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Schiller Institute: Eurasian Land-Bridge Is a Reality
Bailout of Bankrupt Funds Bars Mortgage Crisis Fix
LaRouche Celebrates 'This New Millennium of Ours!'

**Financiers Are 'Up to
Their Eyeballs in Caymans'**



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EIR

From the Managing Editor

Who's the guy on our cover? Some among our readers who are in need of new eyeglasses, may mistake him for Alan Greenspan—and they wouldn't be too far wrong. But this cayman is actually the CEO of a hedge fund in Queen Elizabeth's Caribbean financial center, the Cayman Islands. See John Hoefle's chronicle (p. 15) for the gory details.

Our *Feature* documents how the U.S. home mortgage crisis is spinning so far out of control, that it threatens to bring down the global financial system any day—and yet, the U.S. Congress refuses to act. With the Executive branch hijacked by Anglo-Dutch Liberalism, there is no other branch of government that *can* initiate effective action at this time. The precedent of President Franklin D. Roosevelt shows what can and must be done in such an emergency. The legislation being circulated by the LaRouche Political Action Committee, "The Homeowners and Bank Protection Act of 2007" (see www.larouchepac.com), spells out the immediate measures our government must adopt. But it is clear that nothing but a powerful constituency mobilization can press Congress into motion. We report some significant resolutions and statements from Democrats around the country, but it is going to take a great deal more than that, *before October*, to win this fight against the hedge funds.

As we go to press, the Schiller Institute is meeting in Kiedrich, Germany for a conference on the Eurasian Land-Bridge—the great infrastructure projects that will put the whole world to work productively. See p. 4 for a first report, with much more to come next week. We have several articles that are pertinent to the deliberations of the conference: Richard Freeman and Dr. Hal Cooper's analysis of the proposed Alaska-Canada Railroad, how it would link up to a Bering Strait Tunnel, and the economic impact of such projects; Tom Gillesberg's history of the Dane Vitus Bering, who, in the early 18th Century, led the voyages of discovery that resulted in exploration of what we now call the Bering Strait; and our *Science & Technology* feature, by Drs. James Powell and Gordon Danby, on "Maglev: Transport Mode for the 21st Century."

Don't miss Gregory Murphy's little bombshell on "carbon swaps," with its undeniable proof of the *genocidal* intent of Al Gore and his elite crew of global warming fanatics.



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*A cayman surveys
the scene for his
next meal.*



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Drs. James Powell and Gordon Danby tell how magnetic levitation can revolutionize world transport, in this article reprinted from *21st Century Science & Technology*, Summer 2003. This article was presented as part of the proceedings of the Schiller Institute's Sept. 15-16, 2007 conference in Kiedrich, Germany.

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Schiller Institute: Eurasian Land-Bridge Is a Reality

by Rainer Apel and Jeffrey Steinberg

“We shall be assembled here on Saturday, Sept. 15, 2007, amid the onrush of what already onrushing events are demonstrating to be, this most momentous period of change in globally extended modern civilization since the great 1648 Peace of Westphalia. The outcome of this presently accelerating world-wide crisis, is not yet decided; but, the alternatives can be, and must be made politically clear.

“In any case, it is certain that the kind of global monetary-economic system which has evolved in the aftermath of the crisis-events of 1968, will not survive the presently onrushing calamities. It should also be made clear, as the proceedings of this two-day conference will help to show us, that there are great, hopeful options for change, some of which will be addressed during the course of this two-day conference. For my part in these proceedings, my attention is focussed upon what appear to me as being the most crucial of the changes in physical-economic policies on which the successful rise out of the presently most ominous crisis will depend.”

With these words, written on Sept. 14, Lyndon LaRouche pronounced his own hopes for the international conference, which began on Sept. 15, in the German town of Kiedrich. As we go to press, 350 people from 40 nations had already gathered for the opening session of the Schiller Institute event.

In addition to Lyndon LaRouche and Helga Zepp-LaRouche, the conference agenda featured prominent speakers from around the world, including an impressive delegation of Russian scholars and political leaders. Among them: Prof. Stanislav Menshikov of the Russian Academy of Sciences; Victor Razbegin, deputy chairman of the Council for the Study of Productive Forces (SOPS); and Dr. Sergei Cherkasov and Academician Dmitri Rundqvist, both of the Vernadsky State Geological Museum. Other scheduled speakers

included Hal Cooper, an American consulting engineer who has done groundbreaking work on high-speed rail plans for the Americas and Eurasia; Italian economist Dr. Nino Gallo-ni; and American civil rights pioneer Amelia Boynton Robinson.

The Global Financial Collapse in Context

In her introduction to Lyndon LaRouche’s keynote speech on the morning of Sept. 15, Helga Zepp-LaRouche, the founder and chairwoman of the Schiller Institute, reviewed the world financial system’s collapse. As the July G-8 meeting failed to establish any transparency, nobody knows how many trillions of dollars of multi-leveraged debt is out there, and as LaRouche has pointed out, the system is finished. LaRouche announced, when he was in Moscow, in May 2007, that the system would enter its final collapse phase in September, and it has; therefore, this conference is held at the right moment to discuss the crisis and what is to be done about it.

Think back to LaRouche’s July 25, 2007 webcast, said Zepp-LaRouche, and what has happened since: the Minnesota bridge collapse, exposing the disastrous state of U.S. infrastructure; then, the crisis of the yen carry trade; then, the outbreak of the crises around Germany’s Industry Credit Bank (IKB), West Landesbank, and Sachsen Landesbank, which prompted Jochen Sanio, the head of the financial market watchdog agency BaFin, to speak of a crisis like that of 1931. That is even an understatement, as today’s crisis is much, much worse, Zepp-LaRouche emphasized.

Lyndon LaRouche intervened on Aug. 22, 2007, with his Homeowners and Banks Protection Act, which has been taken to Congress and other institutions as legislation that must be passed with utmost urgency. There is massive counter-lobbying against Congress by the hedge funds to prevent that, but

these are “paper tigers,” as LaRouche has exposed them, she continued.

What is needed, are the New Bretton Woods financial system and the Eurasian Land-Bridge, for which the Schiller Institute and other LaRouche-associated organizations worldwide have been organizing since the beginning of the 1990s; the time has come for building the newest generation high-temperature reactor nuclear power plants, maglev trains, and development corridors. Ironically, Zepp-LaRouche observed, the Bush Administration’s policy has forced the countries of Eurasia into cooperation much faster than they might have done, otherwise: Since the Spring of this year, Russian President Vladimir Putin has put forward a strategic railway development plan; there was the Bering Strait conference in Moscow in April; initiatives were taken for a Delhi-Mumbai corridor, a Calcutta-Myanmar corridor, a Himalaya tunnel project between India and China, a Kazakhstan water development plan, and the Danish maglev debate—these are all positive steps in the direction of the land-bridge. There is also a worldwide nuclear-power renaissance. We will fight to bring to Germany, she said, an understanding of the vital importance of nuclear technology and maglev. And if necessary, Commander Wu, who built the Shanghai maglev in 22 months, will be brought to Germany to get the project off the ground!

Following Zepp-LaRouche’s introduction, a video was shown of the late Mexican President José López Portillo’s historic United Nations speech of Oct. 1, 1982, inspired by his discussions with Lyndon LaRouche, in which he blasted the vicious cycle of debt that had been strangling the developing sector nations. He also warned that by maintaining this kind of system, the creditors will strangle themselves. The defense of a nation’s sovereign rights to growth and development must not be slandered as a “sin” against the system; this is a genuine right which this system is standing against, and so the system has to be changed, López Portillo said.

Zepp-LaRouche ended by recalling López Portillo’s statement, during the crisis of 1998, urging people to “listen to the wise words of Lyndon LaRouche.”

LaRouche: ‘Firewall’ Legislation Needed Now

In his keynote address, Lyndon LaRouche began by identifying the systemic collapse, explaining that there is a chain reaction disintegration already under way, threatening the dollar, and with it, also the survival of China and Europe, which have no protection against the collapse. The collapse is global, and without a real change of policies, the world will certainly fall into a new dark age.

In the precis of his keynote, quoted at the beginning of this article, LaRouche stated:

“As we meet today, the world is experiencing the early phases of the collapse of the greatest financial speculative bubble in all modern history. The form of this crisis has certain marked, systemic similarities to the hyperinflationary

panic which struck the Weimar, Germany republic during the course of 1923. The principal difference between the two situations, then and now, is that the presently skyrocketing monetary-financial crisis is global; there are no powerful outsiders, as with the introduction of the Dawes Plan, to rescue the present crisis-ridden world as a whole from the explosion which has first appeared as the collapse centered in the trans-Atlantic financial-monetary bubble which is in the process of imploding during the current months.

“However, there are some degrees of relevant similarities between the present world monetary-financial crisis, and the circumstances leading into the Germany crisis of 1923.

“In the case of Germany’s 1923 crisis, the distinguishing, underlying cause of the crisis had been the fraudulent assertion, during the Versailles proceedings, by President Woodrow Wilson’s U.S. Secretary of State Lansing, that Germany had sole responsibility for World War I. On this account, a vast, unpayable debt was imposed upon Germany at Versailles. The actual guilt for all of the relevant cases of warfare, from the beginning of the process of war-fighting, with Japan’s first war on China, had been with Britain’s Prince of Wales Albert Edward, and, later, King Edward VII, whose government actually orchestrated, out of explicitly stated geopolitical motives, the plan for placing Germany under attack, on its western and eastern frontiers.

“In the present case, notable prolonged warfare, that of the U.S.A. in the 1964-1972 combat in Indo-China, and the rash of wars, over the recent sixteen years, in the Balkans and Southwest Asia, when combined with the effects of the destructive monetary and financial reforms within the U.S.A., in particular, have served as the underlying basis for the spreading state of general bankruptcy in North America and in Central and Western Europe. The conditions now associated, on the one side, with the waves of collapse of so-called “hedge funds” and related, John-Law-style forms of reckless speculation; and, on the other side, the effects of bleeding long-wars of the 1964-2007 interval to date, are the principal markers of the process leading directly into the present general breakdown-crisis of the existing world monetary-financial system.

“The political-strategic implications of this present state of affairs are deadly, in the most profound way. The only peaceful remedy for the present world situation, today, would be by actions which, in effect, place the present world monetary-financial system into a process of reorganization of bankruptcy; and a return to a design consistent with what U.S. President Franklin Roosevelt had intended for the Bretton Woods System, had he lived. No possible solution for this crisis exists within the structures of the present world financial-monetary system. Only a political reform of the world system, as it must be promoted by the initiative of a relevant leading group of powerful nation-states, could turn the tide of horror now gripping the fate of this planet as a whole.”

Bankrupt Funds' Bailout Push Bars Mortgage Crisis Solution

by Paul Gallagher

As the U.S. home foreclosures crisis deepens, and mortgage banks and lenders sit on the edge of bankruptcy in the United States and in Europe, Congressional sources say that efforts to act on the crisis are being distorted by tremendous pressure on Congress from the hedge funds, investment banks, and their lobbies—pressure for a huge bailout of the funds by government housing agencies. Such a bailout, under the guise of “helping homeowners avoid foreclosure,” would do no such thing—the admitted failure of a \$100 million Ohio state mortgage refinancing plan, since May, has shown that. But it would turn Fannie Mae, Freddie Mac, the Federal Housing Administration, into so many additional Federal Reserve Banks, injecting hundreds of billions—as the Fed has already been doing—into a bailout of the hedge funds and their partners, the Wall Street investment banks, which created the monstrous speculative bubbles based on housing mortgages.

This bailout policy is worse than doing nothing at all about the banking crisis, economist Lyndon LaRouche said on Sept. 14: “It is the precise equivalent of spraying cold gasoline on a burning building,” spreading the fire into an international explosion of inflation and a dollar collapse.

Should Congress or the Federal Reserve have bailed out Enron, with its scores of “off-the-balance-sheet” loan scams, debt investment vehicles, derivatives-trading operations, and billions in hidden losses? Such an insanity is the repeated bailout of Countrywide Mortgage, which has now reached \$23.5 billion in banks’ new credit lines to Countrywide using Federal Reserve money-printing injections into those banks, plus a \$2 billion stock purchase by Bank of America. What’s Countrywide done with all that bailout credit? Shrunk its mortgage lending by 20%, laid off 13,000 employees, further *restricted* refinancing for distressed mortgage-holders—and bought back devalued mortgage-backed securities (MBS) from hedge funds, investment banks, etc. at full price!

Such an insanity, multiplied many times over, is what Wall Street’s Financial Services Forum and the hedge funds’ Managed Funds Association lobbies are demanding from Congress.

These funds are divided between bankrupt and going-bankrupt, because they came to dominate all the various speculative markets driven by the hyperinflated mortgage bubble: MBS and collateralized debt markets, commodities futures, currency and foreign exchange markets driven by the yen carry trade, and short-term commercial loan markets. When the huge mortgage bubble started to collapse, the hedge funds spread the debt collapse to financial markets worldwide, blowing crippling holes in the books of the banks which had supported them. Now that they are going bankrupt, they want Congress’s actions to bail out the \$6-7 trillion MBS and collateralized mortgage obligations markets of which the hedge funds held 15-20% before it began to collapse in July-August.

Congress should let the Queen—to whose offshore territories 90% of these hedge funds have gone and “registered” their activities—bail them out.

Desperation of the ‘Non-Banks’

The hedge-fund sector—the crafty “agents of financial innovation and dispersal of risk,” so lavishly praised over the years by Sir Alan Greenspan at the Federal Reserve, have congealed into a gang of only a couple of hundred Frankenstein monsters sustained by bank credit. Although 8,000, 9,000, even 10,000 hedge funds all over the world are sung of by the financial press, in fact nearly 20% of the assets of the entire sector—about \$300 billion—were controlled by just nine hedge-fund managers as of mid-2007, according to Hedge Fund Research, Inc. The biggest funds feature “funds of funds” living off banks like Goldman Sachs and JP Morgan Chase; and several of these biggest have already admitted to their in-



EIRNS/Will Mederski

Lyndon LaRouche's Homeowners and Bank Protection Act would prevent foreclosures and save the chartered banks; the hedge funds will be put out of their misery. Here, a LaRouche Youth Movement organizer offers an ironic take on the crisis in the Seattle financial district.

vestment clients that they are losing money big time, including Goldman Sachs' Global Alpha fund and the misnamed Renaissance Technologies Capital Fund. Others among the biggest have gone bust, from Amaranth to the Bear Stearns' funds. Only about 250 hedge funds, each managing a billion dollars or more, controlled 85% of the assets of the hedge fund sector, and nearly a dozen of these have failed during 2007's mortgage-backed securities meltdown and ensuing credit panic.

The entire hedge-fund sector suffered a net drain of roughly \$32 billion in July and at least that much during August 2007 (about 4% of the total assets they were managing), completely wiping out in those two months, the inflows of the first two quarters of the year. The losses hit the "hedge funds of funds," usually dependent on banks in the major cases, which had \$55 billion in assets pulled out in July alone, a 5.5% shrinkage that month.

Then came Aug. 15, a date—arriving amidst a torrent of hedge fund losses and a credit panic—on which hedge fund investors were to notify the managers if they wanted their investments pulled out by Oct. 1. No one knows, in this unregulated and unregistered "industry," how many funds were given the effective equivalent of death notices at that time. But since then, the big funds shutting down, or blocking withdrawals preliminary to doing so, have accelerated: two of Wharton Asset Management's funds with big 2007 losses; Caliber Global Investment Ltd.; London-based Synapse In-

vestment Management; Absolute Capital Management and two of Basis Capital Management's funds, based in Sydney, Australia, etc. As the head of one hedge-fund investor group, IGS, was quoted by Reuters, "Managers of asset-backed funds could be in a lot of pain over the next few months. There are no decent valuations on any of this stuff."

During July and August, the entire sector of hedge funds—which charge at least 2% off the top just to manage an investor's money—lost approximately 1.5% each month. And that is based on reporting by the incomplete surveys of research groups, which, for lack of information, "average up"; they do not include those hundreds of smaller funds which fold up completely on a monthly basis.

The measure of the hedge funds' desperation was signalled by the London *Financial Times* on Sept. 13, when it "reported" plans by the Federal Reserve to start lending out funds to "non-banks"—read, hedge funds and certain large and nearly bankrupt mortgage lenders—for the first time in its history. The *Financial Times*, clearly pushing the Fed on behalf

of City of London financial managers, conjured onto the agenda of the Fed's Sept. 18 meeting, "unorthodox measures" which "reach beyond banks to the stressed non-bank financial sector and the distressed markets for asset-backed commercial paper and non-agency mortgage-backed securities," including setting up a facility to lend directly to non-banks against their collateral—that is, the illiquid and massively devalued debt securities and derivatives, in the hedge funds' case.

Such a step by the Fed, which must be prevented by Congressional action, would effectively promise to monetize any debts and bets, based on other bets and debts, dumped on the Fed by the desperate financial funds, including frozen 30-day commercial loans, mortgage-backed securities and their derivatives, etc. It would be, in LaRouche's warning words, simply hyperinflationary in the terms of reference of Weimar Germany in the Fall of 1923.

The private-equity and hedge fund "corruption drive" to buy Congress away from any regulation or fair taxation of the funds, received a blow at a Sept. 6 Senate Finance Committee hearing. The pension managers of the National Conference of Public Employee Retirement Systems managers released a statement *rescinding* a previous claim by one of its officials, that if Congress taxed private equity and hedge funds at a higher rate, pension fund investments into those pirate funds would be hurt. The pension funds asserted, instead, that they had no objection to the legislation, which would make the pri-

vate equity and hedge fund managers pay fair taxes on their compensation, and that higher taxes for the pirates would have no effect on the pension plans.

But it will have an effect on the dying hedge-fund sector, which at this point, could not survive even government regulation, let alone significantly greater taxation. The Blackstone Group, *EIR* has learned, has paid out the largest lobbying fee recorded—\$3.75 million for just the first six months of 2007—to the Ogilvy Government Relations lobbying firm, to push Congress against any such moves. The Ogilvy firm is headed by one of former Rep. Tom DeLay’s “kitchen cabinet,” Wayne Berman, a close friend of Dick and Lynne Cheney. This occurs while the individual hedge funds have thrown large amounts of money into the 2008 campaign cycle, predominantly to Democrats, putting pressure on Congress to block any fair tax changes and to go with the Federal bailout approach to the mortgage bubble collapse.

FDR’s Principles

The only action proposed to Congress which would actually protect homeowners, chartered banks, and the U.S. economy, by a “firewall,” from the global debt conflagration under way, is action on LaRouche’s proposed principles of a Homeowner and Bank Protection Act of 2007.

The three simple principles proposed for this Act (see *Resolutions*) revive the successful legacy of President Franklin Roosevelt in a similar crisis—including a massive wave of farm and home foreclosures—as he entered the Presidency. These principles effectively combine the result of FDR’s actions of March 1933, in reorganizing, protecting, and saving the U.S. banking system, then chaotically shutting down; and in April of the same year, in the Home Owners Loan Act. That Act created the Federal Housing Administration, and gave or insured millions of new, affordable mortgages, but at values at least 20% and typically 50% below the bubble mortgages coming from the 1920s speculation—and it provided the banks protection and a means to participate in the new mortgages.

And LaRouche’s legislative principles, while protecting Federal and state chartered banks, would *cut off* the bankrupt hedge funds, the securitizing investment banks, the other “alternative players” in the mortgage bubble, from any bailout.

