the Ateret Cohanim Yeshiva.

While officially a Democrat, Hikind has supported New York City billionaire Mayor Michael Bloomberg, and backed Republican Sen. John McCain's campaign for President.

Peace in the Middle East desperately needs the help of the Presidency of the United States. As we have shown, the anti-peace forces in Israel draw their support, financing, and even orders from outside Israel, from a force that can only be countered by the power of the U.S. Presidency.

Sovereignty at Stake in Congo Crisis

Southern African nations have agreed to immediately deploy a Military Advisory Team to advise Congo's armed forces.

Confronted with a large-scale destabilization being whipped up in eastern Democratic Republic of Congo (D.R.C.) by the Brutish London-based Anglo-Dutch financial cartel, the Nov. 9 summit of the 15-member Southern Africa Development Community (SADC) in South Africa, approached the issue of the destabilization of the D.R.C. from the highest level, concentrating on strengthening the D.R.C. government, and was not sidetracked by the pretexts given by the manipulated anti-government rebels for their actions.

In its final communiqué, the summit warned that the security situation "is deteriorating in the eastern part of the Democratic Republic of Congo," and that this "is affecting peace and stability in the SADC and the Great Lakes Region" of Africa. It said that because "many agreements entered into regarding peace and security in the Great Lakes Region were not implemented because of the intransigence of Laurent Nkunda [the rebel who broke a ceasefire on Aug. 28, which began the latest round of violence in North Kivu Province], the DRC Armed Forces need to be assisted in order to protect the territorial integrity and sovereignty of the country."

The resolutions of the summit which call for aid to the D.R.C. Army, and other military deployments to help secure the country, demonstrate how seriously the SADC nations are viewing the threat being mounted against the D.R.C.

Former South African President Thabo Mbeki, who has always sought to avoid providing a pretext for the Brutish financial cartel to intervene in crises it creates, and thus undermine the sovereignty of African nations, also attended.

As soon as Nkunda's forces advanced to the outskirts of Goma, the provincial capital of North Kivu, on Oct. 28, the British Minister of State in the Foreign and Commonwealth Office with responsibility for Africa, Asia, and the United Nations, Lord Mark Malloch-Brown, began calling for direct British military intervention (see *EIR*, Nov. 7). The D.R.C. Army is poorly equipped, and underpaid. The government has thus aided pro-government militias, and the British have called for the disarming of these groups, putting them on a par with the rebel operation, which is run from outside the country.

Since independence in 1960, the D.R.C. has been prevented by the Brutish empire from using its vast mineral wealth to develop its economy. In return for no development, its raw materials have been continuously looted. In the ten years since the departure of longtime dictator Joseph Mobutu, the industrialized nations have done nothing to aid in building up the Army, or the economy, which could have made the D.R.C. capable of preventing crises like the present one. Nkunda, who is stealing minerals from the area he controls, is on the same anti-development track; he stated that he objects to the D.R.C.'s collaboration with China, in an enormous development-for-minerals deal.

The British media, and its lackeys such as the *New York Times,* have been publicizing the catastrophic effects of the fighting triggered by the Nkunda's rebels on the civilian population, as a reason for mounting an international intervention.

Though the D.R.C. population is frustrated with the UN force, since it is not very effective at protecting the civilian population from the hit-and-run attacks of Nkunda's forces, one D.R.C. source said, "they are not NATO-grade troops, but they are better than nothing." The British press has pointed out that if the UN force in the D.R.C. were discredited, it would have far reaching consequences for Africa. The London *Financial Times* headline on Nov. 11 was: "Congo rebels 'aim to drive out UN.'" In a threatening letter to the UN, Nkunda said he wants to drive out the UN peacekeeping force, known as Monuc.

A few days after the SADC summit, on Nov. 12, Angolan Foreign Minister Georges Chicoty announced on Angolan National Radio that Angola would send troops to eastern Congo in defense of the government.

However, although the southern African governments are strongly committed to building up and stabilizing the D.R.C., the situation is fraught with danger.

With the collapse of the globalized economy, the consequent drop in the prices of petroleum and minerals will make it much more difficult for these countries to aid the D.R.C., while improving their domestic economies. The crisis has been set up to ensnare anybody who tries to deal with it.

The conflict also threatens to worsen the D.R.C.'s shaky financial situation. Sixty mining concessions may not materialize because mining companies could pull back from their investment plans. "Deals may start to unravel," reported the *Wall Street Journal.*

International Intelligence

Brits Oppose NATO Afghan Opium-Eradication Policy

When British military forces arrived in the Helmand province of Afghanistan in 2006, that province was producing about 25% of the country's opium. Today, that figure is nearly 50%, according to Patrick Moon, U.S. Deputy Assistant Secretary of State for South Asia.

While publicly supporting the U.S.-sponsored NATO plan to take on drug traffickers in Afghanistan, the British government's military commanders have privately condemned the plan, reports the Nov. 8 issue of the London *Independent*.

NATO made the decision to go after the drug traffickers at the Oct. 9-10 summit in Budapest, under pressure from U.S. Secretary of Defense Robert Gates and NATO Commander Gen. Bantz Craddock, both of whom had complained about the lack of interest of some U.S. allies in dealing with the drug problem. Since the anti-drug operation will be subject to the same kind of national caveats that many nations with troops in Afghanistan already exercise with respect to combat against the Taliban, the British will continue to sabotage it.

Czech President Declares War Against Lisbon Treaty

If the European Union's Lisbon Treaty ends up in the garbage can, it will be more due to the Czech Republic than Ireland, writes the Nov. 11 *Le Figaro*. Only three weeks ago, Czech Prime Minister Mirek Topolanek had promised German Chancellor Angela Merkel that the Lisbon Treaty, which he himself called "a necessary evil," would be ratified "before the end of the year." But now, the "very euro-skeptic" Czech President Vaclav Klaus is acting to prevent ratification.

Panic among the Euro-maniacs broke out Nov. 10 when Klaus asked the Constitutional Court to delay its finding on the constitutionality of the treaty until after he could address the court. He said, however, that he could not attend the Nov. 10 hearing, because he was on a three-day state visit to Ireland.

Besides official meetings, Klaus was to meet the controversial liberal businessman Declan Ganley, who had spent big money on financing the "No to Lisbon" vote in Ireland.

After the Irish No vote in June, Klaus was the only head of state to welcome the "death" of the Lisbon Treaty, and Ganley was invited to Prague in July. Klaus promised his support for Ganley's initiative to create a slate for the 2009 European Parliament elections, whose platform includes rejection of the Lisbon Treaty. This would finally allow the rest of Europe to express their views on the treaty.

The Czech Republic, 55% of whose population, according to polls, opposes the treaty, will succeed France in presiding over the European Union for the semester beginning January 2009.

PRD Leader Cárdenas Backs Mexico's PLHINO Project

Cuauhtémoc Cárdenas, leader of one of the factions of the Revolutionary Democratic Party (PRD), son of Mexico's nationalist President and Franklin Roosevelt friend, Lazaro Cárdenas, and a civil engineer by training, gave his firm support for building the tri-state Northwest Hydraulic Plan (PLHINO), during a day-long visit to Ciudad Obregon, Sonora Nov. 13.

Cárdenas's message, in a press conference, interviews on the radio and television, and speaking before a public meeting organized by the Pro-PLHINO of the 21st Century Committee, was straightforward: The PLHINO is viable both technically and financially, and the need to reactivate the farm sector to confront the approaching world crisis, merits its construction.