The mass foreclosure wave now under way looks even worse than the alarming forecasts of a couple of months ago. MoodysEconomy.com on Sept. 13 reported the highest estimate yet, of 4.5 million adjustable-rate mortgages (ARM) or “teaser” mortgages of 2004-06 whose monthly payments will jump to unaffordable levels *during the next 12 months*, as the homes’ market values drop another 9-10% even in the conservative estimates of the National Homebuilders. The National Association of Realtors said that 60% of homeowners who tried to refinance their ARM mortgages in August, couldn’t do so, due to the credit collapse. An astonishing one-third of all U.S. home purchase closings in August failed “at the altar” because the mortgage lender didn’t show up with the—pre-



The ghost of Alan Greenspan now haunts the financial markets, as the “wall of money” he built out of hedge funds crumbles to dust.

approved—loan.

Even assuming that half of these 4.5 million mortgages go into foreclosure, 200,000 or more households would be losing their homes *every month* in 2008, compared to the 50,000 or so a month losing them in 2007. This would mean social, as well as economic chaos.

The mobilization for LaRouche’s Homeowners and Bank Protection Act proposal is strongest at the state level, where the mass-foreclosure “tsunami” is a stark reality, and where a growing number of legislatures are in, or facing special sessions because of the disappearance of real estate-based tax revenue. The LaRouche Youth Movement’s interventions with those state legislatures and city governments has begun to produce resolutions of endorsement of LaRouche’s proposal, and growing pressure on Congress for it.

But that action must be taken now, by early October, before the financial crisis triggers widespread bank failures like those already seen in Britain and Germany.

Members of Congress, in recent hearings of key economic committees in the House, have acknowledged that the mortgage collapse has “gone systemic,” turning into a global financial crisis hitting all markets and the underlying economies as well. They have professed surprise over this alarming spread of a bank panic. But they are really just affirming that they refused to listen to LaRouche’s warnings on this debt crisis going back to the auto industry collapse beginning early 2005, or to take the clear actions LaRouche’s movement proposed to them. The purpose of these actions was to create “firewalls” between the unstoppable onrushing collapse of this colossal debt bubble, and the real economic factors of employment, industrial and technological capabilities, homeownership, etc., which need government protection from that collapse.

Now, they know LaRouche was right. The failure in Congress is a moral failure. They are not fooled, but are threatening to act like fools for the hedge funds, and for the investment bank circles of Felix Rohatyn’s “Democratic” influence.

To National Black Caucus Of State Legislators

State Rep. Juanita Walton (D) of St. Louis, representing the 81st District in Missouri's House of Representatives, filed this resolution with the National Black Caucus of State Legislators, which will meet in Arkansas in December. Representative Walton is also president of the National Order of Women Legislators, and past president of the National Foundation of Women Legislators.

Resolution to Congress—Implement the Homeowners and Bank Protection Act of 2007

Whereas, the onrushing financial crisis engulfing home mortgages, debt instruments of all types, and the banking system of the United States, threatens to set off an economic depression worse than the 1930s; and

Whereas, millions of American citizens are threatened with foreclosure and loss of their homes over the upcoming months, according to studies released by Realty Trac and Moody's Economy.com; and

Whereas, this financial crisis is now threatening the integrity of both state and federally chartered banks, as typified by the run on deposits of Countrywide Financial in California during the month of August; and such a banking collapse would wipe out the life savings of American citizens, and drastically undermine the economic stability of our states and cities; and

Whereas, in a similar financial crisis in the 1930s, President Franklin D. Roosevelt intervened to protect banks and homeowners; for example in April 1933, he introduced legislation as a "declaration of national policy ... that the broad interests of the Nation require that special safeguards should be thrown around home ownership as a guarantee of social and economic stability ...," and therefore,

Be it Resolved, that the National Black Caucus of State Legislators hereby endorses the Homeowners and Bank Protection Act of 2007, as initiated by economist Lyndon H. LaRouche, Jr. This crisis is such that it requires emergency action that only the United States Congress has the capability to enact. Congress must move quickly to keep people in their homes and avert social chaos. This act includes the following provisions:

1. Congress must establish a Federal agency to place the Federal and state chartered banks under protection, freezing all existing home mortgages for a period of however many months or years are required to adjust the values to fair prices, and restructure existing mortgages at appropriate interest



EIRNS/Stuart Lewis

Missouri State Rep. Juanita Walton, shown here in Washington, D.C. at a LaRouche webcast, has called upon the NBCSL to pass a resolution demanding Congressional passage of The Homeowners and Bank Protection Act of 2007.

rates. Further, this action would also write off all of the speculative debt obligations of mortgage-backed securities, derivatives, and other forms of Ponzi Schemes that have brought the banking system to the point of bankruptcy.

2. During the transitional period, all foreclosures shall be frozen, allowing American families to retain their homes. Monthly payments, the equivalent of rental payments, shall be made to designated banks, which can use the funds as collateral for normal lending practices, thus recapitalizing the banking systems. These affordable monthly payments will be factored into new mortgages, reflecting the deflating of the housing bubble, and the establishment of appropriate property valuations, and reduced fixed mortgage interest rates. This shakeout will take several years to achieve. In the interim period, no homeowner shall be evicted from his or her property, and the Federal and state chartered banks shall be protected, so they can resume their traditional functions, serving local communities, and facilitating credit for investment in productive industries, agriculture, infrastructure, etc.

3. State governors shall assume the administrative responsibilities for implementing the program, including the "rental" assessments to designated banks, with the Federal government providing the necessary credits and guarantees to assure the successful transition.

And therefore,

NOW, THEREFORE BE IT RESOLVED BY THE 31ST ANNUAL LESIGLATIVE CONFERENCE OF THE NATIONAL BLACK CAUCUS OF STATE LEGISLATORS, ASSEMBLED IN LITTLE ROCK, ARKANSAS, DECEMBER 12-DECEMBER 16, 2007, that the NBCSL urges the Congress of the United States to make all foreclosures frozen, allowing American families to retain their homes.

'The Right Approach'

Former Congressman Andrew Jacobs, Jr. (D-Ind.) issued this statement on Sept. 14, 2007.

I think the Homeowners and Bank Protection Act of 2007 is the right approach to an out of control, systemic problem, and I endorse Missouri State Rep. Juanita Walton's resolution for the National Black Caucus of State Legislators, which calls on Congress to implement the Act.

Our government should not be bailing out the hedge funds which enticed people to borrow trouble. Any Congressional hearings which do not intend to save the people and cut down these poisonous hedges once and for all, would only be held to repeal reality with political alchemy.

In 1997, I introduced HR 279 which would categorize payments from lobbyists to, or on behalf of, members of Congress as bribery under Federal criminal law. It did not pass. For a policeman or a judge to take money is against the law. For a member of Congress, or a Presidential candidate to take money from the hedge funds should be a felony.

Some years ago, we held hearings on a proposal by E.F. Hutton, which Congressional staff members called E.F. Glutton. Remember their commercial, "When E.F. Hutton talks, people listen?" What they wanted Congress to listen to was a plan to encourage new mortgages with huge fees for the brokers. I sponsored an amendment which would instead allow the new homeowner a reasonable tax credit. My fellow committeemen were quite excited about the amendment, but the committee chairman slyly announced that the fine amendment would be studied for several weeks. It was never heard again. E.F. Glutton made many financial contributions to those involved in the study which turned out to favor their proposal.

Some of the Members of Congress now holding hearings on the financial breakdown are friends of mine. They are smart people who I would count on in an emergency. But I was a young Marine in combat in Korea, and the question for them in these perilous times is: Can we count on them in combat?

Dems Invoke FDR Legacy

The LaRouche Youth Movement (LYM) presented resolutions on how to deal with the housing crisis, to Democratic Party bodies in several states earlier this year. The first resolution was put forward by Ardena Clark, 43rd Assembly

District, California, and a member of the Franklin Roosevelt Legacy Democratic Club. It was adopted by the Los Angeles County Democratic Central Committee on July 9, 2007. Noting the rise in home foreclosures; the collapse of the hedge funds, and the threat of a blowout of the global financial system, it resolved "that the California Congressional delegation lead the way in creating governmental institutions whose purpose is to direct credit to keep people in their homes in a manner similar to Roosevelt's Home Owner's Loan Corporation.

"Be it further resolved, that the California Congressional delegation introduce legislation that would prevent and/or mitigate against a global financial crisis."

The second resolution, adopted by the Massachusetts State Democratic Convention on May 19, 2007, is the following:

Whereas, there are projections of up to 2 million families in danger of losing their homes in the near term because of foreclosure, with thousands of these in Massachusetts, due to false over-inflation of housing prices, and predatory loan practices which saddled families with unpayable mortgages;

Whereas, because of changes in law in the 1970s and 1980s, mortgage loans were allowed to become a financial instrument (mortgage-backed securities—MBSs) to be sold and traded on the markets, and the current popping of the speculative bubble of MBSs is rapidly bankrupting hedge funds and companies such as New Century Financial and GMAC;

Whereas, because of these bankruptcies, pensions and municipal health-care funds, which have been invested into these financial corporations are threatened with being wiped out, as well as the assets of major U.S. banks which have up to 50% of their assets tied up in these MBSs, putting the entire banking system at risk;

Whereas, the Preamble of the Constitution demands that the government put the General Welfare of the population before the rights of financial entities to collect debt;

Therefore, be it resolved, that the Democratic Party of the Commonwealth of Massachusetts calls on our delegation to the federal Congress to act as Franklin D. Roosevelt did in dealing with the housing crisis in the 1930s. We call on our Congressional delegation to introduce emergency measures which would immediately freeze the current debt and mortgage obligations, as well as the chain of financial instruments built upon them, until such obligations can be sorted out and reorganized in the context of a larger bankruptcy reorganization of the U.S. banking system, while placing a moratorium on foreclosures to keep the homeowners in their houses and prevent mass homelessness of thousands of American families in the near term.

Foreclosure Rates for Top 100 Metro Areas

This chart, based on information provided by Realtytrac.com, presents the top 100 U.S. metro areas for home foreclosures, as of Aug. 14, along with the names of the Members of Congress who represent those districts. Readers should strongly urge their elected representatives to adopt Lyndon LaRouche's Homeowners and Bank Protection Act (see www.larouchepac.com), now, before the expected millions of evictions of homeowners unable to pay their ballooning mortgages. (#HH =number of households.)

Rate Rank	City, State	Foreclosure Filings	1 filing for every #HH	% from First Half 2006
1	STOCKTON, CA: Rep. Dennis Cardoza (D), Rep. Gerry McNerney (D)	8,169	27	256
2	DETROIT/LIVONIA/DEARBORN, MI: Rep. John Conyers (D), Rep. Caroline Cheeks Kilpatrick (D), Rep. Thaddeus McCotter (R), Rep. John Dingell (D)	28,705	29	99
3	LAS VEGAS/PARADISE, NV: Rep. Shelley Berkley (D), Rep. John Porter (R)	22,928	31	142
4	RIVERSIDE/SAN BERNARDINO, CA: Rep. Ken Calvert (R), Rep. Joe Baca (D), Rep. Jerry Lewis (R)	41,351	33	198
5	SACRAMENTO, CA: Rep. Doris Matsui (D), Rep. Michael Thompson (D), Rep. Daniel Lungren (R)	20,516	36	241
6	DENVER/AURORA, CO: Rep. Diana DeGette (D), Rep. Ed Perlmutter (D), Rep. Thomas Tancredo (R)	23,842	42	11
7	MIAMI, FL: Rep. Ileana Ros-Lehtinen (R), Rep. Kendrick Meek (D), Rep. Lincoln Diaz-Balart (R), Rep. Debbie Wasserman Schultz (D)	20,275	46	74
8	BAKERSFIELD, CA: Rep. Kevin McCarthy (R), Rep. Jim Costa (D)	5,365	47	222
9	MEMPHIS, TN: Rep. Steve Cohen (D), Rep. Marsha Blackburn (R), Rep. John Tanner (D)	10,800	49	17
10	CLEVELAND/LORAIN/ELYRIA/MENTOR, OH: Rep. Dennis Kucinich (D), Rep. Stephanie Tubbs-Jones (D), Rep. Steven LaTourette (D), Rep. Betty Sutton (D)	18,844	50	106
11	FORT LAUDERDALE, FL: Debbie Schultz Wasserman (D), Rep. Ron Klein (D), Rep. Alcee Hastings (D)	15,720	50	72
12	ATLANTA/SANDY SPRINGS/MARIETTA, GA: Rep. John Lewis (D), Rep. Tom Price (R), Rep. John Gingrey (R), Rep. David Scott (D)	36,502	54	17
13	FORT WORTH/ARLINGTON, TX: Rep. Kay Granger (R), Rep. Michael Burgess (R), Rep. Joe Barton (R), Rep. Kenny Marchant (R)	13,221	57	-10
14	FRESNO, CA: Rep. Jim Costa (D), Rep. George Radanovich (R), Rep. Devin Nunes	4,867	60	183
15	INDIANAPOLIS, IN: Rep. Julia Carson (D), Rep. Dan Burton (R), Rep. Steven Buyer (R)	11,677	62	-6
16	DAYTON, OH: Rep. Michael Turner (R), Rep. John Boehner (R)	5,966	63	96
17	DALLAS, TX: Rep. Eddie Johnson (D), Rep. Peter Sessions (R), Rep. Jeb Hensarling (R)	23,284	65	-15
18	AKRON, OH: Rep. Betty Sutton (D), Rep. Timothy Ryan (D)	4,378	70	85
19	OAKLAND, CA: Rep. Barbara Lee (D), Rep. Fortney Stark (D)	13,482	70	152
20	COLUMBUS, OH: Rep. Deborah Pryce (R), Rep. Patrick Tiberi (R)	10,706	70	85
21	JACKSONVILLE, FL: Rep. Corrine Brown (D), Rep. Ander Crenshaw (R), Rep. Clifford Stearns (R)	7,513	73	20

Rate Rank	City, State	Foreclosure Filings	1 filing for every #HH	% from First Half 2006
22	PHOENIX/MESA, AZ: Rep. Edward Pastor (D), Rep. John Shadegg (R), Rep. Harry Mitchell (D), Rep. Jeff Flake (R)	21,378	74	139
23	SAN DIEGO, CA: Rep. Susan Davis (D), Rep. Brian Bilbray (R), Rep. Duncan Hunter (R), Rep. Bob Filner (D)	14,859	75	164
24	TAMPA/ST PETERSBURG/CLEARWATER, FL: Rep. Kathy Castor (D, Rep. Adam Putnam (R), Rep. Bill Young (R), Rep. Gus Bilirakis (R)	15,905	79	68
25	WARREN/FARMINGTON HILLS/TROY, MI: Rep. Sander Levin (D), Rep. Joseph Knollenberg (R)	13,093	80	92
26	TOLEDO, OH: Rep. Marcy Kaptur (D)	3,530	84	47
27	VENTURA, CA: Rep. Elton Gallegly (R), Rep. Lois Capps (D)	3,100	86	183
28	NEW HAVEN/MILFORD, CT: Rep. Rosa DeLauro (D)	4,017	86	547
29	LOS ANGELES/LONG BEACH, CA: Rep. Laura Richardson (D), Rep. Dana Rohrabacher (D)	38,199	87	125
30	CHICAGO, IL: Rep. Danny Davis (D), Rep. Luis Gutierrez (D), Rep. Rahm Emanuel (D), Rep. Janice Schakowsky (D), Rep. Daniel Lipinski (D), Rep. Bobby Rush (D), Rep. Jesse Jackson, Jr. (D)	34,818	88	45
31	SARASOTA/BRADENTON/VENICE, FL: Rep. Vern Buchanan (R), Rep. Kathy Castor (D)	3,919	94	166
32	EDISON, NJ: Rep. Frank Pallone (D)	9,462	98	58
33	ORLANDO, FL: Rep. Rick Keller (R), Rep. Corrine Brown (D)	8,325	98	49
34	CINCINNATI, OH: Rep. Steven Chabot (R), Rep. Jean Schmidt (R)	8,949	100	166
35	WORCESTER, MA: Rep. James McGovern (D)	3,097	101	374
36	KENOSHA, WI: Rep. Paul Ryan (R)	2,454	101	27
37	CAMDEN, NJ: Rep. Robert Andrews (D)	2,761	101	56
38	CHARLOTTE/GASTONIA, NC: Rep. Melvin Watt (D), Rep. Sue Myrick (R), Rep. Robin Hayes (R)	6,498	101	116
39	PALM BEACH, FL: Rep. Ron Klein (D), Rep. Alcee Hastings (D)	6,063	102	32
40	GARY, IN: Rep. Peter Visclosky (D), Rep. Mark Souder (R)	2,614	108	49
41	LITTLE ROCK/NORTH LITTLE ROCK, AR: Rep. Victor Snyder (D), Rep. Robert Berry (D), Rep. Mike Ross (D)	2,617	108	-39
42	KANSAS CITY, MO: Rep. Dennis Moore (D), Rep. Ike Skelton (D), Rep. Samuel Graves (R)	7,703	111	117
43	SAN ANTONIO, TX: Rep. Charles Gonzalez (D), Rep. Henry Cuellar (D), Rep. Ciro Rodriguez (D), Rep. Lamar Smith (R)	6,409	112	-1
44	HARTFORD, CT: Rep. Christopher Murphy (D), Rep. John Larson (D), Rep. Joe Courtney (D)	4,326	112	446
45	ORANGE, CA: Rep. Edward Royce (R), Rep. John Campbell (R), Rep. Loretta Sanchez (D)	9,012	113	153
46	AUSTIN/ROUND ROCK, TX: Rep. Lloyd Doggett (D), Rep. Michael McCaul (R), Rep. Lamar Smith (R), Rep. John Carter (R)	5,155	115	-21
47	SPRINGFIELD, MA: Rep. John Olver (D), Rep. Richard Neal (D), Rep. Joe Courtney (D)	2,424	116	234
48	BRIDGEPORT/STAMFORD/NORWALK, CT: Rep. Christopher Shays (R)	2,847	122	552
49	TUCSON, AZ: Rep. Raul Grijalva (D), Rep. Gabrielle Giffords (D), Rep. Rick Renzi (R)	3,323	122	55
50	NEWARK, NJ: Rep. Donald Payne (D), Rep. Bill Pascrell (D), Rep. Albio Sires (D)	6,745	124	20