The PLHINO involves a number of large tunnels and dams which are ambitious, but also eminently achievable, Cárdenas emphasized at each opportunity. He reminded people that his evaulation was based on experience, since he had worked on civil construction projects around the country. It is also financially feasible, amounting to an estimated $1.2 billion a year, over ten years, he said.

Some 250 people, including farmers, industrialists, trade unionists, religious leaders, and others, participated in the Pro-PLHINO Committee forum, which was opened by the state's secretary of agriculture, speaking in the name of the governor, and by the president of the Municipality of Cajame.

Iceland President Blasts Brits on Bank Crisis

President Olafu Ragnar Grimsson of Iceland on Nov. 14 again slammed the British and their allies, who are trying to force Iceland to help bail out their bankrupt banking system. Iceland's banks have been hit hard by speculative operations run from outside the country.

Iceland lost more people, relative to the size of the respective populations, than did Great Britain during World War II, the President said, "and … most of those losses were in shipping food for the Brits." Iceland had kept to the European Economic Community rules, he said, and it is therefore preposterous that it should be left with the bills from the British and other countries because of the breakdown of the banking system.

Speaking to a group of diplomats in Reykjavik, Grimsson said that if the Atlantic community refuses to help Iceland, then Iceland must find new friends. He said that only the Faroe Islands and Norway have proved to be friends in the crisis, but other old friends had turned their backs on Iceland. According to news reports, the President attacked Sweden and Denmark, and made "insulting expressions against the Brits." He also attacked the IMF, which for the third time Nov. 10 postponed a loan to Iceland.

THE NUCLEAR POWER REVOLUTION

Modular High-Temperature Reactors Can Change the World

by Marjorie Mazel Hecht

Sixty years into the atomic age, we are at the threshold of another revolution: the development of fourth-generation modular high-temperature reactors (HTRs) that are meltdown-proof, affordable, mass-producible, quick to construct, and very suitable for use in industrializing the developing sector. The key to these new reactors, as described here, is in their unique fuel: Each tiny fuel particle has its own "containment building."

In the days of "Atoms for Peace," the 1950s and early 1960s, it was assumed that the development of nuclear power would rapidly bring all the world's people into the 20th Century, raising living standards, creating prosperity, allowing every individual to make full use of his creative ability. But this dream was not shared by the Malthusian forces, who, even after the massive slaughter of World War II, were determined to "cull" population further. These oligarchs, like the Olympian Zeus, who punished Prometheus for bringing fire to man, intended to rein in the atom, the 20th-Century "fire." And so they did, creating a counterculture, a fear of science and technology, and an environmentalist movement to be Zeus' army to keep Prometheus bound.[1]

Today, we are at a point when nations, especially impoverished nations, can choose to fulfill the promise of Atoms for Peace, by going nuclear, starting with a modular high temperature reactor small enough, ~200 megawatts, to power a small electric grid and, at the same time, provide process heat for industrial use or desalinating seawater. As the economy grows, more modules can be added.

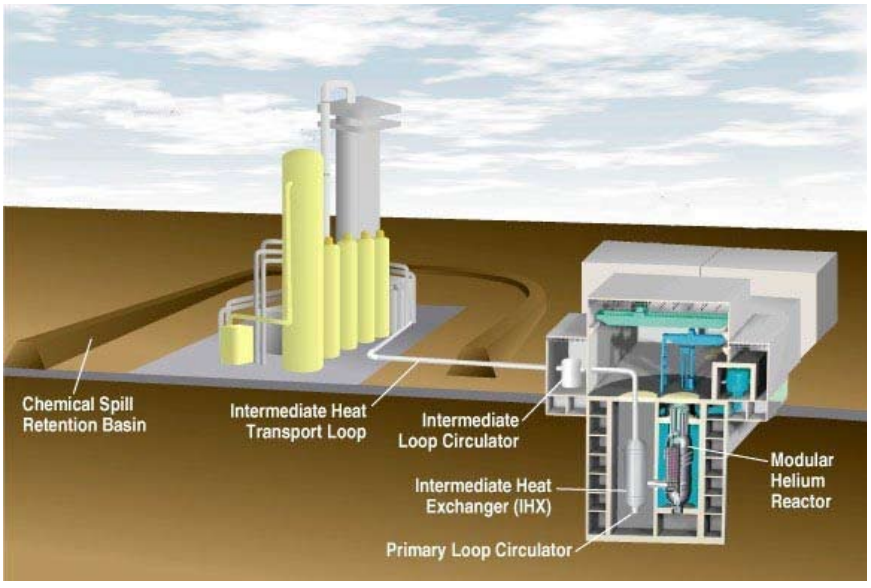
These fourth-generation reactors are fast to construct and affordable (because of their modularity and mass production), thus slicing through the mountain of statistical gibberish promoted by those Malthusians who disguise themselves as energy economists, such as Amory Lovins. Now that several leading environmentalists have embraced nuclear as a clean energy solution, the hard-core Malthusians, including, prominently, Lovins and Lester Brown, have switched their main anti-nuclear argument to claim that nuclear is "too expensive." But because their mathematical calculations do not include the value of human life, Lovins et al. do not consider the human consequences of *not* going nuclear.

Energy-Flux Density

If we are to support 6.7 billion people at a living standard worthy of the 21st Century, the world must go nuclear now, and in the future, develop fusion power. Fission is millions of times more energy-flux dense than any solar technology, and you can't run a modern industrial economy without this level of energy-flux density.

Energy-flux density refers to the amount of flow of the energy source, at a cross-section of the surface of the power-producing source. No matter what improvements are made in solar technologies, the basic limita-

1. See for example, Rob Ainsworth, "The New Environmental Eugenics: Al Gore's Green Genocide," *EIR,* March 30, 2007, www.larouchepub.com/eiw/public/2007/2007_10-19/2007-13/pdf/36-46_713_ainsworth.pdf; also, Marsha Freeman, "Who Killed U.S. Nuclear Power," *21st Century Science & Technology,* Spring 2001, www.21stcenturysciencetech.com/articles/spring01/nuclear_power.html.



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Artist's illustration of a high-temperature gas-cooled reactor coupled with a hydrogen-production plant, for which it provides process heat. The U.S. Next Generation Nuclear Plant program, based at the Idaho National Laboratory, has not yet selected an HTR design (pebble-bed or prismatic), and is on a very slow trajectory, aiming for a commercial plant in 2030. Meanwhile, China and Japan have working experimental HTRs, and South Africa plans to move to construction of the PBMR next year.

Chemical combustion, burning coal or oil, for example, produces energy measured in a few electron volts per chemical reaction. The chemical reaction occurs in the outer shell of the atoms involved, the *electrons*. In fission, the *atomic nucleus* of a heavy element splits apart, releasing millions of electron volts, about 200 million electron volts per reaction, versus the few electron volts from a chemical reaction.

Another way to look at it is to compare the development of power sources over time, and the increasing capability of a society to do physical work: human muscle power, animal muscle power, wood burning, coal burning, oil and gas burning, and today, nuclear. The progress of a civilization has depended on increased energy-flux density of power sources. The manual collection of firewood for cooking; tilling, sowing, and reaping by hand; treadle-pumping for irrigation (a favorite of the carbon-offset shysters): These are the so-called "appropriate" technologies that Malthusians advocate for the developing sector, precisely because they preclude an increase in population. In fact, these technologies cannot support the existing populations in the Third

tion is that solar power is diffuse, and hence inherently inefficient. At the Earth's surface, the density of solar energy is only 0.0002 of a megawatt.[2]

2. For a discussion of wind as energy, see Gregory Murphy, "Windmills for Suckers: T. Boone Pickens' Genocidal Plan," *EIR,* Aug. 22, 2008.

The Revolution in Nuclear Power

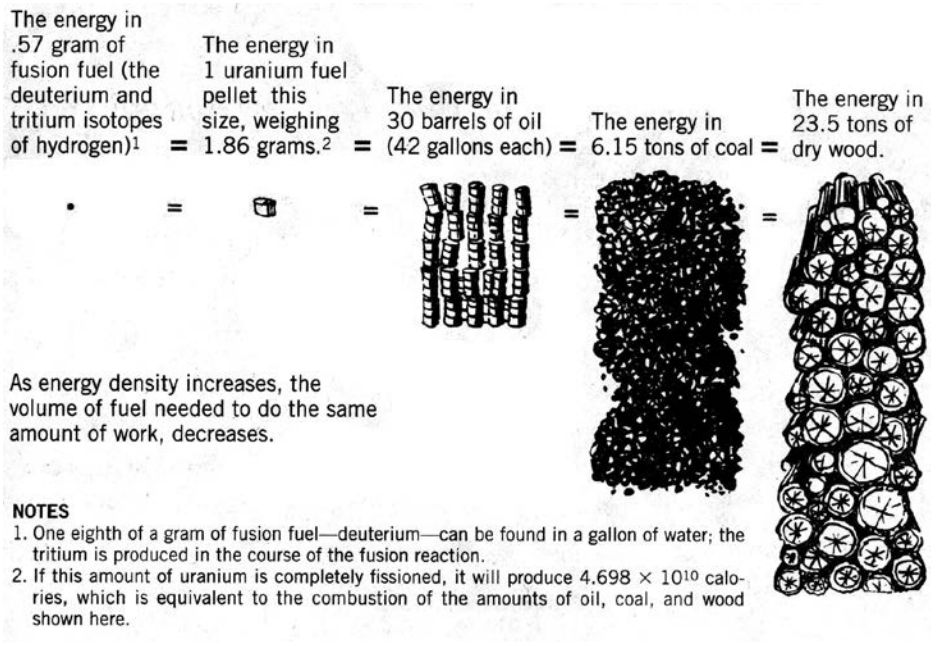
Part 2 of this feature, to appear next week, will discuss the recent Washington conference on high-temperature reactors, "HTR 2008: Beyond the Grid." Author Gregory Murphy will rebut the George Soros-funded attacks on South Africa's PBMR and the spurious technical arguments being used to try to derail the project.

Leading the anti-nuclear charge is Steve Thomas, a professor of energy policy at Britain's Greenwich University, whose July 2008 "white paper" against the PBMR was circulated to green groups and the press. Thomas uses the report of Jülich Research Center scientist Dr. Rainer Moorman to claim that the PBMR is not safe, in light of data Moorman anylyzes from the AVR pebble-bed test reactor. The AVR operated successfully for 21 years at Jülich, and was shut down in 1988 in the wake of hysteria in Germany over Chernobyl.

Murphy dissects the erroneous Moorman analysis, making use of the latest research presented at the HTR 2008 conference. He also reveals some of Thomas's peculiarly racist arguments in his ten-year campaign against the PBMR.

An expanded version of "The Nuclear Power Revolution," including interviews with General Atomics Vice Chairman Linden Blue and PBMR CEO Jaco Kriek, will be posted at the website of *21st Century Science & Technology* magazine, www.21stcenturysciencetech.com.

FIGURE 1
Fuel and Energy Comparisons



A tiny amount of fission fuel provides millions of times more energy, in quantity, and quality. With a closed nuclear fuel cycle (which reprocesses used nuclear fuel), and development of the breeder reactor, nuclear is not only a renewable resource, but is able to create more new fuel than that used to fuel the reactor.

World—which is exactly why they are glorified by the anti-population lobby.

Although this report will discuss fourth-generation HTRs, to bring every person on Earth into the 21st Century with a good living standard, the nuclear revolution includes the development of all kinds of nuclear plants: large industrial-size plants, fast reactors, breeder reactors, thorium reactors, fission-fusion hybrids, and all sorts of small and even very small reactors. We will also need to fund a serious program to develop fusion reactors. But right now, the modular HTRs are ideal as the workhorses to gear up the global infrastructure-building we need.

The Revolutionary Fuel

There are two types of high-temperature modular gas-cooled reactors under development, which are distinguished by the way in which the nuclear fuel is configured: the *pebble bed* and the *prismatic* reactor. In the pebble bed, the fuel particles are fashioned into pebbles, fuel balls the size of tennis balls, which circulate in the reactor core. In the prismatic reactor, the fuel particles are fashioned into cylindrical fuel rods, that are stacked into a hexagonal fuel block.

South Africa is developing the Pebble Bed Modular Reactor, the PBMR, and China has an operating 10-megawatt HTR of the pebble bed design, with plans to construct a commercial 200-MW unit starting in 2009.

General Atomics, based in San Diego, is developing the Gas Turbine Modular Helium Reactor, GT-MHR, which has a prismatic fuel rod design, and Japan is operating a 30-MW high-temperature test reactor, HTTR, of the prismatic design.

Although the fuel configurations differ, both reactor types start with the same kind of fuel particles, and it is these tiny particles that will revolutionize electricity generation and industry throughout the world. Developed and improved over the past 50 years, these ceramic-coated nuclear fuel particles, three-hundredths of an inch in diameter (0.75 millimeters), make possible a high-temperature reactor that cannot melt down.

At the center of each fuel particle is a kernel of fissile fuel, such as uranium oxycarbide. This is coated with a graphite buffer, and then surrounded by three or more successive containment layers, two layers of pyrolytic carbon and one layer of silicon carbide. The nuclear reaction at the center is contained inside the particle, along with any products of the fission reaction. The ceramic layers that encapsulate the fuel will stay intact up to 2,000°C (3,632°F), which is well above the highest possible temperature of the reactor core, 1,600°C (2,912°F), even if there is a failure of the coolant.

The Chinese tested this in the HTR-10 in September 2004, turning off the helium coolant. The reactor shut down automatically, the fuel temperature remained under 1,600°C, and there was no failure of the fuel containment. This demonstrates both the inherent safety of the reactor design, and the integrity of the fuel particles, stated Frank Wu, CEO of Chinery, the consortium appointed by the Chinese government to head the development project.

As for the waste question: The HTRs produce just a tiny amount of spent fuel, the less to store or bury. But the rational question is, why bury it and throw away a resource? Why not reprocess it into new nuclear fuel?

General Atomics had an active research program investigating the reprocessing of spent fuel from the HTR, but when the United States gave up reprocessing in the 1970s under the banner of "nonproliferation," the facility was converted to do other research. As one longtime General Atomics nuclear engineer told me, reprocessing used HTR fuel is absolutely possible—you just have to want to figure out how to do it.

Fission in the HTR

Conventional fission reactors work much like their predecessor technologies. The fission reaction produces heat, the heat boils water to create steam, and the steam turns a turbine, which is attached to a generator to produce electricity. The fourth-generation reactors also use the fission reaction to produce heat, but instead of boiling water, the heat is used to heat helium, an inert gas, which then *directly* turns a turbine, which is connected to a generator to produce electricity. By eliminating the steam cycle, these HTRs increase the reactor efficiency *by 50%,* thus reducing the cost of power production.