Rate Rank	City, State	Foreclosure Filings	1 filing for every #HH	% from First Half 2006
51	TACOMA, WA: Rep. Norman D. Dicks (D), Rep. Dave Reichert (R), Rep. Adam Smith (D)	2,427	125	23
52	HOUSTON/BAYTOWN/SUGARLAND, TX: Rep. Ted Poe (R), Rep. John A. Culberson (R), Rep. Al Green (D), Rep. Michael T. McCaul (R), Rep. Ron Paul (R), Rep. Sheila Jackson-Lee (D), Rep. Nick Lampson (D), Rep. Gene Green (D)	16,057	127	1
53	ESSEX, MA: Rep. Ted Poe (R), Rep. Ron Paul (R), Rep. Gene Green (D)	2,179	135	409
54	OKLAHOMA CITY, OK: Rep. Ted Poe (R), Rep. Ron Paul (R), Rep. Gene Green (D)	3,660	138	-22
55	TULSA, OK: Rep. John Sullivan (R), Rep. Frank D. Lucas (R)	2,712	143	-12
56	SAN JOSE/SUNNYVALE/SANTA CLARA, CA: Rep. Jerry McNerney (D), Rep. Anna G. Eshoo (D), Rep. Mike Honda (D), Rep. Zoe Lofgren (D)	4,197	148	105
57	SUFFOLK/NASSAU, NY: Rep. Tim Bishop (D), Rep. Steve Israel (D), Rep. Peter King (R), Rep. Carolyn McCarthy (D), Rep. Gary Ackerman (D)	6,624	150	17
58	ST LOUIS, MO-IL: Rep. William Lacy (Bill) Clay, Jr. (D), Rep. Todd Akin (R), Rep. Russ Carnahan (D), Rep. Roy Blunt (R)	8,023	151	55
59	BOSTON/QUINCY, MA: Rep. Barney Frank (D), Rep. Edward J. Markey (D), Rep. Michael Capuano (D), Rep. Stephen Lynch (D), Rep. Bill Delahunt (D), Rep. Richard E. Neal (D), Rep. John Tierney (D)	4,862	153	342
60	RALEIGH/CARY, NC: Rep. Bobby Etheridge (D), Rep. David E. Price (D), Rep. Brad Miller (D)	2,505	158	105
61	NASHVILLE/DAVIDSON, TN: Rep. Jim Cooper (D), Rep. Marsha Blackburn (R)	3,788	161	31
62	LOUISVILLE, KY: Rep. Edward Whitfield (R)	3,150	169	7
63	SALT LAKE CITY, UT: Rep. Rob Bishop (R), Rep. James D. Matheson (D), Rep. Chris Cannon (R)	2,185	172	-39
64	EL PASO, TX: Rep. Silvestre Reyes (D), Rep. Ciro Rodriguez (D)	1,306	187	-2
65	CAMBRIDGE/NEWTON/FRAMINGHAM, MA: Rep. Edward J. Markey (D), Rep. Michael Capuano (D), Rep. Stephen Lynch (D), Rep. Barney Frank (D), Rep. John Tierney (D), Rep. Bill Delahunt (D)	3,045	193	313
66	WASHINGTON DC/ARLINGTON/ALEXANDRIA, VA: Rep. Eleanor Holmes Norton (D), Rep. James Moran (D), Rep. Frank R. Wolf (R)	8,483	195	430
67	PHILADELPHIA, PA: Rep. Robert A. Brady (D), Rep. Chaka Fattah (D), Rep. Joe Sestak (D), Rep. Patrick Murphy (D), Rep. Allyson Schwartz (D)	8,086	198	2
68	ALBUQUERQUE, NM: Rep. Heather A. Wilson (R), Rep. Steve Pearce (R), Rep. Thomas Udall (D)	1,635	208	-38
69	ROCHESTER, NY: Rep. James T. Walsh (R), Rep. Thomas M. Reynolds (R), Rep. Louise McIntosh Slaughter (D), Rep. John R. (Randy) Kuhl, Jr. (R)	2,041	215	208
70	GREENSBORO/HIGH POINT, NC: Rep. Howard Coble (R), Rep. Melvin L. Watt (D), Rep. Brad Miller (D)	1,336	225	75
71	BIRMINGHAM/HOOVER, AL: Rep. Spencer Bachus (R), Rep. Artur Davis (D)	1,986	227	157
72	OMAHA/COUNCIL BLUFFS, NE-IA: Rep. Jeff Fortenberry (R), Rep. Lee Terry (R)	1,480	229	158
73	MILWAUKEE/WAUKESHA/WST ALLIS, WI: Rep. Paul Ryan (R), Rep. Gwen Moore (D), Rep. F. James Sensenbrenner, Jr. (R)	2,782	231	22
74	SCRANTON/WILKES/BARRE/HAZLETON, PA: Rep. Christopher Carney (D), Rep. Paul E. Kanjorski (D)	1,076	239	110
75	MINNEAPOLIS/ST PAUL/BLOOMINGTON, MN: Rep. Tim Walz (D), Rep. John Kline (R), Rep. Jim Ramstad (R), Rep. Betty McCollum (D), Rep. Keith Ellison (D), Rep. Michele Bachmann (R)	5,270	245	201

Rate Rank	City, State	Foreclosure Filings	1 filing for every #HH	% from First Half 2006
76	SEATTLE/BELLEVUE/EVERETT, WA: Rep. Jay Inslee (D), Rep. Brian Baird (D), Rep. Jim McDermott (D), Rep. Adam Smith (D)	4,302	246	7
77	KNOXVILLE, TN: Rep. John J. Duncan, Jr. (R), Rep. Zach Wamp (R)	1,211	246	9
78	SAN FRANCISCO, CA: Rep. Nancy Pelosi (D), Rep. Tom Lantos (D)	2,765	263	83
79	NEW ORLEANS, LA: Rep. Bobby Jindal (R), Rep. William J. Jefferson (D), Rep. Charlie Melancon (D)	2,178	267	610
80	PITTSBURGH, PA: Rep. Jason Altmire (D), Rep. John P. Murtha (D), Rep. Michael F. Doyle (D), Rep. Tim Murphy (R)	3,917	281	-22
81	PROVIDENCE/NEW BEDFORD, RI: Rep. Patrick J. Kennedy (D), Rep. James R. Langevin (D)	1,489	301	473
82	NEW YORK CITY/WHITE PLAINS, NY: Rep. Joseph Crowley (D), Rep. Anthony D. Weiner (D), Rep. Edolphus Towns (D), Rep. Jerrold Nadler (D), Rep. Yvette Clarke (D), Rep. Nydia M. Velazquez (D), Rep. Vito Fossella (R), Rep. Carolyn B. Maloney (D), Rep. Charles B. Rangel (D), Rep. Jose E. Serrano (D), Rep. Nita M. Lowey (D)	14,300	305	47
83	BUFFALO/CHEEKTOWAGA/TONAWANDA, NY: Rep. Thomas M. Reynolds (R), Rep. Brian M. Higgins (D), Rep. Louise McIntosh Slaughter (D)	1,565	332	76
84	PORTLAND/VANCOUVER/BEAVERTON, OR: Rep. David Wu (D), Rep. Earl Blumenauer (D), Rep. Peter A. DeFazio (D), Rep. Darlene Hooley (D)	2,426	353	7
85	BETHESDA/FREDERICK/GAITHERSBURG, MD: Rep. Christopher Van Hollen, Jr. (D), Rep. Roscoe G. Bartlett (R), Rep. Albert Russell Wynn (D)	1,196	368	581
86	BALTIMORE/TOWSON, MD: Rep. C. A. (Dutch) Ruppersberger (D), Rep. John P. Sarbanes (D), Rep. Elijah E. Cummings (D), Rep. Wayne T. Gilchrest (R)	2,816	387	275
87	WICHITA, KS: Rep. Todd Tiahrt (R)	633	399	0
88	POUGHKEEPSIE/NEWBURGH/MIDDLETOWN, NY: Rep. John Hall (D), Rep. Kirsten Gillibrand (D), Rep. Maurice D. Hinchey (D)	566	428	2
89	ALBANY/SCHENECTADY/TROY, NY: Rep. Michael R. McNulty (D), Rep. Kirsten Gillibrand (D)	690	544	82
90	CHARLESTON, SC: Rep. Henry E. Brown, Jr. (R), Rep. Gresham Barrett (R), Rep. James E. Clyburn (D)	483	547	-23
91	WILMINGTON, DE: Rep. Michael N. Castle (R)	469	588	108
92	SYRACUSE, NY: Rep. James T. Walsh (R)	441	643	3
93	BATON ROUGE, LA: Rep. Richard H. Baker (R)	456	668	265
94	ALLENTOWN/BETHLEHEM/EASTON, PA: Rep. Charles W. Dent (R)	403	756	34
95	COLUMBIA, SC: Rep. Gresham Barrett (R), Rep. Joe Wilson (R), Rep. James E. Clyburn (D)	392	757	-49
96	NORFOLK/VIRGINIA BEACH/NEWPORT NEWS, VA: Rep. Jo Ann S. Davis (R), Rep. Robert C. Scott (D), Rep. Rick Boucher (D)	747	787	191
97	HONOLULU, HI: Rep. Neil Abercrombie (D)	286	1,151	68
98	MCALLEN/EDINBURG/PHARR, TX: Rep. Ruben Hinojosa (D), Rep. Lloyd Doggett (D)	155	1,494	-35
99	GREENVILLE, SC: Rep. Gresham Barrett (R), Rep. Bob Inglis (R)	151	1,721	-66
100	RICHMOND, VA: Rep. Robert C. Scott (D), Rep. J. Randy Forbes (R), Rep. Eric I. Cantor (R)	213	2,319	-1

Source: Realtytrac.com

Dead Crocodiles Found Beached On the Queen's Cayman Islands

by John Hoefle

The islands of the Caribbean have long played a key role in the British Empire's assault against the United States. The Brits set up the offshore banking centers in the Caribbean to pave the way for the explosion of narcotics out of Ibero-America, then used the proceeds from the dope trade to take over the U.S. financial system. The result of this cultural, political, and financial warfare by the Brits and their pirates of the Caribbean is the creation of the largest financial bubble in world history, a giant casino which is now collapsing.

The most important of the Caribbean offshore financial centers is the Cayman Islands, a British Overseas Territory run by a royal governor appointed by Queen Elizabeth II. With a small population and a tiny land area, the Caymans are mainly a mail drop and regulation-free zone, a place where hot money is welcome and few questions are asked. Some 80% of the world's hedge funds are registered there, as are international banks, insurance companies, and corporations. Though some of the biggest hedge funds in the world are actually run out of places like New York and Connecticut, they register themselves in the Caymans in order to take advantage of the tax breaks, lax regulations, and secrecy provided by the British.

This system has been extraordinarily successful in assisting the United States to commit economic suicide by pushing deindustrialization, deregulation, and globalization, but that success has sown the seeds of its own demise. Today, with the global financial system in flames, the predators of the Cayman Islands are dying with it.

Dope, Inc.

It is well known in law enforcement circles that the dope trade would quickly choke on its own cash were not a significant portion of the global financial system devoted to money laundering, and the offshore centers in the Caribbean were set up to facilitate the South American drug trade, and have expanded with it.

The story of how the British set up business in the Caribbean, using Canada as their base, is documented in *EIR*'s blockbuster exposé *Dope, Inc.* The story involves both the establishment of British-run Canadian banks in the Caribbean and the organized crime apparatus which grew out of British control of the liquor business during Prohibition.

What we know as organized crime in the United States is largely a product of the 1920s Prohibition laws, as criminal gangs formed to import and market liquor; the major supplier was the Bronfman gang of Canada, which was controlled by British intelligence. The dominant figure in organized crime after World War II was Meyer Lansky, who oversaw the transformation of the mob into a more corporate structure. The rise of Las Vegas and later, Atlantic City, as major gambling—and money laundering—centers was largely run by Lansky, and controlling Lansky was the British Special Operations Executive, run by Sir William Stephenson.

By no later than 1960, Lansky began implementing his plan for a "Hong Kong West" in the Caribbean. Backed by British financial circles, Lansky took over the Mary Carter Paint Company and eventually turned it into Resorts International. Lansky built a resort-casino in the Bahamas, another British territory, then used a series of scandals to take control of the islands. Into this Lansky scheme was folded the Banque de Crédit Internationale of Tibor Rosenbaum, the British Permindex assassination bureau, and the remnants of Bernie Cornfeld's money-laundering Investors Overseas Service.

A company called International Intelligence, or Intertel, was created to provide cover for the Lansky apparatus. A listing of Intertel's board, read, to quote *Dope, Inc.*, "like a print-out of British Intelligence, the Mafia, and the Mossad," and also included a number of former top officials of the U.S. security and intelligence network. Intertel was also heavily involved in Howard Hughes' purchase of a number of Las Vegas casinos, as the old mob operations were upgraded into a more corporate structure.

The Cayman Islands were ceded to Britain by Spain in the Treaty of Madrid in 1670, and were governed as a single colony with nearby Jamaica until 1962, when Jamaica became a member of the British Commonwealth and the Caymans became a British Overseas Territory.

In 1993, as part of a global reorganization of the financial system, the decision was made to turn the Caymans into a major offshore financial center. The Mutual Fund Law was passed, providing for the easy incorporation and/or registration of hedge funds and other speculative vehicles. The primary benefits of registering in the Caymans were low registration fees, no taxes, minimal reporting require-

ments, and strict secrecy.

The results were predictable: By late last year, the Cayman Islands were home to over 8,000 hedge funds, and its banking system held \$1.4 trillion in deposits, making it the fourth-largest banking center in the world, after the U.S.A., Japan, and Britain. It also became a major insurance center, holding some \$30 trillion of the more speculative assets of the insurance sector.

Overseeing the Caymans financial system are a brace of imperial operatives. The royal governor, Stuart Duncan Jack, is a knighted Commander of the Royal Victorian Order. The Cayman Islands Monetary Authority is run by Timothy Ridley, who was made a knight of the Order of the British Empire for his role in building up the hedge funds and their infrastructure during the 1990s. The Center for Economic Growth is run by Richard Rahn, a member of the oligarchic Mont Pelerin Society.

Global Cartels

The rise the Caymans and other offshore banking centers such as the British Virgin Islands and Bermuda, also play a role in what former Lehman Brothers banker George Ball called the world company. Ball outlined the world company project to the 1968 annual meeting of the Bilderberg Society, of which he was a top official. The idea, Ball said, was to use the corporate structure to replace the “archaic” nation-state, as a mechanism for global control. The idea was explicitly Malthusian, based upon the claim that the combination of global overpopulation and a shortage of natural resources required a more efficient management process than nations, with their political biases, could provide.

The primary target of the world company project was the United States, whose resilient political system had frustrated British efforts at recapturing its former colony. At the time Ball made his speech, his Lehman Brothers and the closely allied Lazard Frères were actively involved in building the holding companies known as conglomerates, as a model for what was to come. In the early 1970s, Lazard banker Felix Rohatyn headed a crisis task force of the New York Stock Exchange to restructure a number of ailing brokerages on Wall Street; Lazard and Rohatyn then became the premier merger specialists on Wall Street, mergers and acquisitions being a euphemism for cartel-building. At the same time, the process described by John Perkins, in his *Confessions of an Economic Hit Man*, was introduced, with the aim of hooking the developing sector nations on debt, as a way of controlling their activities and limiting their development.

This process was aided by the institutions of the United States. In 1971, President Nixon ended the Bretton Woods system of fixed exchange rates, opening the door to the speculators. The case officer for this project was George Shultz, who brought in Pete Peterson to head the team writing the justification for the move. Peterson, whose personal assets were

held in a blind trust administered by Felix Rohatyn while he was in Washington, was then installed as the chairman of Lehman Brothers by George Ball; Peterson later founded the Blackstone Group, one of the largest of the private equity firms. When Blackstone recently went public, Lord Jacob Rothschild joined its board.

The Federal Reserve under Paul Volcker added to the damage by jacking interest rates into the stratosphere in 1979-80, making it difficult for ordinary businesses to expand, and giving the edge to the hot-money boys; Congress took the process even further, by changing the tax laws to favor speculation and deregulating the banking system and, in particular, the savings and loans. The predictable result was the rise of corporate raiders, financed by junk bonds, which not only led to many firms being taken over, but also drove many more into the waiting arms of the investment bankers, for “protection” against the raiders. One of the favored “defenses” pushed by the bankers was for potential takeover targets to incur so much debt that no buyer would want them. By the time of the 1987 stock market crash, the savings and loan sector lay in ruins, the Texas banking system had begun to vaporize, and the national banking system was bankrupt.

In late 1989, the Federal Reserve under Alan Greenspan began systematically lowering interest rates to bail out the banking system, and in late 1990, the Fed also secretly took control of Citicorp, then the nation’s largest bank. In 1991, the Fed arranged a series of mergers involving six of the 12 largest U.S. banks, and closed the Bank of New England, in the first collapse of a major derivatives bank (a mere \$36 billion in derivatives took a year to clean up). Under President George H.W. Bush, the Treasury Department instructed Federal bank examiners to ignore bad loans, despite the promises after the S&L debacle that standards would be tightened.

The situation deteriorated in September 1992, when British and American banks, under the cover of George Soros’s Quantum hedge fund, ran a currency warfare campaign against the European Exchange Rate Mechanism, stealing billions for Fed-run Citicorp and other bankrupt banks. Soros became known, falsely, as “the man who broke the pound” and Joe Lewis, the man who just bailed out Bear Stearns, also rose to prominence for his profits from that raid.

With the ERM currency raid the hedge-fund era was born, and the big funds became battering rams to use against financial and political opposition to imperial policies. It was to facilitate and expand this operation that the Queen’s Cayman Islands were turned into a home for hedge funds, from which further assaults on the nation-states could be made.

This system is now blowing up, and the only solution to the crisis is to reverse course, to jettison deregulation and globalization and to return to the principles of the sovereign nation-state.

Secretary Espy Stayed Farm Foreclosures

by Marcia Merry Baker

A recent example of Federal-level intervention to suspend foreclosures to protect the public interest, of the kind now needed, in principle, for homes and banks, was taken in 1993 by the Clinton Administration, in the case of family farms and the food supply chain.

On March 5, 1993, Agriculture Secretary Mike Espy announced the suspension of all farm foreclosures pending before the Farmers Home Administration (FmHA), that had not yet been referred to a court. Espy, who had been confirmed on Jan. 21, just five weeks prior, made his moratorium announcement in Sioux Falls, S.D., at the annual National Farmers Union convention, whose members represented many states in tumult from FmHA and other lender actions to shut down family farms. Espy said, "I know that many American farmers have been facing tough times. Every farmer struggles against the prospect of foreclosure, or knows someone who couldn't stay afloat. When that time comes, farmers turn to the FmHA," which, at that time, was serving as a lender of last resort for thousands of family-scale agriculture operations.

Though remaining within bureaucratic bounds, the U.S. Department of Agriculture forbade the FmHA from proceeding on its farm foreclosure processing. The March 5 USDA press release stated that a national review panel would be set up to "assess whether all FmHA procedures were followed, and where necessary, determine whether cases should be referred back to FmHA for corrective action," because the FmHA had acted wrongly.

The total number of farm borrowers from the FmHA at the time was estimated at 155,000. The actual number of FmHA borrowers immediately in line to receive potential relief and redress by Espy's action was estimated at 2,500-2,600, out of the total of 3,600 FmHA farm loans in the process of foreclosure.

Though the numbers of affected farms were small, the political and finan-

cial opposition was enormous. A bogus scandal was kicked off by a *Wall Street Journal* article claiming that Espy was guilty of taking bribes from Tyson Foods and others. Within a year, the moratorium on FmHA farm foreclosures was lifted. In December 1994, Espy was forced out of office, under the cloud of the trumped-up charges. Espy was fully acquitted on all counts in 1998.

This defeat for farmers, went against what had been a growing demand for national policy intervention to preserve the farmbelt and food supply system. At the time, both Sen. Tim Johnson (D-S.D.) and Rep. Fred Grandy (R-Iowa) had issued calls for a moratorium on farm foreclosures. Resolutions calling for Congress to stop the foreclosures came from the North and South Dakota legislatures. Former Washington State Supreme Court Judge William C. Goodloe presided over a Blue Ribbon Commission in the Dakotas to take testimony on the wrongfulness of the foreclosures.

The Lyndon LaRouche 1992 Presidential campaign had led the charge for Federal intervention, building on its victory in the September North Dakota Democratic Party primary that year, to initiate an effort to defend the High Plains high-tech, family-farming system, from financial assault and dispossession. On a March 8, 1993 radio program, LaRouche said of Espy's action, "I have been for this kind of measure for many years. It has been a feature of my efforts. In 1979-80, people will recall the efforts I made on behalf of this sort of thing in agriculture; then, in 1984, Billy Davis [Mississippi farm activist and LaRouche's Vice Presidential candidate] and I did a national TV program on this issue...."

This Clinton/Espy initiative can be seen now as a precedent for LaRouche's Homeowners and Bank Protection Act of 2007.



Federal intervention is required now, as it was in 1993, to defend farmers from foreclosure. Here, a bankrupt farm, in Gilbert's Corner, Va., is auctioned off following foreclosure.