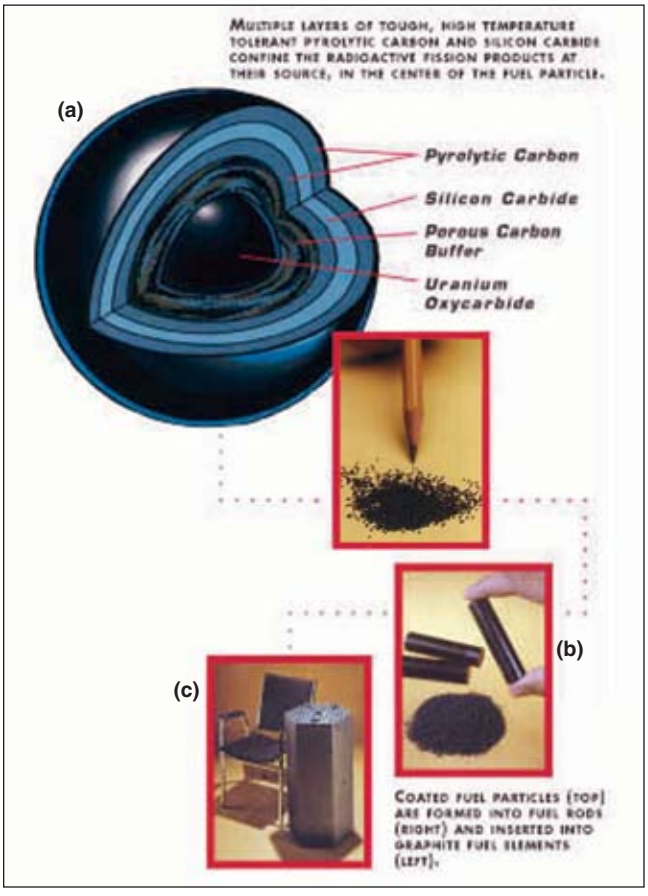
An obvious question is: How does the fission chain reaction occur if all the fission products are contained inside the fuel particles? The key is the neutron.

When the atomic nucleus of uranium splits apart, it produces heat in the form of fast-moving neutral particles (neutrons) and two or more lighter elements. To sustain a controlled fission chain reaction, every nucleus that fissions has to produce at least one neutron that will be captured by another uranium nucleus, causing it to split. The fission process is very fast; ejected neutrons stay free for about 1/10,000 of a second. Then they are either captured by fissionable uranium, or they escape without causing fissioning, to be captured by other elements or by nonfissionable uranium. Free neutrons can travel only about 3 feet.

All nuclear reactors are configured to create the optimum geometry for neutron capture by fissionable uranium. The point of a controlled fission reaction is to engineer the reactor design to capture the right proportion of slow neutrons in order to produce a steady fission reaction. (It is the slower neutrons that cause fissioning; the fast neutrons tend to be captured without causing fissioning.) For this purpose, reactors have *control rods,* made of materials like neutron-absorbing boron, that are raised or lowered to absorb neutrons, and *moderators,* made of a lighter element like carbon (graphite), that slow the neutrons down.[3]

In conventional nuclear reactors, water is the usual moderator, and the fission products stay inside the reactor core's fuel assembly. In the HTR, each tiny fuel particle contains the fission products produced by its uranium fuel kernel; only the neutrons leave the fuel particles.

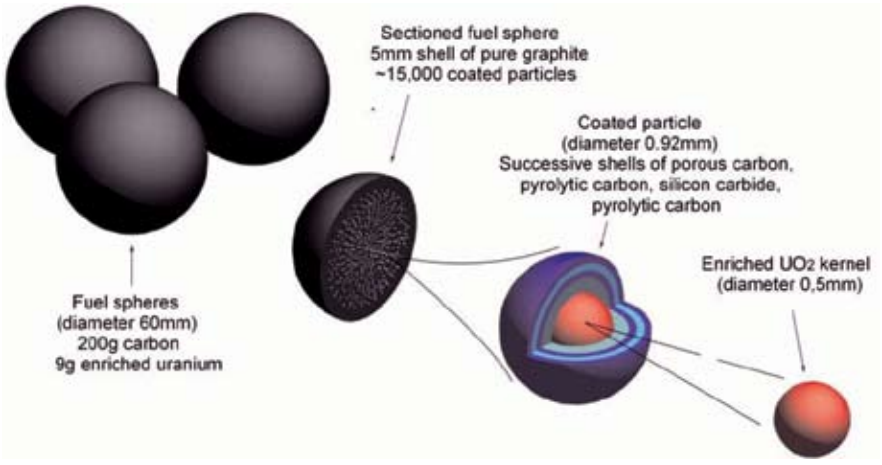
FIGURE 2
The Unique HTR Fuel in a Prismatic Configuration (GT-MHR)



Each tiny fuel particle, three-hundredths of an inch in diameter, has a kernel of fission fuel at the center surrounded by its "containment" layers (a). The fuel particles are mixed with graphite and formed into cylindrical fuel rods, about two inches long (b). The fuel rods are then inserted into holes drilled into the hexagonal graphite fuel element blocks (c), which measure 14 inches wide by 31 inches high. The fuel blocks, which also have helium coolant channels, are then stacked in the reactor core.

3. For more detail, see "Inside the Fourth-Generation Reactors," *21st Century Science & Technology,* Spring 2001.

FIGURE 3
HTR Fuel Formed into Pebbles (PBMR)



The PBMR fuel particles are similar to those in Figure 2, with a kernel of fission fuel (uranium oxide) at the center (at right). But instead of being fashioned into rods, the particles are coated with containment layers and then inserted into a graphite sphere to form "pebbles" the size of tennis balls (at left). Each pebble contains about 15,000 fuel particles. Each pebble travels around the reactor core about ten times in its lifetime.

Helium Gas Heats and Cools

The beauty of the high-temperature reactor, and the reason that it can attain such a high temperature (1,562° F, or 850°C, compared with the 600°F of conventional nuclear plants) lies in the choice of helium, the inert gas that carries the heat produced by the reactor. Helium has three key advantages:

• Helium remains as a gas, and thus the hot helium can directly turn a gas turbine, enabling conversion to electricity without a steam cycle.

• Helium can be heated to a higher temperature than water, so that the outlet temperature of the HTR can be higher than in conventional water-cooled nuclear reactors.

• Helium is inert and does not react chemically with the fuel or the reactor components, so there is no corrosion problem.

The helium circulates through the nuclear core, conveying the heat from the reactor through a connecting duct to the turbine. Then it passes through a compressor system, where it is cooled to 915°F (490°C), and reenters the nuclear core. The use of helium as both the coolant and the gas that turns the turbine simplifies the reactor by eliminating much of the equipment (and expense) of conventional reactors.

The high heat that is produced can be coupled with many industrial processes, such as desalination of seawater, hydrogen production, and coal liquefaction. These reactors are also small enough to be located on site for some industries, producing both electricity and process heat. The LaRouche plans for the Eurasian Land-Bridge and the World Land-Bridge, for example, envision these HTR reactors as the hub of new industrial cities across Eurasia and the harsh Arctic environment of eastern Russia, linked by high-speed and magnetically levitated railways.

Direct Conversion to Electricity

The HTRs, as noted above, gain efficiency by eliminating the steam cycle of conventional nuclear reactors (the heating of water to turn it into steam, which then turns a turbine). Instead, the helium gas carries the heat of the nuclear reaction to *directly* turn a gas turbine.

Like conventional nuclear reactors, the first high-temperature reactors—Peach Bottom in Pennsylvania and Fort St. Vrain in Colorado, for example—used a steam cycle. The Chinese HTR-10 also uses a steam cycle, but plans are to switch to a direct conversion system in its later models.

It only became possible to use the Brayton direct-cycle gas turbine with the HTRs after advances in industrial gas turbine use, and work carried out at the Massachusetts Institute of Technology during the 1980s specifically for coupling HTRs with a Brayton cycle. There were also advances in related systems, such as the recuperators and magnetic bearings. Taken together, these advances give the HTRs an overall efficiency of about 48%, which is 50% more than the efficiency of conventional nuclear reactors.

Multiple Safety Systems: Meltdown Proof

The modular HTRs are inherently safe, because they are designed to shut down on their own, without any human intervention. Even in the unlikely event that all the cooling systems failed, the reactor would shut down safely, dissipating the heat from the core

without any release of radioactivity.

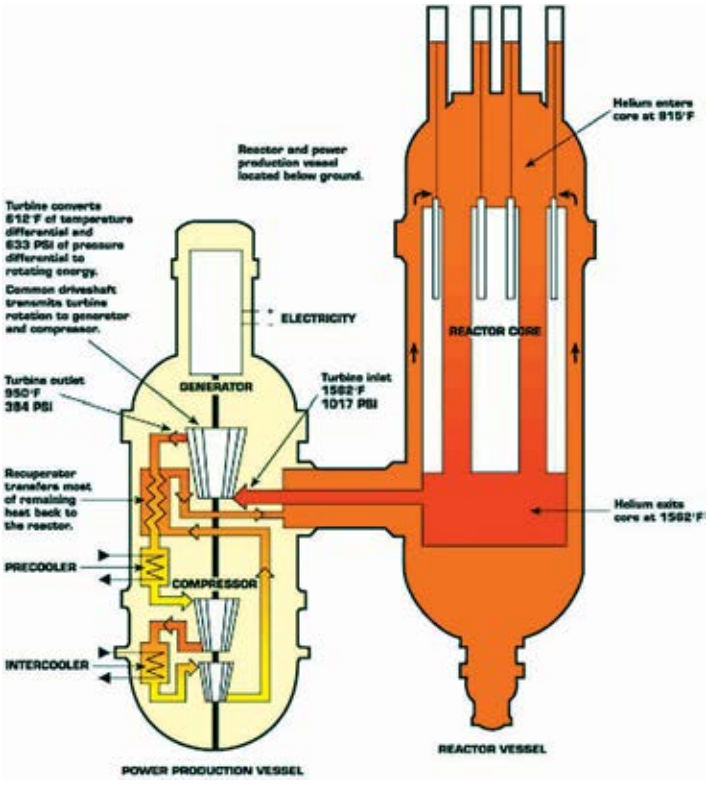
The built-in safety systems include the unique fuel particle containment: The fission products stay inside these "containment" walls.

Another safety feature is the reactor's "negative temperature coefficient" operating principle: If the operating temperature of the reactor goes up above normal, the neutron speed goes up, which means that more neutrons get captured without fissioning. In effect, this shuts down the chain reaction. Additionally, there are certain amounts of "poisons" present in the reactor core (the element erbium, for example), which will help the process of capturing neutrons without fissioning, if the operating temperature goes up.

The first line of safety in regulating the fission reactor is, of course, the control rods, which are used to slow down or speed up the fissioning process. But if the control rods were to fail, the reactor is designed to automatically drop spheres of boron into the core; boron absorbs neutrons without fissioning, and thus would stop the reaction.

Additionally, there are two external cooling systems, a primary coolant system and a shutdown coolant system. If both of these should fail, there are cooling panels on the inside of the reactor walls, which use natural convection to remove the core heat to the ground. Because the reactor is located below ground, the natural conduction of heat will ensure that the reactor core temperature stays below 1,600°C, well below the temperature at which the fuel particles will break apart.

FIGURE 4
Schematic View of the GT-MHR



The reactor vessel (right) and the power conversion vessel are located below ground, and the support systems for the reactor are above ground. Layers of the hexagonal fuel elements are stacked in the reactor core. The helium gas passes from the reactor to the gas turbine through the inside of the connecting coaxial duct, and returns via the outside.

The graphite moderator also helps dissipate heat in a shutdown.

In addition to the successful Chinese HTR-10 test shutdown, a similar test was carried out on the AVR, the German prototype for the pebble bed, at Jülich. In one test, reactor staff shut down the cooling systems while the reactor was operating. The AVR shut itself down in just a few minutes, with no damage to the nuclear fuel. In other words, no meltdown was possible.

The HTR: A Manhattan Project Idea

The idea of a high-temperature gas-cooled reactor dates back to the Manhattan Project and chemist Farrington Daniels, who designed a nuclear reactor, then called a "pile," which had "pebbles" of fission fuel whose heat was removed by a gas. Daniels patented his idea in 1945, calling it a "pebble bed reactor," and the Oak Ridge National Laboratory began to work on the concept. But Daniels' idea was dropped, in favor of the pressurized water reactor, and the group working with Daniels went on to design the first nuclear reactor for the *Nautilus* submarine.[4]

Later, Great Britain, Germany, and the United States developed high-temperature gas-cooled reactors. In Germany, Prof. Rudolf Schulten began working on a pebble-bed type reactor, and designed the 40-megawatt AVR pebble-bed reactor at Jülich, which operated successfully from 1966 to 1988, producing power for the grid and yielding a wealth of research data. Both this

4. Manhattan Project veteran Alvin M. Weinberg, who headed Oak Ridge National Laboratory, describes this in his autobiography, *The First Nuclear Era: The Life and Times of a Technological Fixer* (Woodbury, N.Y.: American Institute of Physics Press, 1994).

EIRNS

EIR*'s Mary Burdman holding a Chinese fuel pebble on a visit to the HTR-10 in 2001.*

Chinese technicians in the control room of the experimental HTR-10, which has a pebble-bed design. China plans to construct a commercial-size 200-megawatt HTR starting in 2009.

and a subsequent larger HTR were shut down in 1988, as the anti-nuclear movement rode the wave of Chernobyl fear. South Africa's PBMR, as well as the Chinese HTR-10, make use of the Schulten pebble-bed system, with innovations particular to each of the two new designs.

In Europe, 13 countries collaborated on the experimental high-temperature gas reactor called Dragon, built in England in 1962. The 20-MW Dragon operated successfully from 1964 to 1975, testing materials and fuels, and its experimental results were used by later HTR projects, including the THTR and the Fort St. Vrain HTR.

In the United States, Peach Bottom 1 in Pennsylvania was the first commercial HTR, put into planning in 1958, just a year after the first U.S. nuclear plant went on line at Shippingport, Pennsylvania. Built by General Atomics and operated by the Philadelphia Electric Company, the prototype HTR operated successfully from 1966 to 1974, producing power for the grid and operating information on HTRs. As General Atomics' Linden Blue characterized it, Peach Bottom worked "like a Swiss watch." Unit 1 at Peach Bottom was followed by two conventional boiling water reactors at the same site.

General Atomics next built a larger HTR, the 330-megawatt Fort St. Vrain plant in Colorado, which operated from 1977 until 1989, using a uranium-thorium fuel. Unfortunately, mechanical problems with the bearings—a non-nuclear problem—made the plant too expensive to operate, and it was shut down. Later, Fort St. Vrain was transformed into a natural gas power plant.

General Atomics continued its HTR research through the 1980s, and in 1993, began a joint project with the Russians to develop the GT-MHR, with a focus on using the reactor to dispose of surplus Russian weapons-grade plutonium, by burning it as fuel. The HTR is particularly suitable for this purpose, because of the high burnup of fuel. Later in the 1990s, the French company Framatome and Japan's Fuji Electric joined the program.

Today the conceptual design for the GT-MHR is complete and work continues to advance on the engineering, but construction cannot start until sufficient funds are available. The site selected for the reactor is Tomsk-7 in Russia, a Soviet-era "secret city" for production of plutonium and weapons, today known as Seversk.