Fox News Spews Chicken Poop To Boost Cheney's Iran War

by Michele Steinberg and Jeffrey Steinberg

The Sept. 12 story on FoxNews.com entitled “U.S. Officials Begin Crafting Iran Bombing Plan,” which claims that U.S. diplomacy with Iran is a failure, and Vice President Cheney no longer has any opposition to his plan to bomb Iran, is a load of chicken poop. Like many other of Rupert Murdoch's propaganda pieces urging war—including nuclear strikes against Iran—one has to ask, “has Fox been in the henhouse again? Is that why Fox is covered in chicken poop?”

The two leading scare stories of mid-September about new war plans against Iran and Syria have both come from Murdoch's chicken coop. First there was the above-mentioned lie by one James Rosen, which claims—falsely—that “a recent decision by German officials to withhold support for any new sanctions against Iran have pushed a broad spectrum of officials in Washington to develop potential scenarios for a military attack” on Iran. It would be great, if Germany would strongly oppose sanctions against Iran—but it just isn't true, according to several German government sources contacted by *EIR*.

Then, the assertion that “everyone in town” (i.e. Washington) is working on anti-Iran scenarios, leaving Assistant Secretary of State for Political Affairs Nicholas Burns as the “last man standing” against Cheney's war plan is, likewise, just another load of pure chicken poop. Rupert “Call me Guano” Murdoch, who supports a lot of Cheney's neo-con friends on the welfare system of think-tank payrolls, *wishes* that Nick Burns was the only opponent left in the administration—especially within the military services—but it just isn't so.

The one accurate statement is that Cheney and his aides are saying that Iran is “not containable diplomatically”—but *EIR* has been reporting on that for more than a year now, and making the case that that's why Cheney should be removed from office. He is a sociopath, and a criminal, and will launch war against Iran any time he can.

The second big scare story *du jour*—that Syria has nuclear weapons sites supplied by North Korea—is also a load of Fox-supplied chicken poop.

“Hot” leaks from the *New York Times*—which is, these days, continuing Judith Miller's tradition as a mouthpiece for Dick Cheney, or whoever the present equivalent of Scooter Libby is—and the *Washington Post* say that “surveillance photos” of Syrian territory appear to show that there might be North Korean-supplied nuclear weapons installations there. One paper—the *Times*—says these are Israeli photos, and the other—the *Washington (Com)Post*—says these are U.S. surveillance photos.

Folks, this is not the Cuban Missile Crisis of 1962. This is chicken poop, replaying 2002 all over again, when U.S., British, and Israeli surveillance photos all showed Iraqi “WMD” sites. And poor Colin Powell was set up to embarrass himself at the United Nations in February 2003, showing these silly photos. When the UN inspectors got to the sites, *sacré bleu!*—no WMD. The United States invaded anyway.

So, what about the Sept. 12, 2007 story about Syria and the North Korea nukes? The original source for this chicken poop was Murdoch's newest henhouse, the *Wall Street Journal*, in an Aug. 31 op-ed by American Enterprise Institute loser, John Bolton. Bolton, the infamous “recess appointee” (Bolton could not win confirmation by the *Republican-controlled* U.S. Senate) at the U.S. mission to the UN, tried like hell, but failed, for his entire 18-month term, to get a U.S. war against Iran or Syria. During the run-up to the invasion of Iraq, Bolton, then surrounded by neo-con allies throughout the Bush-Cheney Administration, did manage to peddle the Niger yellowcake hoax that did bamboozle scores of Congressmen and Senators into giving Bush and Cheney the green light to go to war. Bolton's role in the Valerie Plame affair—the leaking of the identity of an un-

dercover CIA officer by Karl Rove, Lewis Libby, and other White House serial national security-violators—is yet to be unearthed.

There Is a War Plan Against Iran

Lyndon LaRouche dismissed the Sept. 12 Fox News story as nothing but “chicken poop.”

There *is* a plan by Cheney to bomb Iran, LaRouche said, but it has nothing to do with Fox News stories. “The publicity is irrelevant. The article [of Sept. 12] is pure propaganda—and they don’t have any support for that story. The reality is, we have gotten to the point, with Cheney and Bush, on Iran, where they might just *do it*, and don’t care about a propaganda effort to justify it to anybody.”

What is important, LaRouche added, is the actual buildup of military forces to carry out the attack on Iran. And, in this regard, Washington sources report that the United States once again has three U.S. Navy carrier groups in striking distance of Iran. Furthermore, under the Donald Rumsfeld “revolution in military affairs” scheme, the Strategic Command (STRATCOM) has developed a “Global Strike” plan, for launching long-range bomber attacks against targets anywhere on the planet in a matter of hours. If the Cheney-commissioned and Murdoch-led propaganda campaign for war against Iran has achieved anything, it has further demonized the United States in the eyes of everyone still sane in the Middle East—quite a stunning achievement, given the residual hatred of Washington since the March 2003 Iraq invasion and subsequent destabilization of the entire region.

In addition to the planning for a massive bombing campaign against as many as 2,400 “high-value targets,” inside Iran, the Bush Administration has been running a clandestine low-intensity covert war, involving ethnic minority assets, including Baluchis, Azeris, and especially Kurds. The Mujahideen e-Khalq (MEK), a group on the U.S. State Department’s list of international terrorist organizations, has been conducting cross-border attacks inside Iran, from bases in U.S.-occupied Iraq. At a recent convention in France, the MEK received \$750,000 in aid from Prince Bandar bin-Sultan, former Saudi ambassador to the United States, and a central figure in the ongoing U.S. Justice Department probe into bribery and money laundering by the British defense giant, BAE Systems.

In recent weeks, a virtual state of war has existed along the Iranian border with Iraq’s northern Kurdish region. An Iraq-based splinter group of the PKK, another group on the State Department’s terrorist list, has been conducting cross-border attacks inside Iran, and in retaliation, Iran has been shelling Kurdish villages inside Iraq, and is now erecting a wall along a stretch of the Iran-Iraq border, according to one U.S. intelligence source. Recently, police in Iraq intercepted a large volume of U.S. military equipment being “sold” to PKK forces, ostensibly by “criminal” gangs operating inside the U.S. military logistics chain, further raising

the question of whether the Bush Administration has covertly sanctioned the operations of Iraqi-based terrorist groups inside Iran.

In deeds, the Bush Administration is pushing Iran into a confrontation, through pinprick provocations—while running a Fox-centered disinformation and agitprop campaign aimed at demonizing the Islamic Republic as the actual war-mongers. And despite massive opposition within the U.S. military command to any bombing campaign against the Islamic Republic, no military sources contacted by *EIR* doubt that, if Bush and Cheney give the orders to bomb, the bombing will happen.

The Real Scoop on Some Nasty Poop

The central role of Anglo-Australian yellow media baron Rupert Murdoch, in putting out a steady stream of war propaganda, was, notably, dealt a nasty blow in early September, when his London *Sunday Times* was caught red-handed promoting a proven fabricator, who claimed that the Bush-Cheney White House had already decided to go to war against Iran.

On Sept. 2, the *Sunday Times* ran a provocative story, claiming that opposition to Vice President Dick Cheney’s schemes to bomb Iran had all-but-evaporated, and that it was only a matter of time before Washington unleashed a 72-hour air war, to wipe out Iran’s military capabilities, its industrial base, and the Islamic Republic regime. The source of the *Sunday Times* tall tale was an American “counter-terrorism expert,” former consultant to the French Defense Ministry, and Sorbonne Ph.D. named Alexis DeBat. The only problem with Murdoch’s promotion of rabid neo-con DeBat is that the Nixon Center “director of counterterrorism” was exposed as a con man, who lied about his background with the French Defense Ministry, fabricated his Ph.D., and published a string of bogus “interviews” with prominent political figures from Sen. Barak Obama (D-Ill.), to former Federal Reserve chairman Alan Greenspan, New York City Mayor Michael Bloomberg, Microsoft chairman Bill Gates, and even former United Nations Secretary General Kofi Annan.

Congenital liar DeBat was summarily bounced from ABC News, where he had served for several years as a counterterrorism consultant, was forced to resign from his post at the Nixon Center, and to this day still tries to claim that he was “duped” by a Chicago-area freelance journalist, who, he claimed, had passed off the bogus interviews to him.

DeBat’s media boosters, Murdoch’s Fox TV and London *Sunday Times* are so dedicated to spreading chicken poop to give cover to Dick Cheney’s Iran war plans, that they will doubtlessly throw DeBat overboard and simply find a replacement wacko. After all, Fox TV has a 24-hour news cycle to fill with yellow journalism, and Murdoch has both the *New York Post* and the far-more prestigious London *Times*, along with the newly acquired *Wall Street Journal*, to fill with agit-poop.

Africa Fears AFRICOM Will Create Conflicts

by Douglas DeGroot

South African Defence Minister Mosiuoa Lekota said in a press conference on Aug. 29, that more U.S. soldiers are not welcome in Africa. According to the South African daily *Business Day* Aug. 30, Lekota said the 14-nation Southern African Development Community (SADC) defense ministers had, at the 27th SADC summit in Lusaka in August, decided that no SADC member-states would host the new regional unified combatant command headquarters of the U.S. Department of Defense (DoD) for Africa (AFRICOM), or more U.S. soldiers. He also called on African governments outside the SADC, not to provide a base in Africa for AFRICOM.

Lekota implicitly understands that, despite what is being said publicly about the reason for the establishment of AFRICOM, the true purpose is to embroil Africa in never-ending conflicts. This is especially clear after having heard the announced intentions about the Iraq military action, made by the same clique now attempting to push AFRICOM down Africa's throat, and watching how the Iraq fiasco has played out.

As of 2001, there were no U.S. troops stationed in Africa. The United States began stationing troops in Djibouti, in the Horn of Africa, in April 2002, as part of the Global War on Terror (GWOT), and there are now about 1,800 U.S. troops there. U.S. troops from Djibouti have set up training facilities in Ethiopia, and U.S. participation with the Ethiopian military intervention into Somalia, which began in late December 2006, was conducted from Djibouti. There are also several thousand French troops there.

By 2003, the Heritage Foundation, the right-wing institution that funneled policy into the Cheney-Bush Administration, was recommending the establishment of an Africa Command. The much-anticipated public announcement of the creation of AFRICOM, to replace the previous DoD arrangement of splitting Africa among three different regional commands, was made by George W. Bush on Feb. 6, 2007, in the aftermath of the Ethiopian-U.S. invasion into Somalia.

The Bush-Cheney Administration has drastically changed how the United States views the strategic significance of Africa. Instead of the United States having no compelling interests in Africa, as had been the case before, the 2006 U.S. National Security Strategy stated that "Africa holds growing geostrategic importance and is a high priority of this Administration." That year, the decision was

made to create AFRICOM. A DoD press release reported that AFRICOM is being created because of "the increasing importance of Africa strategically, diplomatically, and economically," due to "the increasing importance of the continent to the U.S...."

A Foot in the Door

Despite the fact that AFRICOM's second in command will be from the State Department, and that it will have diplomatic, developmental, and economic personnel on its staff, the decision to create AFRICOM has justifiably worried Africans, who fear that the humanitarian goals are just a foot in the door for militarization of U.S. policy in Africa, which could easily inflame a string of regional conflicts on the continent, and lead to multiple versions of a chaotic replay of what happened in Iraq. The ongoing crisis in the Horn of Africa is an indication of how events can quickly move in this direction. U.S. counterterrorism initiatives in the Sahel could ultimately have the same consequences in North and West Africa.

African and other opponents of the policy shift, however, mistakenly view the Administration decision to shift U.S. policy in Africa to military interventionism, as being motivated by the Administration's desire to secure access to oil from Africa, to combat terrorism, and to counter China's growing influence in the continent.

The real reason is strategic: The British and allied financier oligarchical interests know that the now-collapsing monetary system cannot be saved, and they have turned once again to the Cheney apparatus which runs the Administration, to provide U.S. muscle to build a militarized, global empire, which will ensure the elimination of sovereign nation-states. The global spread of long-term and perpetual warfare has been commensurate with increasing bankruptcy of the financial system. Carrying out this militarization and warfare policy is intended to, and will destroy the United States as a sovereign nation as well, along with all the other nations that will be victimized by this British-designed policy that the United States is adopting.

A U.S. military intervention turns those working with the United States, or its proxies, into targets for the manipulated stable of radicals, with the result being irresolvable conflict and perpetual war—precisely as has happened in Iraq. The fact that the Cheney-Bush Administration is trying to repeat the same process, this time in Africa, shows that the chaos and conflict that result are actually what is desired.

Horn of Africa Crisis

The crisis in the Horn of Africa that has developed since the U.S.-assisted Ethiopian invasion, at the end of the last December, has led to the kind of crisis in Somalia, and spreading elsewhere in the Horn of Africa, that Lekota didn't want to see replicated elsewhere in Africa. The Cheney-organized military intervention to save an isolated group of warlords who

had been delegated, by neighboring countries, with the responsibility of organizing a transition—hence their name, Transitional Federal Government (TFG)—from chaos to national government, has only led to the “Iraqification” of Somalia. Earlier clandestine aid to TFG-connected warlords from the Cheney corral had also failed. The TFG did not allow anyone who opposed them to attend a recent reconciliation conference, and chaos is on the rise in Somalia, now worse than ever. Ethiopian troops and opposition forces are fighting, claiming many civilian victims, and suicide bombings have increased.

The U.S. Administration could have supported an African Union peacekeeping force instead, but resolution of the long-standing conflict was not on its agenda, which is what Lekota and others in Africa understand. Thus, in Somalia, Cheney and his neo-con acolytes have done a good job of extending the British-designed geostrategic Arc of Crisis from the Middle East into the Horn of Africa. According to Somalia expert Ken Menkhaus, chaos and fighting are on the rise, and people in the region are blaming the United States for the worsening conditions.

Speaking at a U.S. policy forum in Washington, D.C. sponsored by the congressionally funded United States Institute for Peace (USIP)—which sponsored the Iraq Study Group—and the Center for Strategic and International Studies, on Sept. 5, Menkhaus said he saw no improvement, in the short term, in Somalia, as long as the present policies are maintained. He compared the situation to the chaotic period after the UN force was driven out of Somalia in the early 1990s. Since an April offensive against opponents of the TGF in Somalia by the Ethiopian military, 300,000 out of a population of 1.3 million have been driven out of Mogadishu. He noted that the TFG would collapse immediately if Ethiopian troops pulled out, and that fiefdoms and warlordism, some of it protected by Ethiopia, is on the rise. Meant to be a transitional government, the TFG grouping just wants to hold on to power for themselves.

Menkhaus pointed out, and other experts confirm, that if the United States were to declare Eritrea to be a state sponsor of terror, the situation would worsen dramatically. The fall-back position for the Administration, is to let Somalia be ruled by militias and warlords. The solution advanced by Menkhaus, is to send in a large AU peacekeeping force, so that the Ethiopian troops can be gotten out. But, as another panelist noted, the Darfur initiative by the AU, is absorbing such a large number of troops—his phrase was, “Darfur is sucking the air out of everything”—that no other peacekeeping operations can be undertaken in the region.

Counterterrorism in the Sahara

The GWOT crowd has also been focussing its attention on North and West Africa, where the biggest population concentration in Africa is. These two regions also have the largest Islamic populations, and thus are being targetted first.

On the Saharan front, the United States launched the Pan-Sahel Initiative (PSI) in 2002 to train at least one rapid-reaction company of 150 soldiers, in each of the Sahel states, Mali, Mauritania, Niger, and Chad. In 2005, the PSI was upgraded and expanded to become the Trans-Sahara Counter-Terrorism Initiative (TSCTI), a program led by the U.S. State Department to make the area inhospitable to terrorist groups, such as the Algerian al-Qaeda in the Land of the Islamic Maghreb (AQIM), which was previously known as the Salafist Group for Preaching and Combat. When TSCTI was set up, critics pointed out that this was not a terrorist zone, and that a campaign to defend existing regimes in the area could fuel radicalism where it had not existed before. The expansion added Algeria, Morocco, Tunisia, Senegal, Ghana, and Nigeria.

Since then, there have been several bombings in Morocco and Algeria, including two suicide bombings in Algeria the first week in September. The British have had extensive experience creating the type of radical forces which are now called terrorists. The British and Americans worked closely with such forces (when they were called “freedom fighters”) during the Soviet occupation of Afghanistan. The Western managers of these forces, which they would have people believe are indigenous radicals that have spontaneously sprung up, find suicide bombers the ideal capability: After the event, there is no one for law enforcement to interrogate, so the support network won’t be compromised.

Young people faced with high unemployment and no future, are more open to recruitment. They are sent to the ideal center for training and indoctrination: Iraq. This has been the case for many AQIM members.

AFRICOM Leader Named

The appointment of a distinguished leader for AFRICOM did not placate those who had seen through Cheney’s willingness to extend the Arc of Crisis into Africa. On July 10, George W. Bush nominated Army Gen. William E. Ward, the deputy commander of the U.S. European Command, to be the first commander of AFRICOM. Ward, an African American, has had a distinguished career, with 36 years of military experience.

Thus, when Ward was in South Africa in July, and Lekota did not answer requests from the U.S. Embassy for Lekota to meet with Ward, the South African Defence Minister was signalling his dislike for the chaos and conflict that would result from the U.S. militarization policy. Lekota was reacting to the policy, not to the man.

When the *Sunday Independent* in South Africa reported on July 15, the complaints of the U.S. ambassador to Johannesburg about Lekota’s refusal to meet Ward, the same article reported that, “Some analysts believe that South Africa is leading moves to prevent an AFRICOM presence in Southern Africa and others believe wider moves are afoot to keep it out of the whole continent.”

ON A FATEFUL SEPTEMBER WEEKEND

This New Millennium of Ours!

by Lyndon H. LaRouche, Jr.

With the advent of this September 2007, a recent century has died, and a new millennium is born. What an ironically wonderful 85th Birthday has been delivered to me, thus.

During two decades, twenty years, from the February 1763 Peace of Paris, when the British empire was, in fact, born, until that British East India Company's empire-in-fact conceded the establishment of the United States of America's independence, in 1783, a certain world order of what became a see-saw conflict between those two English-speaking systems, has dominated the decisive strategic elements of the history of this entire planet. This conflict was pivoted, throughout the 1783-2007 interval to date, on the conflict between the system of usury represented by the imperial, London-centered Anglo-Dutch Liberal monetarism, on the one side, and, on the other, the American republican system of sovereign national credit associated with the name of the first U.S. Treasury Secretary, Alexander Hamilton, of the new U.S. constitutional Federal republic.

Now, during the recent weeks, the Anglo-Dutch Liberal monetarist system has been engaged with a process of the self-disintegration of its present world monetarist system of global practice of a rampant, and also virtually rabid form of usury. Thus, we are presently pivoting on the anticipated new world system. The question is, will it be the affirmation of the American System of political-economy, or a global form of Hellish chaos, a global new dark age?

During most of the decades of those centuries, the British empire, with its predatory gold standard, dominated the world, until the 1931 formation of the Basel, Switzerland Bank for International Settlements.

So, from the time the associate, Andrew Jackson, of the

London-owned traitor to the United States, Aaron Burr, entered the U.S. Presidency, until the election of President Abraham Lincoln, the Presidency itself was usually ruined by London's assets, such as Jackson, Martin van Buren, Polk, Pierce, and Buchanan. However, after the victory over London's Confederacy assets under President Lincoln, we emerged as a continental power within our own borders, a power which could not be conquered by outside military force.

However, even then, when the fame of the success led by President Lincoln spread the influence of Lincoln's victory into Japan and the Eurasian continent, assassinations of elected Presidents and other subversive activity, repeatedly weakened our political system. Two elected Presidents representing the instincts of the defeated British asset which had been the Confederacy, Theodore Roosevelt and Woodrow Wilson, ruined us, until the election of President Franklin Roosevelt.

Immediately on the news of the death of President Franklin Roosevelt, the Anglo-American Liberal party grabbed increasing control over our republic's foreign and domestic policies, despite the grave warning which outgoing President Dwight Eisenhower delivered against those forces of Caesarian reforms in military affairs which he labeled the same "military-industrial complex" which engaged the U.S. in two sets of ruinously long wars (1964-1972 and 2003-2007), echoes of the ancient Peloponnesian War which ruined Classical Greece's civilization, each, like the ancient Peloponnesian War, engaged on the fraudulent pretext of lies uttered from the highest offices of the relevant republic.

Now, we have the presently soaring, global monetary-financial breakdown-crisis of the aggregated, present world monetarist system. The world is presently seized by what is



The visible economic horizon for needed reforms to the presently bankrupt international monetary/financial system, spans two generations ahead, LaRouche writes. Here, members of the LaRouche Youth Movement explore the scientific discoveries of Kepler, at a West Coast cadre school, in February 2007.

EIRNS/Elizabeth Mendel

in fact a global systemic crisis, which has certain internal similarities to the breakdown-crisis which struck Weimar Germany with full force during the second half of 1923, but which is global in scope, rather than one whose effects were susceptible of being confined, at least temporarily, to one nation.

A dollar-crisis, with marked similarities to the Wall Street “crash” of 1929, had already struck, in early October 1987. Unfortunately, for the world at large, a decision made by the U.S.A. and others, then, postponed the reckoning with the foolishness which had brought on that October 1987 stock-market crisis, until a time approximately two decades later. This time, a process called by such names as “globalization,” “post-industrialism,” and the anti-scientific, “neo-malthusian” mania called “global warming,” has created a degree of John Law-style hyperinflation in credit markets, such that the actual financial debt outstanding vastly exceeds the means by which any orderly bankruptcy proceeding could resist a general economic-breakdown-crisis of the global system as a whole.

We have already entered a situation, this time on a global scale, which must be seen in terms of its likeness to the so-called “New Dark Age” which struck medieval European civilization during the middle of the Fourteenth Century.

In the face of this presently onrushing, global crisis, only a certain, definite kind of reform could succeed.

The Essential Systemic Reform

The present world monetary system, with its component monetary systems, must be put into protective custody for general reform in bankruptcy proceedings, over a period of some years or more to come. Therefore, all so-called independent monetary and related central banking systems must be taken into protective custody, and the authority which they had enjoyed given over, entirely, to a concert of treaty-agreements among perfectly sovereign nation-states’ authorities.

We must credit a network of sovereign credit-systems, created by sovereign governments, which must employ a nested set of treaty-agreements among sovereign nations, agreements which will, in effect, reestablish a global, fixed-exchange-rate system of treaty-organizations. The immediate intention of adoption of such agreements, must be: a.) To replace the world’s present monetary systems with statist credit-systems, as Treasury Secretary Alexander Hamilton defined national banking. b.) To unleash long-term, massive expansion of essential physical-economic infrastructure, to shift employment back toward emphasis on capital-intensive modes of technological progress in manufacturing, independent farming, high-technology mass-transport featuring emphasis on magnetic levitation, global development of freshwater supplies, and high-energy-flux-density of production and distribution of power and synthetic generation

of hydrogen-based fuels produced by nuclear-fission technology, and science-driver programs for economy, health care, and sanitation.

The visible economic horizon for such a reform spans the two generations of expected economically active life of young people entering adult life today. Since the great mass of required infrastructure-building and related tasks will be within the range of twenty-five to fifty years maturation, we are presently situated at the point at which long-term treaty agreements among sovereign governments must recognize that what we do, or fail to do on those accounts will necessarily encumber our populations for fifty years and more to come.

Rather than floating currencies, we must allow prices to float within a fixed-exchange-system based on long-term considerations, especially the importance of protection of long-term physical capital expressed in forms such as productive capacities and progressive improvements in skill-levels of populations.

If we can muster the resolution to make such emergency agreements among sovereign nations now, we will probably have defined the hopeful future for all mankind for at least a millennium to come.

In the Meantime

No effort should be wasted in trying to adjust values of what are essentially fictitious monetary claims. At this immediate time, and for some years to come, we must protect what is currently essential, such as occupation of housing by families, the functioning of locally chartered banks by the national or regional governments, and other things. Presently, we do not have the basis on which to determine what the valuation of a claim to property should be. What that should be will become more or less clear only during the course of a lapse of time of several or more years. In the meantime, life must go on; all essential functions of physical economy and well-being of households, must be protected; real growth in employment in productive, rather than financial-speculative and questionable “services,” must have priority. The function of governments, and among governments, must be to ensure that what is essential happens, and that the physical growth of useful output, as physical capital and essentials of the population as a whole, are met.

This could not be accomplished, presently, under ordinary proceedings-in-bankruptcy. The mere attempt to take that route would be a disaster for all concerned. Instead, we must use emergency “fire walls” of government reform to ensure that physically essential measures of support for normal life and improved physical productivity are taken with what is otherwise a minimal stress and strain upon a population attempting to resume both a stable, understandable, and progressive manner of living in households and running local businesses in their respective communities. We must foster creative initiatives, and, therefore, we must foster, rather than tend to discourage useful private initiatives.

Book Review

Gosselin: Canadian Patriot, Revolutionary

by Pierre Beaudry

George Washington's French-Canadian Spy

by Henri Gosselin

Brunswick, Maine: J.H. French Printing, 1988
216 pages, paperback

This book is not just another history book about the American Revolution. Its great value is that it reveals the little known truth of the Canadian participation and contribution to the liberation of the American colonies. This is an historical novel about the author's ancestral cousin, Maj. Clément Gosselin (1747-1816), originally from the Isle of Orleans near Québec City, and how he became the Canadian spy of George Washington during the American War of Independence.

The story is fictional, but, entirely based on truthful historical accounts of this man of courage who, in the face of powerful political and religious adversity, starting with the implementation of the Québec Act of 1774, fought for the principle of justice for all mankind. Gosselin recruited hundreds of French-Canadians to the American War of Independence, and provided essential strategic intelligence to George Washington that prevented the British-Canadian troops from attacking the American colonies for the entire duration of the war. Gosselin ultimately united his French-Canadian Congress's Own Regiment (Moses Hazen's 2nd Canadian Regiment of the Continental Army) with the American forces of General Washington and the French forces of General Lafayette, and saw the success of his efforts crowned by his participation in the last victory of Yorktown, when the British troops of Cornwallis surrendered on Oct. 19, 1781. From the standpoint of history, just these few facts make this book a unique and necessary historical singularity. There is more.

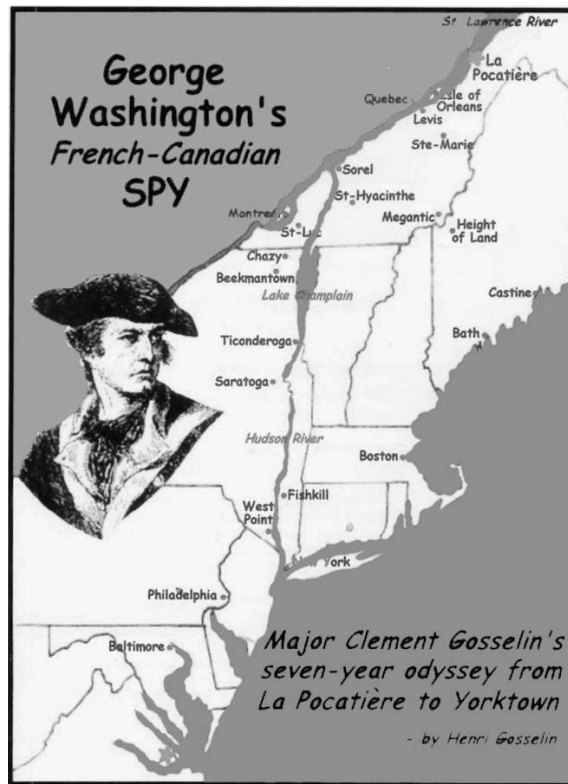
The author, Henri Gosselin, a descendant of the Major, brings to life all of the events of this period by weaving them in a very natural way around the character of his ancestor and those brave French-Canadians he recruited to the Revolutionary cause. I particularly appreciated the fact that Major Gosselin was not presented as a Romantic hero,

or some exalted rebel reacting against political or religious authority, but rather, as a truthful individual, a simple self-made man, with strong religious convictions, who decided to put his life on the line to defend the principles of justice and *agapē*, for the sake of his fellow man. This is the story, simple and beautiful, of a revolutionary struggle between a man's quest to free his people, and a monstrous religious and political cabal that kept the minds of French-Canadians in shackles, like cattle in a paddock, during the American Revolutionary War. This is the Canadian side of the story of what Benjamin Franklin had identified as the central anomaly of the American Revolution itself, and that every American colonist also had to resolve for himself or herself, that is: "*Those who would sacrifice liberty for security deserve neither.*"

The 'Intolerable' Acts

The author identifies the two main sophistries that Major Gosselin and his recruits had to fight during the entire duration of the war: the public excommunication of Gosselin by the Bishop of Québec City, Olivier Briand; and the fallacy of the Québec Act of 1774, concocted by the Governor of Canada, Gen. Guy Carleton, and known by the American Revolutionaries as one of the "Intolerable Acts" imposed by the British Crown against the colonies. Henri Gosselin also writes about the most important document of the period for the French-Canadians, the letter from the American Continental Congress, "To the Inhabitants of the Province of Québec" (1774), an official invitation to join the Americans in establishing self-government, and to make Canada the 14th American state. The imperialist nature of the British and their efforts to stop that movement in America is clearly established.

The book is thoroughly researched and very well documented. The historical details are made to blend in remarkably well with a constant attention to the simplicity of the *habitant* (farmer) character of the French-Canadian. The text is well dramatized. Most importantly, the author conveys an excellent sense of how Clément Gosselin was targeted by British intelligence through religious and political manipulations. Ultimately, the author shows how these exceptional French-Canadians burnt their bridges with the



British regime, abandoned all of their properties, broke ranks with the consensus of public opinion represented by their relatives, parish priests, and bishops, and even defied excommunication pronouncements against them, in order to liberate themselves and others from the bestial conditions the British rulers had imposed on Canada and America during the 18th Century.

I found that the greatest contribution of the book was to bring to the light of day, after more than two centuries of silence, the most crucial and ignored aspects of the Canadian participation in the American War of Independence. Following a vivid testimony of the historical events going back to the British conquest of Canada (1759), the author introduces historical events through very

realistic, though imaginary, dialogues between Major Gosselin and various known historical personalities of the Revolutionary period.

Most importantly, the author identifies previously little-noted historical events that reveal some of the most significant consequences of the French surrender of Canada at the Treaty of Paris (1763): For example, the fact that the Bishop of Québec City forced the population to submit to British rule using the threat of excommunication (1775); and the remarkable fact, ignored by all of the history books on the American invasion of Canada, that Major Gosselin recruited over 450 French-Canadian troops to fill the ranks of two American Revolutionary War regiments.

I would make only one criticism. The book could have been more explicit about describing the means by which Major Gosselin resolved the Franklin paradox of *security and liberty*, and how he was able to break the mental chains of a self-imposed need to secure one's life based on the consensus of mass public opinion. However, the author left sufficient room for an astute reader to be able to discover some of these axiom-breaking thoughts between the lines. I would conclude by emphasizing that the passionate way in which Henri Gosselin wrote his book was the added quality that made me appreciate the book the most. I know readers of *EIR* will really love this big little book.

(For further information, and to order the book, which is otherwise out of print, contact the author at: <http://home.gwi.net/~hgosseli/english.html>)

BERING STRAIT TUNNEL, ALASKA-CANADA RAIL

Infrastructure Corridors Will Transform Economy

by Richard Freeman and Dr. Hal Cooper

The adoption and construction of the Bering Strait rail and tunnel project is the focus of a Schiller Institute conference in Kiedrich, Germany on Sept. 15-16, bringing together international experts and political activists to mobilize for this program, which will bring about a technological upshift in the economy globally. The infrastructure corridors built around the rail lines will help generate, through their bills of materials, a renaissance in manufacturing and infrastructure in the United States, as well as Canada.

The Bering Strait project would link, by hoops of steel, the entirety of the Americas to the entirety of Eurasia, with the potential to connect to Africa. It would replace the world's slow, outmoded, and vastly overburdened sea-rail routes with a geodesic high-speed-rail route. The system would use high-speed electric rail, and shift as quickly as possible to magnetic levitation rail. This would free the world forever from hundreds of billions of dollars spent on petroleum-driven transport, while doubling or tripling the speed of transport of people and freight. For example, goods produced in the American Midwest could be transported to China, or Russia, in 7-10 days, rather than the three weeks it presently takes by a combination of sea and rail.

As a leading vector for enabling a World Land-Bridge, the Bering Strait project would facilitate the proliferation of rail-spined development corridors of high economic growth, ending the Third World's enforced backwardness and death.

A critical feature of the overall Bering Strait project, would be the development of a 3,030-mile Alaska-Canada rail connector, which will contribute to moving the U.S. and Canadian physical economies from a deepening collapse process of several decades, onto an alternative path of growth. Building 3,030 miles of track—and double that amount if the system is double-tracked—demands a tremendous quantity of

goods, expressed as a *bill of materials*. This is an ordered array of goods—steel for tracks and for railroad bridges; wood for ties and railroad structures; cement for culverts and other structures; aggregates for cement manufacture, but also for roadbed, etc. The bill of materials for the Alaska-Canada rail connector will require the production of tens of millions of tons of goods. This will create 35,000 to 50,000 jobs in the building of the railroad, plus workers in the factories producing the steel, cement, copper and aluminum wire, power plants, locomotives, and other necessary components.

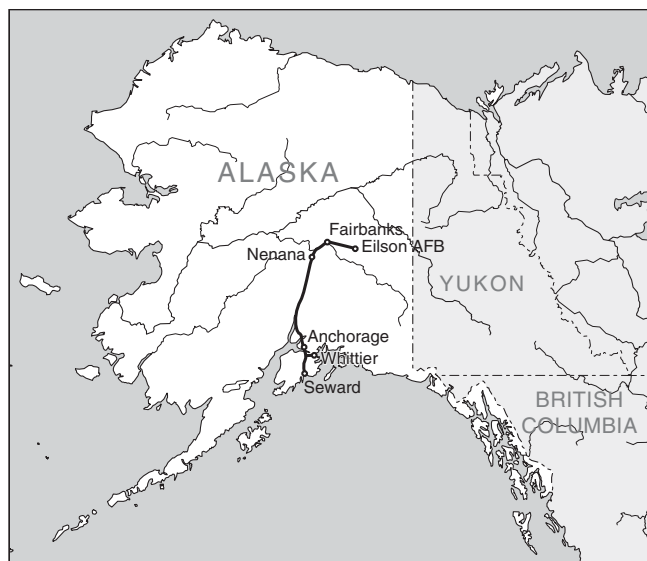
But that is just the first phase. In the second phase, potentially, hundreds of thousands of jobs will be generated.

On June 2, Fred Stakelbeck, of the Center for Security Studies, published a blistering attack on the project: "What do Russian President Vladimir Putin, spiritual leader the Dalai Lama, political activist Lyndon LaRouche, and former ... Governor of Alaska Walter Hickel have in common? They are all supporters of the Bering Strait Tunnel Project." The *Wall Street Journal* said the project would "soak the American taxpayer." But economist LaRouche has shown just the opposite: Hamiltonian long-term, low-interest financing will bring the project into realization. The confluence of the project's generation of technology and productivity worldwide, the development corridors, and the bill of materials will produce a several-fold increase of physical-economic activity, and an increase in tax revenue. It will pay for itself several times over. The adoption of LaRouche's New Bretton Woods monetary system is the context in which the project would come into existence.

A Critical Rail Network

To appreciate what must be done, we can first look at the state of rail, and transportation in general, in the Great North

FIGURE 1
The Alaska Railroad



region comprised of Alaska; the Yukon Territory of Canada; and the northern tier of British Columbia, Canada. To say that this area is underdeveloped, is like saying that the Sahara Desert is dry. **Figure 1** shows the Alaska Railroad, which was built in 1914-23, by the U.S. government, and has been, since 1985, owned by the Alaska state government. The Alaska Railroad, which extends from Fairbanks to Anchorage, covers 544 miles (876 kilometers), counting spur lines. It is a small, isolated system in the vastness of Alaska's 663,267 square miles (1,717,855 square kilometers). The map shows that, by rail, there is currently neither a passage to reach Fairbanks from the Lower 48 U.S. states, nor a way to get from that city to the Bering Strait.

The Alaska-Canada (Alcan) Highway, which was built under President Franklin Roosevelt's direction in 1942, extends from the Lower 48 states to Fairbanks, but goes no further west. To reach the Bering Strait by overland passage, short of using a snowmobile fortified with extra cans of gasoline, one must resort to huskies pulling a dog sled!

The Yukon Territory has only a tiny rail line. The North American rail grid that joins Mexico, the United States, and Canada, comes to a dead-end stop at the northern tier of British Columbia.

The Arctic North region is underpopulated, and its development frozen in time.

The Alaska-Canada rail connector, with the construction of a development corridor extending 50 miles (80 km) on each side of the railroad, can transform the region in its entirety. Power lines, fiber-optic lines, and where necessary, freshwater pipes would be encased within the corridor. Cities, population, manufacturing, and scientific agriculture would be fertilized and harvested in this corridor as well. The Arctic

North's nearby abundant, but largely untapped, mineral and raw material resources would be made accessible, by rail link, out of the frigid ground for rational use in the Arctic North and the world.

Overcoming a Transportation Dark Age

Figure 2 shows the plan for an Alaska-Canada rail connector system, as developed by co-author Dr. Hal Cooper, a consulting engineer.* This proposed system starts off with two route-branches, each of which heads in a north-south direction. The first branch, called the *westerly* one, starts at Prince George, British Columbia, and proceeds to Chipmunk, B.C., to Dease Lake, B.C., to Jake's Corner, Yukon Territory, and then to Whitehorse, Yukon Territory. The second branch, called the *easterly* one, starts at Prince George, also. It then heads to Dawson Creek, B.C., to Fort St. John, B.C., to Fort Nelson, B.C., to Watson Lake, Yukon Territory, to Jake's Corner, and then to Whitehorse. Both branches should be built.

The two branches join at Jake's Corner, which is in proximity to the larger Whitehorse. The rail connector line would then extend, as a single route, northward to Beaver Creek in the Yukon Territory, at the Alaska-Canada border, and then to Fairbanks. From there it would proceed to Cape Prince of Wales, Alaska, which lies across the Bering Strait from Uelen, Russia. The Bering Strait tunnel would link Cape Prince of Wales to Uelen.

Spanning off from this main line, two spur lines would be constructed—the first heading toward Nome, the second toward Red Dog, and then to Point Lay. This second spur would be a critical route, linking existing and projected mines in Alaska to the main line. Red Dog is the site of a massive Alaskan mine, currently the world's largest producer of zinc; it also produces sizeable amounts of lead and gold.

This rail system has two features to be noted. First, Prince George is a location where the North American rail grid nearly comes to an end. Starting in Prince George, the rail routes have been built out to Chipmunk and to Fort Nelson on the westerly and easterly branches, respectively. Both rail sections are owned by the Canadian National Railroad. But some of the rail line to Chipmunk has already been torn up, and both lines would require substantial repair and upgrade as part of the Alaska-Canada rail connector plan.

Second, by building the Alaska-Canada rail connector, we create the ability to move goods from Russia and China, as well as from Central Asia, Southwest Asia, and Europe, directly to the North American rail grid, and thus to the United States. The westerly branch would extend the system's

*Dr. Cooper has presented the essential plan for the Alaska-Canada rail corridor from British Columbia's northern tier to Fairbanks, in many comprehensive studies over the past 15 years. He has also worked on the rail extension from Fairbanks to Cape Prince of Wales. This particular configuration was developed in his discussion with *EIR*.