In 2006, the University of Texas at the Permian Basin selected the GT-MHR design as the focus for a new nuclear research reactor, to be built in West Texas near Odessa.[5] General Atomics, Thorium Power, and the local communities contributed funds for the initial conceptual design. Now the university has signed a Cooperative Research and Development Agreement with Los Alamos National Laboratory, to develop a "pipeline of new nuclear reactor engineers" (a Bachelors degree program) to be ready immediately for working in power plants, national laboratories, or one of the U.S. nuclear agencies. According to the agreement, Los Alamos will send its scientists and engineers to the campus to teach and lead research, along with R&D equipment. The university's engineering staff will work with Los Alamos on research and joint seminars.

The project is named HT^{3}R (pronounced "heater"), which stands for high-temperature teaching and test reactor. Dr. James Wright, who manages HT^{3}R, told this writer that the initial efforts will be "geared toward developing any non-nuclear simulation or calculation that will move the HTGR technology forward to commercial deployment." Wright said that they would like

5. Interview with James Wright, "Texas University to Build HTR Reactor," www.21stcenturysciencetech.com/2006_articles/ spring%202006/ Nuclear_Report.pdf.

to "eventually find a way to participate in an advanced reactor test facility like the HT^{3}R, but we are not necessarily tied to any particular design. Again, our goal is to move the HTGR technology to commercial deployment as fast as possible." In Wright's personal view, such a first reactor could be built without Federal involvement or money, "if the economics are right."

PBMR

The planned PBMR facility at Koeberg, South Africa, in an artist's illustration. Once the regulatory and environmental permissions are granted, the PBMR should start contruction in 2009. Koeberg is now the site of two large boiling water nuclear reactors.

Will the U.S. Catch Up?

The Department of Energy's Next Generation Nuclear Plant program plans to put a commercial-size HTR on line . . . by the year 2030. So far, two industry groups have received a small amount of funding for design studies, and there is a target date of 2021 for a demonstration reactor of a type (pebble bed or prismatic) to be determined. But even that slow timetable is not sure, given the budget limits and lack of political priority.[6] This HTR project, called the Very High Temperature Reactor, is based at Idaho National Laboratory, and is planned for coupling with a hydrogen production plant. At the slow rate it is going, the United States, a former nuclear pioneer, may find itself importing this next-generation technology from a faster advancing nation.

The other problem is that the Next-Gen program has taken a backseat to the Bush Administration's Nuclear Energy Partnership (GNEP) program. The political thrust of the Department of Energy's GNEP is to prevent other nations (especially unfavored nations) from developing the full nuclear fuel cycle, by controlling the enrichment and supply of nuclear fuel. In line with the goal of non-proliferation, GNEP's focus is on building a fast (breeder) reactor that is "proliferation proof"—one that would burn up plutonium, preventing any diversion for bomb making. Non-proliferation, an obsession with both the Bush Administration and the Democrats, in reality is just a euphemism used for years by the Malthusian anti-nuclear movement to kill *civilian* nuclear power.[7]

It would make sense under the Next-Gen program for the United States to build a prototype GT-MHR, because the South Africans are building a PBMR, and this would give the world working models of each type. But at the present pace and budget, without a major commitment on the level of the Manhattan Project, a U.S. demonstration reactor is barely on the horizon.

The problem is not with the technology. Speaking at a press conference on the HTR in Washington, D.C., on Oct. 1, Dr. Regis Matzie, Senior Vice President & Chief Technology Officer at Westinghouse, who chaired the HTR 2008 conference, stated flatly, "We don't have a national priority" on building an HTR, and other countries which do—South Africa and China, for example—can move faster. At the same press conference, Linden Blue summed up the current HTR situation philosophically. With any new technology he said, you have an initial period of ridicule; then the technology is viciously attacked; and finally, the technology is adopted as self-evident. Soon after that, Blue said, everyone will be commenting on that first HTR, "What took you so long?"

The nuclear power revolution is now within our grasp, here in the United States, in South Africa, in China, in Japan, in Europe. The cost of developing the HTR is minuscule, in comparison with the trillions of dollars being sunk into the unproductive and losing gamblers on Wall Street. The cost of *not* developing these fourth-generation reactors will be measured in lives lost, and perhaps civilizations lost.

6. This program is discussed in Marsha Freeman, "It's Time for Next Generation Nuclear Plants," *21st Century Science & Technology,* Fall 2007, www.21stcenturysciencetech.com/Articles%202007/NextGen.pdf.

7. See "The Neo-cons Not Carter Killed Nuclear Energy," *21st Century Science & Technology,* Spring-Summer 2006, www.21stcenturysciencetech.com/2006_articles/ spring%202006/Wohlstetter.pdf; and "Bush Nuclear Program: Technological Apartheid," *EIR,* July 6, 2007.

Interview: Linden Blue

The Modular HTR: 'Its Time Has Come'

Linden Blue is vice chairman of General Atomics in San Diego, where he is responsible for the development of the advanced gas-turbine modular helium reactor (GT-MHR). General Atomics, which has a wide range of high-technology projects, has been involved with the development of HTRs for more than 50 years.

Blue was interviewed by Marjorie Mazel Hecht on Oct. 27, 2008. He discussed the economics of the HTRs, and the manufacturing capability that exists now to mass-produce them. Excerpts follow; the full interview will appear in the Fall 2008 edition of 21st Century Science & Technology.

Historically we've gotten our economics in nuclear by making the plants bigger and bigger, and getting "the economies of size scale." But the reality is that everything we have in life that is, let's say, economical, has gotten that way because it's *mass-produced.* Everything from coffee cups to cars. There are no exceptions that I can think of right now.

Obviously, we're not going to produce nuclear reactors in the numbers that we've produced cars, but perhaps a better analogy would be airplanes, which are produced in serial production, in relatively low numbers. The learning curve gets the costs down through serial production. I think it's possible that if you get the right sized gas reactor, you can have these produced in quantities where you get all the benefits of mass production, with favorable learning curves.

Said another way, there are two ways to get economy: One is to make the reactors bigger and bigger, which seems to have reached the point of diminishing return, and the other way is through mass-production....

We simply have to build a demonstration reactor. And then once it is demonstrated, and once people understand that it's real, and they see the economics of it, and see the safety of it, then there will be just overwhelming demand for it. That's the kind of challenge or problem that every manufacturer loves to see. It's a lot easier to produce things in quantity, than it is by single units.

So, getting the money matched with the technical capability and getting the first one built is what it's all about....

I believe that the first module could be built for between $600 million and $1 billion. That's my estimate. There are some estimates that are higher, but I think that when you apply manufacturing disciplines to it, and keep things simple, that would probably be a realistic number.

When you get into mass-production and come down the learning curve, I think you're looking at less than $2,000 per kilowatt, or about $200 million for a 100-megawatt reactor. Right at the moment, that's actually a lot better than the big light-water reactors. At that kind of a rate, you really have something that is very economical.

The other thing that the world is going to see is more electric vehicles, and this kind of reactor would be an ideal way of producing electricity to power electric vehicles. Essentially, you could fill your electric tank at home at night for the equivalent of 75 cents per gallon; that's really attractive. Many people who are now paying $3 to $4 per gallon would be overjoyed to be able to charge their cars at night for 75 cents per gallon of gas equivalent....

Basic Energy for Production

Modern industrial societies need power, lots of it. Solar will come along; wind can provide a little bit. But the heavy lifting can only be done by hydrocarbons or nuclear....

It's basic production, not paper streams of profit. It's adding basic energy for production. Building such plants would put a lot of people to work. It would obviously do good things for the construction industry. It would have a huge effect throughout the economy to have a major surge in building these plants, and it would save the $7 billion a day that has been going from the industrial world to the oil producers....