FIGURE 2

Proposed Bering Strait/Alaska-Canada Rail Connector to Lower 48 States, Plus Existing Lines



Existing Tracks Proposed Alaska Canada Railway Corridor

reach due south to Vancouver, British Columbia; Seattle, Washington; and then to major cities in California. The easterly branch would enable goods to travel either from Fort Nelson to Chicago, or from Dawson Creek to North Dakota, and then to a projected rail corridor to Texas.

An Immense Bill of Materials

Keeping the physical topology, and size of the railroad in mind, we can work up an approximate bill of materials.

There are two prerequisite steps in all rail construction, prior to laying a single mile of track. First, a comprehensive engineering survey must be conducted on the path and terrain on which the rail would be built, a process that Cooper and a few others have carried out. Second, the area must be graded, across mountains and low-lying areas. This would require bulldozers and earth-moving equipment, etc. Then building can begin.

In assessing a bill of materials, what the industry calls “unit factors,” that is, how many tons of specific goods are needed, per mile of track to be constructed, must be considered. These factors are approximate: In any particular several-mile-stretch of track, one may need more special materials to build on permafrost; one may need more of certain materials for extra strengthening of the track or to build more culverts; or one may need more wood or concrete to build protective walls and sheds, to protect the line from Winter weather.

Table 1 gives the unit factors for building a single mile of railroad track that is double-tracked, and where electric locomotives will be used. “Double-tracking” means that trains can run in each direction at the same time. An electric locomotive uses no diesel fuel, and is powered 100% by electricity supplied by overhead wires. This requires construction of power plants, transmission lines, overhead wires, poles, etc. All of this must be accounted for in the bill of materials.

The total length of the Alaska-Canada rail corridor, including spur lines, as displayed in Figure 2, is approximately 3,030 miles.

Using four different unit factors, it was possible to determine an approximate bill of materials for four different types of rail line that would be constructed: a single-track diesel-electric-hybrid locomotive; a single-track

TABLE 1

Alaska-Canada Railroad Route to Bering Strait Unit Factor: Tons of Material Required Per Mile

Double-Track Electric

Wood

Construction Lumber	60
Railroad Ties	116
Subtotal	176

Steel

Railroad Rails	1,900
Reinforcing Bar	775
Plates and Girders	310
Major Bridges	15,500*
Steel Poles	100
Subtotal	3,085

Metals

Copper Wire	245
Aluminum Cable	125
Steel Wire	40
Subtotal	410

Concrete

Cement	1,218
Aggregate	966
Sand	715
Gravel	966
Subtotal, Dry Basis	3,865
Subtotal, Wet Basis	4,854

* There are 15,500 tons of steel in one mile of railroad bridge. There are projected to be 9 miles of bridges necessary for this project (though this could increase).

electric locomotive; a double-track diesel-electric-hybrid locomotive; and a double-track electric locomotive. (On average, the “factor” for a double-track electric locomotive system is roughly double that for a single-track electric locomotive system, although there is some economy of scale. The same holds for the comparable types of diesel-electric locomotive systems). **Table 2** presents, for construction of each of the four types of system, the approximate tonnage required, by type of commodity. Notice that construction of a double-track electric locomotive system would require a huge bill of materials: more than 10 million tons of iron and steel; nearly 10 million tons of cement, aggregates, etc.; more than 1 million tons of copper, aluminum, and steel wire.

TABLE 2

Alaska-Canada Railroad Route to Bering Strait Bill of Materials: Tons of Material Required

	Single-Track Diesel Electric	Single-Track Electric	Double-Track Diesel Electric	Double-Track Electric
Wood				
Construction Lumber	93,855	102,952	169,540	181,680
Railroad Ties	169,540	168,840	349,790	349,740
Subtotal	263,395	279,810	519,330	547,184
Steel				
Railroad Rails	2,794,380	2,794,844	5,753,180	5,753,200
Reinforcing Bar	1,071,735	1,134,000	2,207,835	2,343,600
Plates and Girders	454,125	453,000	936,155	936,200
Major Bridges	90,000	90,000	139,500	139,500
Steel Poles	0	151,000	0	302,000
Subtotal	4,455,915	4,670,661	9,106,190	9,550,185
Metals				
Copper Wire	190,730	378,500	378,440	741,860
Aluminum Cable	101,910	213,395	213,395	410,375
Steel Wire	30,275	60,560	60,550	121,120
Subtotal	322,915	652,470	652,385	1,273,870
Concrete				
Cement	1,686,320	1,785,930	3,472,275	3,686,886
Aggregate	1,338,155	1,417,104	2,755,185	2,925,048
Sand	989,990	1,047,688	2,038,100	2,165,020
Gravel	1,338,155	1,417,104	2,755,190	2,925,048
Subtotal, Dry Basis	5,352,620	5,668,416	11,020,750	11,703,220
Subtotal, Wet Basis	6,700,964	7,124,884	13,783,456	14,697,912

Source: ‘Unit Factor ton/miles’ as developed in “The Worldwide Strategic Importance of the Intercontinental Rail Corridor Connections between the Eurasian and North American Land-Bridges,” by Hal Cooper, Sept. 15-16, 2007; EIR.

Cooper estimates that, at the beginning, because the total tonnage of freight to be carried by each train would be relatively smaller, the the Alaska-Canada rail corridor system may start out as a single-track diesel-electric hybrid locomotive system; but, as the Bering Strait tunnel is built, sending through a greater volume of freight traffic, a double-tracked electric locomotive system would be built. Engineers estimate that it would require 10 to 12 years to build the Bering Strait tunnel.

However, *with foresight and strong support by the United States government, the Alaska-Canada rail connector could start out as a double-tracked electric locomotive system.* It would move as quickly as possible to a maglev system.

TABLE 1

Large-Volume Components for a New Advanced Nuclear Plant

(1200-1500 MW range)

Equipment	Number (Range)	Comments
Pumps, large	71-100	
Pumps, small	80-484	
Tanks	49-150	600-150,000 pounds
Heat exchangers	47-104	All sizes, types, material 2,100-250,000 pounds
Compressors, vacuum pumps	12-26	
Fans	61-123	600-45,000 pounds
Damper/louvers	730-1,170	
Cranes and hoists	25-50	
Diesel generators	2	10 MWe
Prefabricated equipment modules	64-133	Preassembled packages including mechanical equipment, piping, valves, instruments, wiring, etc.
Instruments of all kinds	1,852-3,440	
Valves of all kinds	9,633-17,891	

Source: *U.S. Job Creation Due to Nuclear Power Resurgence in the United States*, Volume 2, page A-125, November 2004, Idaho National Engineering and Environmental Laboratory.

An Expansion of Employment

The process of constructing and operating a double-tracked electric locomotive system would generate a significant number of new jobs. It would require 7,500 to 12,800 full-time equivalent jobs to construct the railroad itself, and 1,800 to 2,300 workers to operate and provide maintenance to the railroad, once it is constructed. There is also indirect employment: An additional 15,000 to 25,600 jobs would be created, to produce the steel, cement, copper and aluminum wire, specified in the bill of materials in Table 2. The project would also require engineering and other services. Adding together the direct and indirect jobs, the corridor project would create between 24,300 and 40,700 new jobs, a goodly percentage of them productive.

There is more to this process. The Alaska-Canada Railway connector corridor will ultimately employ electrified rail: first high-speed (electric locomotive) rail and then magnetic levitation. This will require huge amounts of electricity, and mandate construction of a series of regional power plants to supply electricity to the railroad operation itself, plus for regional economic and industrial development. The requirement would be, conservatively, 3,000-6,000 megawatts of new installed electricity-generating capacity by 2050. Nuclear power would be the optimal means to supply the power. The bill of materials presented in Table 2 was re-

stricted primarily to the building phase of the railroad, and did not include that power requirement. **Table 3** documents the bill of materials to produce a 1,200MW power plant (construction of four paired 300MW plants, such as four pebble bed modular reactors, would require roughly the same bill of materials). Now, think of all the workers who would be needed to build the hundreds of pumps, heat exchangers, compressors, reactor vessels, etc., and the intermediate goods and raw materials, such as steel (see Marsha Freeman, "The Auto Industry Can Help Build New Nuclear Plants," *EIR*, Dec. 20, 2005).

This Alaska-Canada rail corridor would require the manufacture of a new fleet of thousands of electric locomotives, flat cars, hopper cars, and fuel transport cars. This engenders its own bill of materials, and the creation of new jobs. Given the collapsed condition of U.S. rail manufacture, we must immediately reopen and convert a number of closed auto factories, to produce rail capital goods. Laid-off skilled auto workers would be rehired.

In sum, adding up all the jobs cited above, the Alaska-Canada rail corridor would generate a new workforce of 35,000-50,000 workers, in largely productive jobs. But this is just the first phase.

Global Development

The Alaska-Canada railroad corridor, contemporaneous with the construction of a rail corridor from the Baikal Amur Mainline to Uelen, Russia—both leading vectors of the Bering Strait project—would bring about a profound and enduring change in the world economy. This would generate a second, much larger phase of jobs.

The Bering Strait rail and tunnel project's path is fast, both because it utilizes revolutionary high-speed/maglev technology, and because it operates along a least-action, geodesic Arctic Circle route. The shortest distance and fastest passage for goods from Beijing to Chicago is along this proposed route. Were the current mode of transport to be used to ship a product from Beijing to Chicago, it would go by train from Beijing to a Chinese port, broken down, and placed on a ship travelling at a much slower speed across the Pacific Ocean; be offloaded at the Port of Los Angeles/Long Beach, and placed upon a train for shipment to Chicago. That process takes up to three weeks. By the Bering Strait route, it would stay on high-speed train the whole way, travel along a much shorter route, and take 7 to 10 days.

A primary function of the Bering Strait rail system is to unlock of the vast treasure-house of varied elements of the Periodic Table trapped underneath the tundra and permafrost of the Arctic North, which consists of Russia's Far East, Alaska, the Yukon Territory, and the northern two-thirds of British Columbia. These mineral resources can be used for world economic development. The rail project, as part of what will become the World Land-Bridge, would also build development corridors in underdeveloped regions of the world, including

the Arctic North.

The case of Russia in this setting is developed by Rachel Douglas in “Russia: Contours of an Economic Policy to Save the Nation,” *EIR*, Sept. 7, 2007), so we will focus on the other regions of the Arctic North. The case of Alaska illustrates how the development of resources can contribute to igniting overall development. Alaska has almost no manufacturing: not a single steel plant, and only a few small machine-tool shops; it imports most of its industrial goods from the Lower 48 states or Asia. Sitting on a submerged mountain of raw materials, it has but seven mines of any significance in operation.

Yet, according to independent geologists and the U.S. Geological Survey, Alaska has a teeming resource base of iron ore, zinc, lead, copper, molybdenum, uranium, titanium, chromite, nickel, gold, platinum, and coal. (Russia’s Far East province has an equal or even greater supply of these and other raw materials.) A mining engineer told *EIR*, “Some financial people tell you that transportation has nothing to do with developing a mine, but they are totally wrong. If you don’t have transportation, you can’t ship the goods anywhere.” According to a study by University of Alaska at Fairbanks mining and geological engineer Dr. Paul Metz, Alaska has more than 500 “mineral occurrences”—sites where deposits of specific minerals have been identified—which fall within 60 miles on either side of the center line of the proposed Alaska-Canada rail connector. With rail, he indicated, several of these occurrences, perhaps dozens if they are rich enough, would become operating mines.

The development of mines calls for capital equipment and other supplies, but that is just the first step. Many in Alaska want to develop a manufacturing base. There are already plans to construct a petroleum refining facility outside the city of Fairbanks, Alaska’s largest, not only for producing refined product, but also for feedstock. There is also discussion of building metal-ore-processing and -refining plants, such as for zinc and copper, and of building initially one steel plant that would utilize iron ore from Alaska and neighboring Yukon Territory. These plans require railroads to transport the goods.

The Alaska-Canada rail connector, with 50 miles on either side, would be a development corridor within which new cities would be built and existing small cities would grow, following the general trajectory of the 19th-Century Transcontinental Railroad in the United States. Right now, three-quarters of Alaska’s small population (670,000 people) is concentrated in just two areas: the metropolitan areas around Fairbanks and Anchorage, in the southern part of the state. The rest of the state is virtually empty. As cities spring up or enlarge, they will build manufacturing establishments, and require construction of school systems, electricity grids, water systems, health and hospital systems; this will of course require an expansion of the workforce. For the short-term future, Alaska would import a host of advanced goods, in particular machine

TABLE 4

Population Density*: The Backward Effect of Underdevelopment

	Population per Square Mile	Population per Square Kilometer
Arctic North		
Alaska	1.00	0.38
Yukon Territory	0.16	0.06
Northern Two-Thirds of British Columbia	1.23	0.48
Other Regions		
Ohio, U.S.A.	277.0	108.0
Belgium	892.0	344.0
Netherlands	1,034.0	395.0

* Most of the data is for 2005 or 2006.

Sources: U.S. Department of Commerce, Census Bureau; several governments’ statistical bureaus; *EIR*.

tools, principally from the Lower 48 states.

Thus, as a second phase, over the next 20 to 25 years, this self-feeding process would create hundreds of thousands of jobs, most of them in Alaska and the continental United States, many of them productive.

Alaska’s population density of a mere 1.0 person per square mile (0.4 persons per square kilometer) is a measure of pitiful underdevelopment. **Table 4** shows the population densities for some regions, illustrating the underdevelopment of the Arctic North. The construction of the Alaska-Canada rail connector corridor will foster an increase in potential relative population density: that areas once thought to be barren—such as vast areas of snow and permafrost—will become fecund, through scientific agriculture (including the hot-house production of food), the technological- and capital-intensiveness of manufacturing, and the productive powers of labor. Through creativity, man will increase his productive power over the universe, per capita, and per square kilometer.

At a higher level, the movement of goods between Eurasia and the Americas, at previously unheard-of speeds, will transform world productive relations. It will cohere with an emerging isotope economy, and generate tens of millions of productive jobs in the United States, and hundreds of millions worldwide.

The regeneration of the world economy, which would be achieved through U.S.-Russian collaboration, would shift the relations between the two nations to a positive, war-avoidance footing.

The forceful implementation of Lyndon LaRouche’s New Bretton Woods monetary system, as the present financial system blows to pieces, creates the unique historical moment to bring the Bering Strait project into existence.

U.S. Mortgage Crisis: Demise of an 'Importer Of Last Resort'

by Dennis Small

The announcement by the Mexican Central Bank went largely unnoticed internationally, and even inside Mexico, it barely caused a ripple. But it was a marker of the greatest significance for the Mexican and U.S. economies, and in fact for the entire, imploding world system of globalization and free trade.

According to official figures, remittances sent home by the 13 million Mexicans currently in the United States *fell* by 2% in the second quarter of 2007. This is the first year-on-year quarterly drop in such remittances *ever*, in what some had foolishly come to believe was a perpetual recycling machine of cheap foreign labor generating a growing dollar income stream which, after passing through Mexico, ends up as payments to Mexico's international financial creditors.

That illusion has now been thoroughly shattered. The second quarter 2007 numbers cannot be dismissed as a mere blip on the screen: The remittance figures for the last five quarters have been heading steadily south. And the worst is yet to come. What we are actually witnessing is what Lyndon LaRouche has described as "the demise of an importer of last resort." As LaRouche foresaw almost seven years ago, in a Dec. 23, 2000 article carrying that title:

"What is collapsing today, is not an economy, but a vast financial bubble, a bubble whose chief economic expression is the U.S. financial system's role as 'The Importer of Last Resort' for the world at large....

"Look at the resort to virtual slave-labor operations, abroad, to export productive employment from the United States (and also western Europe) into regions where the price of labor is relatively the cheapest, and relative skills most marginal. Look at the U.S. industrial corporations, so-called; what portion of the total income of those entities has been a reflection of pure financial speculation, such as that associated with City of London-pivoted mergers and acquisitions?

"In effect, the world has been supporting, until about now, a vast U.S. dollar-denominated financial bubble, all largely for the purpose of propping up an inflated, intrinsically bankrupt U.S. economy's role as 'importer of last resort' for much of the world.

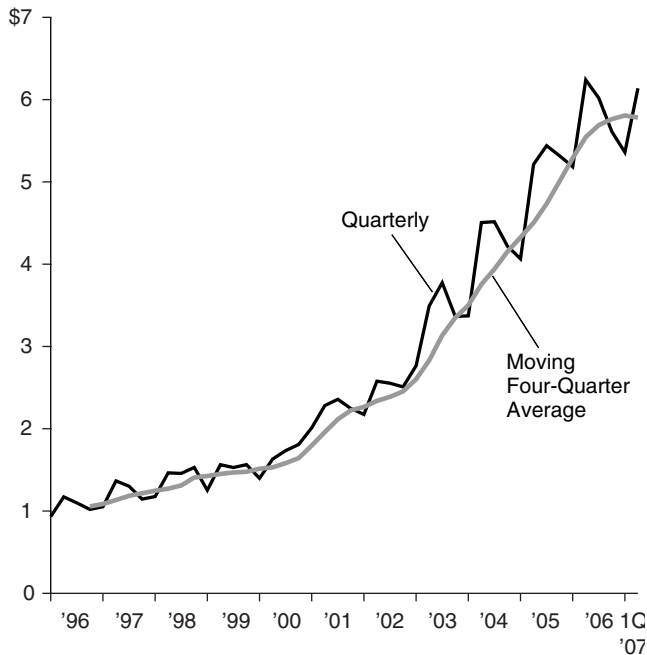
"What happens, when that financial bubble moves into its inevitable chain-reaction-collapse phase?"

What LaRouche warned about *then*, seven years ago, is happening *now*—and the current explosion of the U.S. hous-

FIGURE 1

Mexico: Workers' Remittances

(\$ Billions per Quarter)



Source: Banxico (Mexico).

ing bubble will have a direct impact on Mexico's ability to simply survive. The immediate background is as follows.

The Free-Trade Fiasco

With the destruction of Mexican manufacturing, which accelerated with the onset of NAFTA in 1994, millions of Mexicans fled to the United States in a desperate effort for survival for themselves and their families. Mexico today not only exports goods to the U.S.A.; it exports its *labor force*, which cannot survive inside the country under the policies of British "globalization." Nearly 13 million Mexicans—over 10% of the population—have emigrated to the United States.

As a result, remittances sent home by these economic refugees grew by nearly 20% per year, between 1994 and 2006, reaching a staggering \$23 billion last year. That is more than Mexico earns from any other source of foreign exchange, other than its oil exports. Without it, Mexico can't pay for its imports, or pay its large foreign debt.

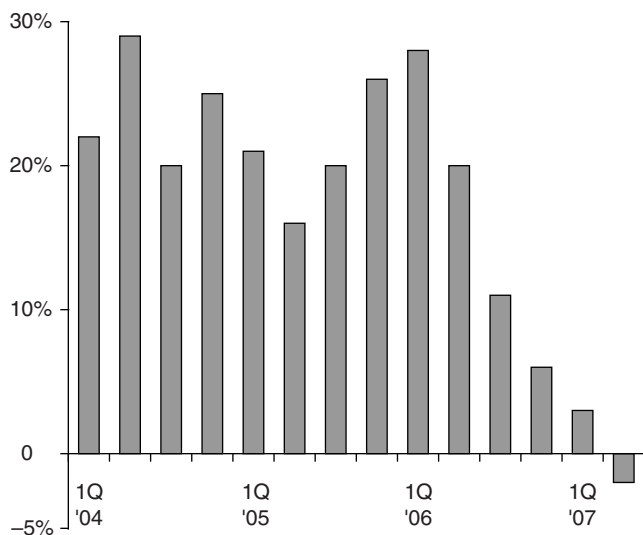
Although total quarterly remittances have grown—until this last quarter's drop—the *rate of growth* of remittances has been declining steadily since the beginning of 2006, as the collapse of the U.S. economy translates into a loss of jobs for even cheap-labor immigrants. This is shown in **Figure 1**: the levelling off can be seen most clearly in the curve showing a four-quarter moving average over the last decade.

When we focus in on the period since January 2004 (as we

FIGURE 2

Mexico: Growth of Workers' Remittances

(% per Quarter)



Source: Banxico (Mexico).

do in **Figure 2**), the sharp drop in the rate of growth is even more evident—down to negative growth in the second quarter of 2007.

This is a mere taste of things to come. The current blowout of the U.S. housing market is going to wreak havoc in this layer: The single largest sector of employment for workers who send remittances, is *construction*, with 18.6% of total migrant employment. Even agricultural labor, which has historically been migrants' main activity, is now only 16.5% of the total. Factory workers are in a distant third, with 6.3%.



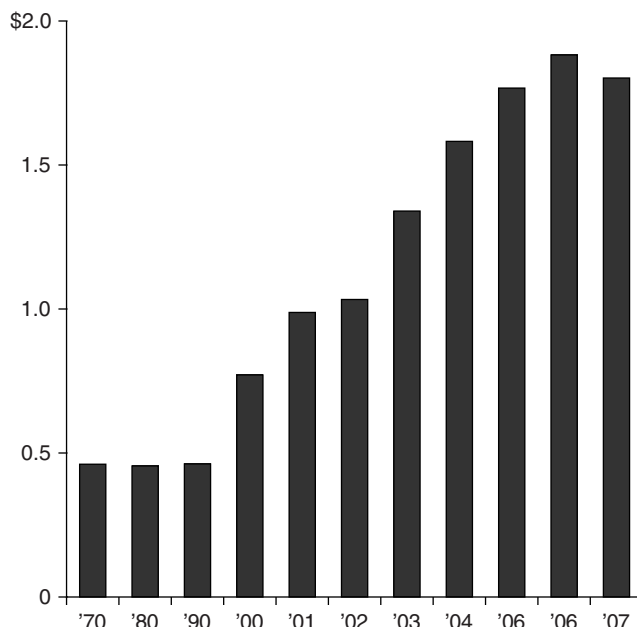
USDA/Ken Hammond

A steep decline in remittances to Mexico from immigrants working in the United States, as the U.S. housing bubble bursts, is already wreaking havoc with Mexico's economy; here, Mexican migrant workers pick tobacco near Danville, Va.

FIGURE 3

Mexico: Workers' Remittances per Emigrant

(\$ Thousands)



Sources: Banxico (Mexico), Pew Hispanic Center.

The numbers for foreign-born Hispanics who arrived in the United States after 2000, are even more dramatic: 30% of them were working in construction as of 2006.

Another significant indicator of the impact of the U.S. collapse is the average remittances sent per emigrant (see **Figure 3**). Not only has the number of emigrants risen steadily since the 1970s, but the amount remitted per emigrant also rose dramatically, from 1990 through 2006. This was due to the growing dependence of the migrants' families back in Mexico on the remittances they received, to meet their most basic needs. In fact, 86% of all the money sent back home is used for basic "sustenance"—read food—according to a recent Bank of Mexico study.

But as **Figure 3** shows, the average amount sent per emigrant has begun to decline, which will have serious economic and social consequences back in Mexico. All the more so, as things get worse, since the brunt of the housing collapse has not yet really hit the migrant worker layer. According to a Pew Hispanic Center study of March 2007, "construction jobs expanded for Latinos, despite the slump in the housing market" from 2004 to 2006, because this layer has so far gotten a growing share of the shrinking pie of construction jobs.

For example, in 2006, total U.S. housing starts fell steadily from 2.1 million in the first quarter to 1.6 mil-

lion in the fourth quarter—a nearly 25% decline. During this period, Hispanic construction employment didn't fall proportionately, only because two out of three new construction jobs went to Hispanics (Mexicans and others). This process clearly cannot continue for long.

With the demise of the “importer of last resort,” the total number of Mexicans emigrating to the United States has also started to decline. According to the Pew Hispanic Center, there have been about 500,000 emigrants per year over the past four-to-five years, but in the first two quarters of 2007, that rate has dropped off to a little over half, about 290,000 per year.

Besides the underlying economic trend, there is a nasty, anti-immigrant campaign being waged by circles loyal to Vice President Dick Cheney, which has also contributed to this decline. LaRouche commented on this aspect in a recent discussion, noting: “What you do, sometimes, when you run an operation, is you use a trend. The trend gives you leverage; then you augment the effect of that leverage. The best way to cover a dirty operation is to cover it under something that's already going on for other reasons,”

Food, Too

Under the system of globalization which is now hitting a brick wall, Mexico's ability to export its labor force to the United States had served as a safety valve of sorts, to relieve the pressure from the contraction inside Mexico of job opportunities, of manufacturing output, and especially of food production. But now, just as that safety valve is shutting down and the climate of expulsions grows in the U.S.A., food production in Mexico is hitting new lows.

As a result of NAFTA and related policies of globalization, Mexico, which was largely food self-sufficient 30 years ago, now imports about 30% of its basic grains. In fact, Mexico is now the world's largest importer of such staples as corn, rice, sorghum, and powdered milk. The situation is particularly dangerous with regard to corn, from which tortillas are made—the main element of the Mexican diet. At the beginning of 2007, when corn prices increased 50% in two weeks, President Felipe Calderón said that he would import corn from anywhere and everywhere, to try to drive prices down and alleviate the shortage. On that, at least, he was good to his word: In the nine months since he took office, imports of corn have increased by 119%. But domestic production is being wiped out by lack of credit, and lack of water and other infrastructure projects needs throughout the economy.

With the safety valve of emigration closing down; with remittances falling, leaving less money available in Mexico to buy what little food there is; and with domestic food production shrinking, relative to imports—the demise of the “importer of last resort,” long forecast by Lyndon LaRouche, and now becoming a reality with the U.S. housing crisis, does not augur well for Mexico's economic and social stability under the current system.

Global Warming Update

Carbon Offsets Are Genocide

by Gregory Murphy

The true face of “carbon offsetting,” one of the carbon-emission remedies put forward by the global warming hoaxsters, is now very public: It's slavery and genocide. Just look at the accompanying illustration from the group Climate Care, and its happy depiction of little naked black people using their muscle-power on a treadle to offset the carbon expenditures of climate-minded Westerners.

This return to barbarism was highlighted by the *Times* of London on Aug. 28, which reported that the leader of the U.K. Conservative Party, David Cameron, offsets his carbon emissions by effectively keeping black and brown people in a state of bondage. Whenever he takes a flight to a foreign destination, Cameron, a rabid environmentalist, makes a donation to a carbon-offsetting company that has devised ways to encourage people in the Third World to dump modern methods of farming in favor of using supposedly more eco-friendly manpower to plow and water their fields.

The *Times* article says that it will take a peasant treadle-pumping two hours a day for three years to offset the CO₂ from David Cameron's recent trip to India! Cameron's chief environmental advisor, it should be noted, is Seth Goldsmith, the nephew of malthusian Teddy Goldsmith, who believes that all industry is bad, and the fewer people in the world, the better.

The company that Cameron gives money to is Climate Care, whose website and promotional material quotes from Al Gore's film “Inconvenient Truth.” In June of this year, Al Gore presented Climate Care's chief award to Sunlabob, a company that makes portable solar power lamps that are rented out by the hour to families in Laos, as a way to offset the carbon emissions of Westerners who benefit from electricity.

The head of the Climate Care's Steering Committee is population-reduction enthusiast Sir Crispin Tickell, who proudly states that he was the one who convinced then-British Prime Minister Margaret Thatcher to go with a campaign against “global warming.” Some of Climate Care's clients, who give money to remove the guilt of carbon use, are Prince Charles, Land Rover, the newspapers the *Guardian* and the *Times* of London, and the U.K. Liberal Democratic Party.



www.climatecare.org

Climate Care's website features "happy natives" pushing a treadle-pump to get water, and burning a lone solar-powered light bulb, while heating their stove with dung. Advocating methods abolished in British prisons a century ago, the group proclaims that "sometimes the best source of renewable energy is the human body itself." But not for Westerners, of course.

An Anti-Human Program

Climate Care's carbon offset program is just plain anti-human. (Just look at their website, which documents this: www.climatecare.org/projects/technologies.) Climate Care promotes the use of treadle pumps by poor families in India, so that they can get water to their land without having to use "polluting" diesel power. The treadle pumps are made of bamboo, plastic, and steel, and they work like stair-stepping machines in health clubs—except that the operators of these treadles are not in need of "shaping up." Reports from people in the region say that family members push the pedals for hours in order to draw up the groundwater necessary to irrigate their farmland.

Note that this type of pump was abolished in British prisons a century ago! It seems that what was considered an unacceptable form of punishment for British criminals in the past, is now looked upon as a positive eco-alternative to machinery for Indian peasants today.

What was once known as back-breaking labor, is transformed by Climate Care into "human energy." Climate Care celebrates on its website this fact of forcing the Indian peasants to use treadle pumps: "Sometimes the best source of renewable energy is the human body itself. With some lateral thinking, and some simple materials, energy solutions can often be found which replace fossil fuels with muscle power."

To show that muscle power is preferable to machine power, the Climate Care website features the accompanying illustration of smiling naked villagers pedalling on a treadle pump next to a small house that has an energy-efficient light bulb and a dung-burning stove made from local materials.

Climate Care has other carbon offsetting projects, like the one that involves the poor people who live near the Ranthambhore National Park, a tiger reserve. Climate Care instructs

the local residents to stop burning fire wood and instead use cow patties, because the tigers need the trees! In the world of carbon-offsetting, you see, beast comes before man.

In these scandalous schemes, we can see the iron fist that lurks within environmentalism's velvet glove. Cutting back on carbon emissions is the goal to which virtually every Western politician celebrity has committed himself. Yet, for the poorest people around the world, reducing carbon output means no machinery and reliance on every family doing more hard labor, or a return to more primitive technologies, such as collecting cow patties and burning them

in an eco-stove paid for, for example, by one of Al Gore's carbon offsets.

It is not just Climate Care that pushes such eco-slavery initiatives. Other carbon-offsetting companies have encouraged Kenyans to use dung-powered generators, and Indians to replace kerosene lamps with solar-powered lamps. Carbon-offsetting tree-planting projects in Guatemala, Ecuador, and Uganda have reportedly disrupted local communities' water supplies, led to the eviction of thousands of villagers from their land, and cheated local people out of their promised income for upkeeping these conscience-saving trees.

I wonder how many families in India or Africa are treadle-pumping away Al Gore's super-human carbon footprint, so that he can self-righteously say that he lives a "carbon-neutral" lifestyle. The very nature of carbon offsetting—where the emphasis is on paying money to "offset" one's lifestyle—is much the same as the way that wealthy people in the Middle Ages paid the Church for "Indulgences" that forgave them their sins. These offsetting indulgences highlight the "Do as I say, not as I do" attitude of Gore and his global warming followers.

Carbon offsetting shines a light on the dangerously anti-development sentiment in environmentalism. As British journalist Ross Clark points out in an article in the Aug. 11 *Spectator*, the success of carbon offsetting relies on the continuing failure of the Third World communities to develop. Clark writes: "Carbon offset schemes only work if the recipients in the Third World continue to live in very basic conditions. Once they aspire to Western fossil fuel-power lifestyles, then the scheme is undone."

If Al Gore thinks that carbon offsets are so great, maybe he should burn cow patties as fuel. And it sure looks like he could use a daily session or two on the treadle pump to fill his natural-gas-heated swimming pool.

LaRouche Movement Organizes for A Nuclear Renaissance in Colombia

by Miriam Nelly Redondo

The way an audience can be transformed from today's pervasive pessimism, to technological optimism, was beautifully demonstrated at a July 28 forum in the capital of Colombia. Two hundred people attended the First Biofuel Workshop and Seminar in Bogotá, organized by the publication, Virtualpro, and the Manuel Beltrán University. There they heard a presentation given by the guest speaker invited by Colombia's Lyndon LaRouche Association, Marjorie Mazel Hecht, managing editor of the U.S.-based online publication *21st Century Science & Technology* (www.21stcenturysciencetech.com/), who spoke on the theme "The World Nuclear Renaissance Is in Progress! Will Colombia Join In?"

Hecht's address infected the audience with the optimism generated by the revived worldwide turn to nuclear power as a source of energy that can replace today's fossil fuels, oil, coal, and natural gas.

In the afternoon, Maximiliano Londoño Penilla, president of the LaRouche Association, followed up Hecht's polemic during his participation in a panel discussion which also included Mauricio Rojas Quintian of Cenipalma, Carlos Fernando Márquez of the Colombian Automobile Association (SCA), Marcela Bonilla of the Environment Ministry, and Carlos Díaz of Brazil's oil company Petrobras.

During the forum, the majority of the questions were focussed on how to solve Colombia's energy crisis, which opened the way for Londoño to elaborate on the idea—first developed in the morning by Mrs. Hecht—that nuclear energy in Colombia is inevitable, while attacking the fraud of both global warming and of biofuels as a viable energy source. The other panel members were left with nothing to say.

Not to develop nuclear energy would pose for Colombia a serious

risk of cutting itself off from opportunities that would mean an unlimited energy source for the country, Londoño argued. Since the era of U.S. President Dwight D. Eisenhower (1952-60), Colombia has already received benefits from the U.S. "Atoms for Peace" program, which put atomic energy, the most valuable area of scientific-technological knowledge at the time, at the disposal of the underdeveloped countries of the world.

Colombia's Nuclear History

In Colombia, the institutionalization of nuclear technology followed directly from the Atoms for Peace policy. It was initiated by President Gen. Gustavo Rojas Pinilla, who established the first nuclear institution in the country, the Colombian Institute of Nuclear Affairs (ICAN), which op-



EIRNS

It is time for Colombia to join the worldwide renaissance of nuclear energy, according to the optimistic campaign of the LaRouche movement in Bogotá. Here, members of the LaRouche Youth Movement organize in the capital city against turning agriculture over to the ethanol/biofuels swindle.

erated from 1956-59, later replaced by the Institute of Nuclear Affairs (IAN). Rojas proposed collaborative efforts between the state and national industry, for the purpose of industrializing the country, taking advantage of the use of man-made nuclear radioisotopes in medicine, agriculture, and industry.

In the field of medicine, Colombia cooperated with France, which had already been working since 1934 through the Radium Institute—now known as the National Institute of Cancerology—on the application of nuclear radioisotopes. Unfortunately, investment has been inadequate to meet the demand for application of this technology, with the result that there has been no program of modernization and expansion of equipment for urgent programs in the treatment of cancer patients in Colombia.

As director of ICAN, Maj. Gerardo Cabrera Apraéz (ret.) signed a bilateral agreement with the United States in June of 1955, for the peaceful use of nuclear energy, which was considered the first agreement of its kind. One year later, Colombia was visited by a geological mission of the U.S. Atomic Energy Commission led by Glendon Collis and William Isaclasen, who reported on the possible exploitable reserves of uranium in Colombia's Santander province. Toward that end, the company Minuraniu was created.

In October of 1959, the IAN was created under the direction of Tulio Marulanda, a chemical engineer, who specialized in metallurgy and nuclear energy at the University of Colorado. Four ministries made up the directorship of IAN: Development, Health, Education, and War. Unfortunately, the role of the institute in education was marginal; there was no formal link with the National University, and the IAN operated initially with chemical engineers and agronomists who were to specialize in nuclear material, through scholarships abroad.

In July of 1961, the Argentine nuclear chemist Sonia Nas-sif, representing the International Atomic Energy Organization and in cooperation with IAN's Marulanda, proposed the construction of a regional nuclear center, to carry out joint research. This was on the occasion of the arrival in Colombia of the IAN-R1 reactor, which, at the time, was considered the first in a series of developments that would keep the country up to date in nuclear technology.

But political nearsightedness killed Colombia's nuclear program when, in 1958, President Alberto Lleras Camargo labelled the nuclear commission a project of the Rojas Pinilla dictatorship, thereby freezing all budget transfers to the institute, without any understanding that material development and human welfare urgently requires ongoing scientific research.

Time for a Nuclear Revival

It is time to correct these errors of the past. As *21st Century* editor Hecht explained, the world today is experiencing a

nuclear renaissance, and it is urgent that Colombia join in. Bilateral U.S.-Colombian relations need to be re-established on the basis of principles of cooperation for development, such as that seen during the period of Eisenhower's Atoms for Peace.

Hecht documented how the Asians have become the pioneers in nuclear development. China has ten operating nuclear plants, producing 8.6 gigawatts of energy, and intends to produce 40 gigawatts by 2020, and between 120 and 160 gigawatts by 2030. Taiwan is producing 22% of its energy with six nuclear reactors, and has two more under construction. India has 17 nuclear plants producing 3.5 gigawatts of energy. South Korea has 20 nuclear reactors that provide 40% of its electricity, 26.6 gigawatts. Japan has 55 reactors, which provide 30% of that nation's energy needs, or 47.5 gigawatts.

And the revival is not only going on in Asia. Russia has 31 nuclear plants which provide 16% of its energy, and it is planning to reach 25% by 2030. South Africa has two conventional nuclear plants in operation, which generate 6% of its electricity, and is carrying out an intensive program to develop the German-designed PBMR (pebble bed modular reactor) nuclear plant model. The United States, on the other hand, although it has more than 100 plants generating about 20% of the nation's electricity, has not built a single new reactor since the 1970s, and its nuclear program is still struggling to escape from the barrage of environmentalist and deindustrialization propaganda.

In the rest of Ibero-America, Argentina and Brazil are returning to nuclear energy, after a long period of inactivity. Argentina will finish the Atucha 2 nuclear center by 2010, and has plans to build a small reactor, CAREM, an Argentine design which was developed in the 1980s, which could be used to generate electricity and for water desalination. Recently, one of the CAREM models was sold to Australia.

In Brazil, the government has made the decision to build a third nuclear plant, Angra 3; the three Angra plants combined will produce 1.896 gigawatts, nearly 4% of Brazil's electricity. Mexico has two nuclear reactors at Laguna Verde, and these produce 5% of its electricity. Chile and Peru have also shown interest in conducting nuclear research and are working toward that end.

We should remember that it was the narco-government of Ernesto Samper Pizano in Colombia which shut down IAN, preventing our country from advancing in that field. Colombia should join with other nations that have begun or reactivated their nuclear programs. And since they have restarted the research reactor, we should promote anew the development of nuclear energy. We should reopen the Institute of Nuclear Affairs (IAN), as an autonomous body, functioning directly under the executive branch, with the participation of the Ministry of Agriculture on its board of directors, and with

total financial autonomy. Further, the nation should call on all Colombians and foreigners who have specialized knowledge in the nuclear field, to come forward and join this national initiative.

Faculties of nuclear physics and nuclear engineering should be immediately created in the National University, so that Colombia can join the programs of Argentina, Brazil, and Mexico. There should also be efforts to establish a Regional Nuclear Institute, and this could be one of the challenges undertaken by President Alvaro Uribe, as part of a larger Ibero-American integration initiative.

Down with Biofuels

In Colombia, the lobbyists for biofuels seek to create a financial bubble, similar to the housing bubble which is currently blowing out in the United States, because biofuels could never be profitable without the huge subsidies that governments provide. For example, it was for that purpose that Law 693 of 2001 was created in Colombia, which established that, by September of 2005, all cities with more than 500,000 inhabitants—like Bogotá, Cali, Medellín, and Barranquilla—would have to use gasoline with at least 10% ethanol content. Law 788 of 2002 introduced exemptions to the Value-Added Tax for the ethanol component of oxygenated fuels, and introduced tariff exemptions for the import of equipment necessary to mount ethanol refineries. Together with this law, the Ministry of Mines and Energy put out Resolution 1080836 of July 25, 2003, to establish the price structure for oxygenated regular gasoline.