Technology is a wonderful thing! People invent better things to solve problems. And this is exactly what's happened here. Over this 50-year period, the reactor design has improved dramatically. We've made mistakes, and we've cured them. And now we have something that is so safe, and so economical and so efficient, and so non-polluting, that it's time has come.

Interview: Jaco Kriek

South Africa's PBMR Is Moving Forward!

Jaco Kriek is CEO of the Pebble Bed Modular Reactor (Pty) Ltd. in South Africa. He was interviewed in Washington, D.C. by Marjorie Mazel Hecht on Sept. 29, 2008. Kriek discussed the history of the PBMR, its role in South Africa's economic development, and the foreign-funded anti-nuclear movement.

Excerpts of the interview follow; the full interview will appear in the Fall 2008 issue of 21st Century Science & Technology.

… We are not just a small local entity. Already South Africa has created a nuclear industry, although it's still young. We have the U.S. Nuclear Regulatory Commission coming to our regulator to learn how our regulatory licensing is coming along. There was a visit a few weeks ago, a delegation of about 15 people from the NRC, visiting our test facilities. And we've got an ASME workshop next week—the American Society of Mechanical Engineers—because our design is based on ASME standards, and we had to make some additions to the ASME codes and standards—ASME Plus. So ASME is engaged with our regulator.

In South Africa, we've kept the nuclear idea alive in public opinion, and therefore when the state utility Eskom just announced that they were going to build a number of large reactors, there was no outcry. The country's citizens almost have an attitude of, "We knew it was coming."

When you talk about local industry: We are now busy with about five local companies, to get them ASME accreditation, so that they can manufacture nuclear-grade components for us. We have agreements now with six universities, and we're increasing the number, to include nuclear engineering as a subject.…

And we have created the Nuclear Industry Association of South Africa. Areva, Westinghouse, Mitsubishi Heavy Industries, and others—Eskom, Uranium One, Necsa—are members now. It's grown tremendously, and all the big local companies have joined. Its purpose is really to consolidate all the initiatives—education, regulatory issues, manufacturing, licensing, industrial capacity, government liaison, policy issues.…

If you look at the African grid, South Africa produces and consumes more than 50% of the electric power.… If you look at other countries in Africa, some of the grids are 900 megawatts, 1,000 MW. To give you an example: I was involved in Mozambique with an aluminum smelter, a 1,000-MW plant. It uses four times the electricity of Mozambique, just that one project. So these small 165-MW PBMR reactors are ideal for these countries.…

In Mozambique, they use diesel fuel to generate electricity, so cost is not an issue. Even if you think that nuclear will get more expensive, it will never reach the cost of diesel.…

So it's a challenge for Africa. But South Africa is serious about this. We have a visit to Tunisia next week; they want to understand how they can cooperate with us. Algeria, Morocco, and Libya are also interested in the technology.… So, you'll probably find that we'll cooperate from the South with the North, Northern Africa, and we'll try and see what we can do. Some of these countries want to establish nuclear training schools with South Africa, and invest with PBMR potentially.…

Foreign-funded Anti-Nuclear Campaign

It is sad that foreign companies or rich people try to dictate or influence policy decisions in developing countries, when in their own country, they are going to go nuclear. It's sad that they don't want to allow *us* to do it, I don't know what makes them feel they should spend money on this.…

Because what do you want us to do? Do you want us to continue to import nuclear technology and fuel from the U.S., or from wherever else? Why can China, Japan, France, go ahead with nuclear—but foreign money is used in South Africa for anti-nuclear campaigns? It doesn't make sense to me.…

If somebody has got a conscience, they're going to spend their money combatting malaria in Mozambique, for example. I think the anti-nuclear funders don't really appreciate the damage they are doing.

Editorial

Destroy the British Empire!

One of the mental blocks LaRouche organizers have found in attempting to convey the essence of the reform which Lyndon LaRouche lays out in the lead article in this issue, is shockingly simple. Americans, as well as others, have forgotten that British imperialism, the only imperialism currently operative on this planet, not only exists, but is *the* enemy of the human race.

By British, of course, we do not mean the British people. The British Empire today is the equivalent of the global monetary system, which is sucking the blood out of the world's population, in a futile effort to survive. The spokesmen for that system are indeed British government spokesmen, the likes of "Crash" Gordon Brown, and Lord Mark Malloch-Brown.

As one would expect in this transition period in the U.S. government, the British are hyperactive, making every effort to capture the U.S. Presidency for their objectives. Prime Minister Brown has apparently been successful in pushing through a pseudo-consensus at the Group of 20 meeting over which George Bush pretended to preside on Nov. 15. Promises of resistance against Brown's demand for more free trade, increased powers for the IMF, and other supranationalist measures—including a threat by French President Sarkozy to walk out—did not seem to materialize.

Meanwhile, the British were active on other fronts, doing their best to stoke hostilities between the United States and Russia, and escalating the genocidal conflict in the Democratic Republic of Congo. With the Idiot-in-Chief still in place, Gordon Brown et al. don't have to worry about any obstacles to their plans.

But, as LaRouche pointed out Nov. 11, neither the United States, nor the rest of the world, can afford to sit back and wait to see what develops over the next two months. Even if President-elect Obama were competent enough and inclined to follow LaRouche's policy—which there is every reason to believe he's not—waiting until January is suicidal for civilization itself.

Which means, action has to be taken against the British Empire *now*, by the only institution with the competence and power to do so. That institution is what LaRouche has referred to as the *Presidency* of the United States, the complex of former Presidents and government officials, professors, intelligence professionals, military leaders, and so forth, who have some grasp of the uniqueness of U.S. institutions, and are committed to ensuring that they survive.

Within the institution of the Presidency, there are many who *do* understand that the British Empire still exists, and is determined to destroy the United States, the only country on Earth to have defeated it, and which has the Constitutional commitment to a workable replacement for the current world system's disaster. They understand that the U.S. dollar has been hijacked by a global financial oligarchy, and that U.S. economic power has been systematically obliterated by this stateless monetarist system. These patriots may not fully understand the scientific dynamic that underlies the Constitutional system of credit devised by Alexander Hamilton, Benjamin Franklin, and other geniuses who devised the bedrock institutions of the United States, but they recognize that LaRouche is right, and instinctively support this approach.

Now is the time for more patriots to rally behind LaRouche's approach: No to globalization; no to genocidal environmentalism; no to the thievery called free trade! The British Empire must be destroyed, and LaRouche's proposed Four-Power alliance created to replace it.

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COLORADO
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- GROTON CC Ch.12: Mon 5 pm
- NEW HAVEN CC Ch.23: Sat 6 pm
- NEWTOWN CH Ch.21: Mon 12:30 pm; Fri 7 pm
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DISTRICT OF COLUMBIA
- WASHINGTON CC Ch.95 & RCN Ch.10: Irregular

FLORIDA
- ESCAMBIA COUNTY CX Ch.4: Last Sat 4:30 pm

ILLINOIS
- CHICAGO CC./RCN/WOW Ch.21: Irregular
- PEORIA COUNTY IN Ch.22: Sun 7:30 pm
- QUAD CITIES MC Ch.19: Thu 11 pm
- ROCKFORD CC Ch.17 Wed 9 pm

IOWA
- QUAD CITIES MC Ch.19: Thu 11 pm

KENTUCKY
- BOONE/KENTON COUNTIES IN Ch.21: Sun 1 am; Fri Midnight
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MASSACHUSETTS
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- FRANKLIN COUNTY (NE) CC Ch.17: Sun 8 pm; Wed 9 pm; Sat 4 pm
- QUINCY CC Ch.8: Pop-ins.
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- KALAMAZOO CH Ch.20: Tue 11 pm; Sat 10 am
- KENT COUNTY (North) CH Ch.22: Wed 3:30 & 11 pm
- KENT COUNTY (South) CC Ch.25: Wed 9:30 am
- LAKE ORION CC Ch.10: Mon/Tue 2 & 9 pm
- LANSING CC Ch.16: Fri Noon.
- LIVONIA BH Ch.12: Thu 3 pm
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- PORTAGE CH Ch.20 Tue/Wed 8:30 am; Thu 1:30 pm
- SHELBY TOWNSHIP CC Ch.20 & WOW Ch.18: Mon/Wed 6:30 pm
- WAYNE COUNTY CC Ch.16/18: Mon 6-8 pm

MINNESOTA
- ALBANY AMTC Ch.13: Tue & Thu: 7:30 pm
- CAMBRIDGE US Ch.10: Wed 6 pm
- COLD SPRING US Ch. 10: Wed 6 pm
- COLUMBIA HEIGHTS CC Ch.15: Tue 9 pm
- DULUTH CH Ch.20: Mon 9 pm; Wed 12 pm, Fri 1 pm
- MARSHALL Prairie Wave & CH Ch.35/8: Sat. 9 am
- MINNEAPOLIS TW Ch.16: Tue 11 pm
- MINNEAPOLIS (N. Burbs) CC Ch.15: Thu 3 & 9 pm
- NEW ULM TW Ch. 14: Fri 5 pm
- PROCTOR MC Ch. 12: Tue 5 pm to 1 am
- ST. CLOUD CH Ch.12: Mon 6 pm
- ST. CROIX VALLEY CC Ch.14: Thu 1 & 7 pm; Fri 9 am
- ST. LOUIS PARK CC Ch.15: Sat/Sun Midnite, 8 am, 4 pm
- ST. PAUL CC Ch.15: Wed 9:30 pm
- ST. PAUL (S&W Burbs) CC Ch.15: Wed 10:30 am; Fri 7:30 pm
- SAULK CENTRE SCTV Ch.19: Sat 5 pm
- WASHINGTON COUNTY (South) CC Ch.14: Thu 8 pm

NEVADA
- BOULDER CITY CH Ch.2: 2x/day: am & pm

NEW HAMPSHIRE
- MANCHESTER CC Ch.23: Thu 4:30 pm

NEW JERSEY
- BERGEN CTY TW Ch.572: Mon & Thu 11 am; Wed & Fri 10:30 pm
- MERCER COUNTY CC Trenton Ch.26: 3rd & 4th Fri 6 pm Windsors Ch.27: Mon 5:30 pm
- MONTVALE/MAHWAH CV Ch.76: Mon 5 pm
- PISCATAWAY CV Ch.15: Thu 11:30 pm
- UNION CC Ch.26: Irregular

NEW MEXICO
- ALBUQUERQUE CC Ch.27: Thu 4 pm
- LOS ALAMOS CC Ch.8: Wed 10 pm
- SANTA FE CC Ch.16: Thu 9 pm; Sat 6:30 pm
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- CHEMUNG TW Ch.1/99: Tue 7:30 pm
- ERIE COUNTY TW Ch.20: Thu 10:35 pm
- IRONDEQUOIT TW Ch.15: Mon/Thu 7 pm
- JEFFERSON/LEWIS COUNTIES TW Ch.99: Irregular
- MANHATTAN TW & RCN Ch.57/85 Fri 2:30 am
- ONEIDA COUNTY TW Ch.99: Thu 8 or 9 pm
- PENFIELD TW Ch.15: Irregular
- QUEENS TW Ch.34 & 35: Mon 10 pm; TW Ch.572: Mon & Thu 11 am; Wed & Fri 10:30 pm
- QUEENSBURY TW Ch.71: Mon 7 pm
- ROCHESTER TW Ch.15: Sun 9 pm; Thu 8 pm
- ROCKLAND CV Ch.76: Tue 5 pm
- SCHENECTADY TW Ch.16: Fri 1 pm; Sat 1:30 am
- STATEN ISLAND TW Ch.35: Thu Midnite. Ch.34: Sat 8 am. Ch 572: Mon & Thu 11 am; Wed & Fri 10:30 pm
- TOMPKINS COUNTY TW Ch.13: Sun 12:30 pm; Sat 6 pm
- TRI-LAKES TW Ch.2: Sun 7 am, 1 pm, 8 pm
- WEBSTER TW Ch.12: Wed 9 pm

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- HICKORY CH Ch.6: Tue 10 pm
- MECKLENBURG COUNTY TW Ch.22: Sat/Sun 11 pm

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- AMHERST TW Ch.95: Daily 12 Noon & 10 pm
- CUYAHOGA COUNTY TW Ch.21: Wed 3:30 pm
- OBERLIN Cable Co-Op Ch.9: Thu 8 pm

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- PORTLAND CC Ch.22: Tue 6 pm. Ch.23: Thu 3 pm

RHODE ISLAND
- E. PROVIDENCE CX Ch.18: Tue 6:30 pm
- STATEWIDE RI I CX Ch.13 Tue 10 pm

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- HOUSTON CC Ch.17 & TV Max Ch.95: Wed 5:30 pm; Sat 9 am
- KINGWOOD CB Ch.98: Wed 5:30 pm; Sat 9 am

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- BRATTLEBORO CC Ch.8: Mon 6 pm, Tue 4:30 pm, Wed 8 pm
- GREATER FALLS CC Ch.10: Mon/Wed/Fri 1 pm
- MONTPELIER CC Ch.15: Tue 10 pm; Wed 3 am & 4 pm

VIRGINIA
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- ARLINGTON CC Ch.33 & FIOS Ch.38: Mon 1 pm; Tue 9 am
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- FAIRFAX CX Ch.10 & FIOS Ch.10: 1st & 2nd Wed 1 pm; Sun 4 am. FIOS Ch.41: Wed 6 pm
- LOUDOUN COUNTY CC Ch.98 & FIOS Ch.41: Wed 6 pm
- ROANOKE COUNTY CX Ch.78: Tue 7 pm; Thu 2 pm

WASHINGTON
- KING COUNTY CC Ch.29/77: Mon 11 am
- TRI CITIES CH Ch. 13/99: Mon 7 pm; Thu 9 pm

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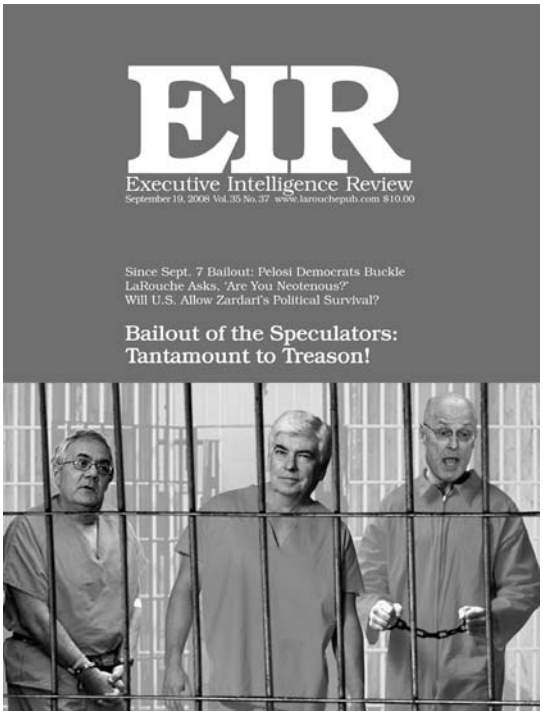

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