If one does the calculations, it becomes clear that to satisfy the mix of 10% ethanol in gasoline required by law, they will have to build at least 10-12 ethanol refineries to produce 2.5 million liters a day. According to Agriculture Minister Andrés Felipe Arias, the idea is for Colombia to become the leading biofuel producer in Latin America, which would require an investment of half a billion dollars. But it appears that the Minister has not considered how this will directly affect the price of food, since he is not simultaneously projecting the preparation of new lands, with infrastructure and agricultural technology, to bring more food under cultivation—with the result that foods will dramatically rise in price.

He also is not considering the reduced tax revenues implied by this strategy, given the exemptions of 98.1 million pesos a year. Over the long term, this bubble too will burst, creating a new source of frustration for Colombians.

In sum, considering the ongoing global nuclear renaissance, and the failure of biofuels, the only solution to the high cost of fuel, and to the eventual exhaustion of oil reserves, is nuclear energy.

Miriam Nelly Redondo is the General Secretary of the Lyndon LaRouche Association, Bogotá, Colombia.

Vitus Bering and the Rediscovery of America

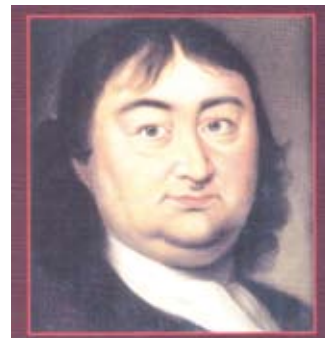
by Tom Gillesberg

Often it takes a great and ominous crisis for decision-makers to finally change those ingrained axioms that are leading themselves and their nation to doom. Such a moment came for Peter the Great and Russia in the year 1700. Czar Peter I (1682-1725), later known as Peter the Great, had become the sole ruler of a backward and medieval Russia in 1696, when he was only 14 years old. Four years later, Russia, together with Denmark and Poland-Saxony, entered into the Great Nordic War with Sweden.

Once Sweden, with the aid of the British-Dutch Navy, got its Army to Zealand, peace was swiftly reached between Sweden and Denmark, and later in that year, at the Battle of Narva, the Russian Army suffered a humiliating defeat at the hands of a Swedish Army only one third of its size. At that disastrous moment, Peter the Great decided that he and Russia would abort the tragic course to which their commonly accepted axioms had led them, and change the principles governing the country. The decision was made to transform Russia from a medieval empire into a modern European nation.

Gottfried Wilhelm Leibniz, the towering intellectual giant of the 17th Century, had long been eyeing Russia. With amazement, Leibniz had studied the reports coming back from expeditions to China and concluded that here was an ancient civilization with signs of that “art of discovery” which Leibniz took to be the most precious talent Europe had. But in order for those two great civilizations to link up with each other, the vast area in between—Russia—had to be developed, although he observed with despair the manners of what he called “the Turks of the North.” With the leadership of Peter the Great, Leibniz saw the opportunity to transform medieval Russia into the great modern land-bridge that could link Europe to China and Asia.

As a young man, Peter the Great himself travelled to Europe incognito, in order to learn everything he could about science and technology, so that he would be able to put them to use at home. The defeat at Narva was the signal to transform all of backward Russia into a modern European nation.



Vitus Jonassen Bering (1681-1741) led two expeditions to Russia's northern territories.

He launched a “head hunt” for capable European hands and minds that could help in the transformation. Among other projects, he sent people out to recruit a Russian navy. In 1703, Peter the Great founded a new city on territory conquered from Sweden, St. Petersburg on the Baltic coast, which was to become Russia’s window to Europe. In 1712, he elevated St. Petersburg to be the new Russian capital, and from that time on, Russia was a European power.

Leibniz Becomes Peter’s Advisor

In the course of the protracted Great Nordic War, Peter adopted Leibniz as an advisor to help in uplifting Russia through the promotion of scientific and technological progress. Before that point, Leibniz had tried to influence things in Russia through his extensive networks, and at the end of November 1711, he finally managed to have an audience with Peter in Torgau, Saxony. At that meeting, Leibniz gave Peter an *aide-mémoire* that “presented a program consisting of plans for printing, trade and publishing, secondary schools, agriculture, research into the magnetic declinations of Russian soil, research into Slavonic languages, promoting the manufacture industry and, most important of all, founding an academy. Other topics brought up during the audience concerned the mapping of the Siberian landmass and improving sea- and land-routes, Leibniz’s plan for sending an expedition to explore the border between Asia and North America...”¹

Leibniz later met Peter again and was “offered the opportunity to be the Solon of Russia” when he was appointed a Privy Councillor to Russia in Carlsbad, one year later.² From then on, Leibniz corresponded with high officials at the Russian court, even though he never travelled to Russia. In 1716, when Peter visited the French Academy in Paris during a trip to Europe, the Academy brought up Leibniz’s idea of investigating the East, and asked Peter’s permission to explore the border between Asia and North America. At the time, Peter refused, insisting that Russia would do so by itself.

Bering and the Kamchatka Expedition

Fortunately, the influence of Leibniz’s ideas at the Russian court continued after his death in 1716. In 1724, Peter the Great gave the order to fulfill Leibniz’s dream of establishing a Russian Academy of Sciences, and in early 1725, just five weeks before his own death, Peter signed the instructions to

send an expedition to map out Eastern Siberia and discover the connection between Asia and North America. This expedition was to be led by the Dane Vitus Bering.

At that time, Vitus Jonassen Bering (1681-1741) had been in Russian service for 22 years. He was born in the little Danish city of Horsens, where his father was customs officer and churchwarden. At an early age, he went to sea and travelled to both the Danish East Indian and West Indian colonies, and he

learned how to command a ship and draw maps. In 1703, he was in Amsterdam searching for new adventures and responsibilities when he met the Norwegian Cornelius Cruys, a vice admiral in the Russian service, and he became one of the many Danish and Norwegian sailors recruited into the navy that Peter the Great was building at the time. Bering was a participant in the Russian fight against Denmark’s traditional arch-enemy, Sweden, until the Great Nordic War ended with the Swedish-Russian peace in 1721.

In 1725, Bering, who had been seeking for some time the opportunity to take on more leadership, was happy to take charge of the Kamchatka expedition. Peter’s instructions to him from Dec. 23, 1724, ordered him to travel to the east coast of Kamchatka and there

to: 1) build one or two ships; 2) go north and find out how the coast ends; 3) go to a European-controlled city, find out to whom it belongs, make a map, and come back home. Since the Russian Academy of Sciences was too young to be involved in this so-called First Kamchatka Expedition, the science of the matter was left to Vitus Bering.

How is it possible that such a top-priority, top-secret sensitive expedition was put under the command of the Dane, Bering? Well, that Dane had served faithfully in the Russian Navy for more than two decades, and Peter likely thought he was the only person capable of carrying out such an “impossible” expedition. Of course, Bering must have excelled in his command duties up to that point and proven himself extremely capable in seafaring and as a map-maker. But this expedition was not just about sailing a ship. It was about leading a grand expedition under the most extreme circumstances, and with very little help from civilization along the way.

Before the “real” expedition could be launched from the eastern shore of Russia, one first had to get there. That meant travelling across one-third of the globe, over the huge, virtually unpopulated Siberian land-mass, with its hostile climate. As one progressed east, the conditions would get worse and worse, and the people at hand to help out would get scarcer and scarcer. One would be a small army on a forced march through Hell, having to solve ever new problems.



Library of Congress

Gottfried Wilhelm Leibniz (1646-1716) urged Peter the Great to set up a Russian Academy of Sciences.

1. Markku Roinila, “Leibniz and the Great Mission: Russia” www.helsinki.fi/~mroinila/russia.htm

2. Elisabeth Hellenbroich, “G.W. Leibniz and the Ecumenical Alliance of All Eurasia” *Fidelio*, Fall 1996.

Almost all of supplies for shipbuilding (except the wood), had to be carried along, before the ships could be built on the east coast and the final scientific sea voyage could begin. Weapons, anchors, other iron parts, ropes, sails, equipment, and so on—everything had to be carried all the way from Tobolsk, Siberia. Only in very few cities and towns on the way could they get supplies to keep the expedition alive. At Irkutsk, at mid-journey, they would procure the grain to serve as supplies on board, and the pack horses to carry it the long distance from Yakutsk to Okhotsk. Transportation across Siberia had to go along different rivers and, in many cases, by rowing and pulling the barges upstream. In between rivers, they trekked overland with all their supplies. Arriving at the next river, new barges or vessels had to be built. Corrupt local officials and the backward local labor force had to be mobilized (or forced) to help, so that the expedition could stay alive and advance.

As insurmountable as all these practical problems might seem, there was an additional subjective factor. The expedition had to embark on a year-long journey into the great unknown, without even a map or a tried and tested travel route for a major part of the journey. They had to gather the intelligence needed along the way and adapt to circumstances. If they survived all the tribulations of crossing Siberia, they would embark on the great ocean to new unknown dangers and, possibly, a hostile reception by uncivilized tribes or a foreign power. Whether and when they would make it back home was highly uncertain. Only a person with adventure in the blood and an idea of his personal role to play as an historic individual in the service of mankind would leave the safe pleasures of St. Petersburg to lead such an expedition.

For that reason, we Danes are proud that Bering was chosen to lead the mission. Respect for the Danish officers in the Russian Navy at the time must have been considerable, for not only was Vitus Bering chosen to lead this extraordinary expedition, but another Dane, Martin Spangsborg, was installed as his second-in-command. In February 1725, Bering left St. Petersburg, and after travelling through the relatively “civilized and populated” areas of Russia, he arrived in Tobolsk. Here the expedition started out, as soon as Winter loosened its grip, on May 15, 1725.

Getting to Kamchatka

From Tobolsk, the river-jumping began. First the expedition sailed down the Irtysh, and up the Ob and Ket Rivers. They went overland to Yeniseysk, and from there by boat to the mouth of the Ilim River. Here, they were to spend the Winter in Ilimsk, but Bering sent 39 men under Spangsborg’s command to Ust-Kut, where they would build 15 barges for next year’s travel. During the Winter, Bering visited the nearby trading center, Irkutsk, to organize the supply of grain and horses from the local governor, and to gather information on the further hazardous travel route to Okhotsk. He was sternly warned not to meddle with the tribes too far north, because they had the habit of killing Russian officials.

In the Spring, the expedition united in Ust-Kut and travelled on barges down the Lena River to Yakutsk. Here they split up. Bering travelled on horseback with a few people and the grain supplies to Okhotsk, while Spangsborg transported the heavy equipment down the Lena and then the hard way, up the Aldan and Maja Rivers, to a place called Yudoma Cross. From there, he had to travel a couple of hundred kilometers overland to get to Okhotsk.

After rough times, with many men deserting and most of his horses dying, Bering’s smaller expedition finally made it to Okhotsk. Most of the supplies had to be left under guard along the way. But before resting, Bering’s group had to build houses and storage space; they needed lodgings for themselves and the other men they awaited, in order to make it through the Winter. (Okhotsk consisted of only ten small houses.) Meanwhile, Spangsborg, whose route was much tougher, got caught in the Siberian Winter. Two of his men, half dead, arrived at Okhotsk and reported that Spangsborg’s group was hanging by a thread. Only because they had found the grain and dead horses left by Bering had they so far survived.

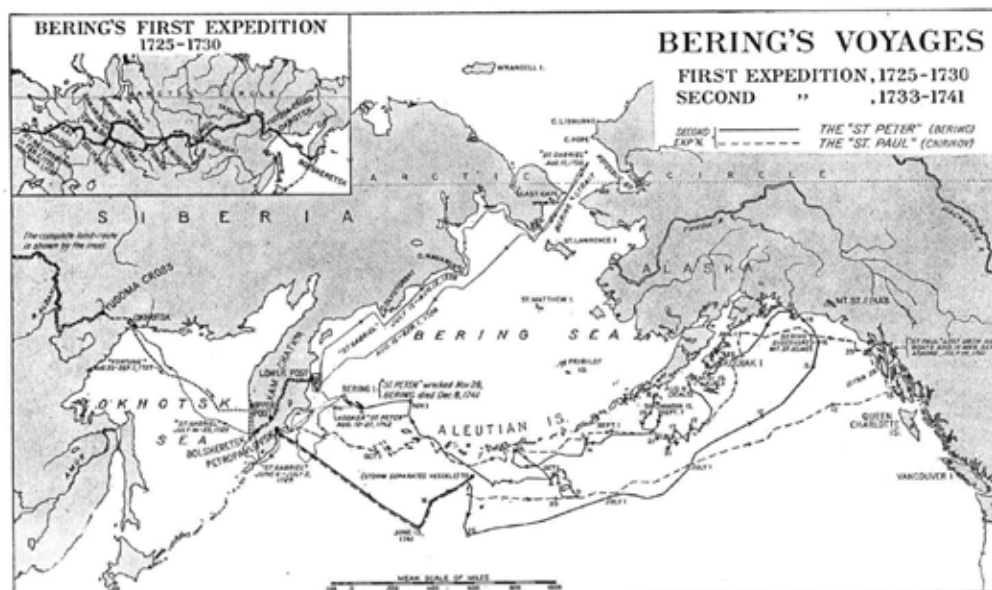
Bering put together a rescue team, but its members refused to leave the safety of the camp. Bering, who is often accused of being too soft towards his men, had to be rough. Gallows were erected and the men were warned that they would be immediately hanged, and their families at home punished as well, if they did not carry out their orders and save Spangsborg and his men. This pedagogy worked: The rescue team left, and all the men were saved.

During the Winter, Spangsborg and 90 men went back with dog teams to retrieve the supplies they had had to leave behind. At the same time, the ship *Fortuna* was being built, and by Spring, it was ready to sail supplies across the Okhotsk Sea to the western side of Kamchatka. In late August, the last men and supplies were transported to Kamchatka, where 14 small houses comprised the village called Bolscheretsk. They then used the Fall and Winter to cross over the mountains on the Kamchatka Peninsula to Klyuchevskaya Sopka on the other side. At last, they could begin building the ship for their expedition. Christened *Gabriel*, it was ready to set sail in July 1728.

Looking at a map today, one asks, of course, why the expedition did not just sail south of Kamchatka Peninsula, instead of making the difficult crossing over the mountains on Kamchatka. Had they had a map, they would have. But the area was uncharted, and at the time it was generally believed that the peninsula went much farther south. Thus, Bering went overland.

The Search for America

On July 13, 1728, three and a half years after Bering left St. Petersburg, and after countless dangers and tribulations, the expedition set sail and travelled up the Siberian coast. They mapped the coastline and met local tribes in small boats. On Aug. 13, they could see the coastline turning to the west (fitting the description they had from the locals) and they were certain that Russia’s coast continued west and could not be connected



The map shows the first and second expeditions of Vitus Bering, across northern Russia to Okhotsk, and from there across the Kamchatka Peninsula. The second expedition landed in America and determined that Eurasia and America were not connected by land.

with America. They had just gone through the passage we today know as the Bering Strait, and would have seen the American coast, but for foggy weather. Bering then had to decide whether to follow the coastline westward, and try to make it to the Russian outpost of Nizhne-Kolymsk at the mouth of the Kolyma River. That involved the danger of being caught in the icy waters during the Siberian Winter. They decided not to take the risk, and instead turned around and returned safely to Klyuchevskaya Sopka, where they spent the Winter.

Bering, of course, was not satisfied. They had not found America. Local reports convinced him that there was land not far away to the east, because exotic foreigners had been encountered from time to time. Unfortunately, he was also under the influence of the official maps then in circulation in Europe, on which something called “Juan da Gama Land” (which Juan Vasco da Gama thought he had seen on a journey), was placed to the east of Kamchatka. In June 1729, therefore, Bering sailed southeast on the *Gabriel* to seek Juan da Gama Land and America.

But Bering’s expedition discovered no land, and after searching for the American coast for ten days, they returned to the Kamchatka coast, mapped it, and found a perfect place for a future harbor, Avacha Bay. Then they mapped the coast all the way back to Bolscheretsk, where they arrived on July 2, 1730. Leaving the extra supplies, Bering returned to Okhotsk and began the long trip back to St. Petersburg. Without the burden of supplies, it was much easier, and on March 1, 1730, a little more than five years after embarking on his journey, Bering was back.

Bering could be quite proud. Not only did he and most of his crew survive this incredible journey, but he could report that Asia was not connected by land with America. He also returned with extraordinarily precise maps of previously un-

known areas. The precision of Bering’s maps would impress subsequent travellers, because even the longitude of the positions was correct, which was extremely difficult to get right. Bering, like all capable sailors at the time, was well acquainted with astronomy, as much of the travel was “astrogation”—navigation by use of the stars. But the extraordinary scientific precision of Bering’s work was the result of using two lunar eclipses in 1728 and 1729 to pinpoint the longitude.

The Russian Academy of Sciences

Bering was returning to a German-cultured St. Petersburg, where the Academy of Sciences was now up and running. The Academy was composed, among others, of scientists who came from Halle, Germany, where there was a strong Leibnizian tradition; these Halle scientists helped to build a Russian scientific cadre. In Halle, these networks were centered on August Hermann Francke, who ran orphanages called the Franckeschen Stiftungen, and who collaborated with Cotton Mather in Massachusetts. From these circles came Daniel Gottlieb Messerschmidt, who later made important discoveries in Siberia, and Georg Wilhelm Steller, who were to join Bering on his second Kamchatka expedition. While the Francke networks were sending scientists to help transform Russia, they were also recruiting people to go to the American colonies and help lay the foundations for what later became the United States of America—a nation founded on the Leibnizian notion that all men have certain inalienable rights, among those, life, liberty, and “the pursuit of happiness,” Leibniz’s term for making scientific and technological progress on behalf of mankind.³

3. Edward Spannaus, “Leibniz, Halle, and the American Revolution,” *Fidelio*, Spring 2003.

As Leibniz wrote to Russian Chancellor Golovkin on Jan. 16, 1712: "Since my youth, it has been my goal, to work for the glory of God for the growth of the sciences ... in which I have in part succeeded through Godly grace, in that I made new discoveries in the Republic of Sciences ..., I am constantly ready, to direct my thoughts to the great goal. And I have only sought a prince who has the same goal. And therein I make no differentiation, neither in regard to the nation nor the party.... I would rather see these sciences bloom strongly with Russians, than work only in a mediocre fashion in Germany."⁴

The Academy of Sciences was not satisfied with the results of Bering's expedition. After all, he did not find America, and there was no absolute proof of the fact that there was no connection between Asia and America, because he had not gone all the way to the mouth of the Kolyma River. Furthermore, the Academy did not believe Bering's report on the nonexistence of Juan da Gama Island, and could not, of course, appreciate the precision of his maps. Many other questions remained open on the state of affairs in the eastern part of Russia and in America.

Although he was not properly rewarded for accomplishing a successful expedition, Bering agreed that many important questions still needed to be answered. And he knew that although he was five years older and somewhat worn down by the hardships of the first expedition, the mission could not be accomplished unless he took responsibility for it. Therefore, Bering suggested a new expedition under his leadership that would answer all the outstanding questions and map out the unknown rivers of Russia. He proposed that the expedition travel to Kamchatka, where they would build a ship and 1) sail along the west coast of America, 2) find the sea route from Kamchatka to the Amur River, and 3) map the coastline from the Ob to the Yenisei River, and from there to the Lena.

The Second Bering Expedition

In December 1732, Czarina Anna signed the order for the new expedition and ordered the commander in Okhotsk to begin gathering supplies and to build five or six ships. At Bering's suggestion, this new expedition was greatly expanded, and it included members of the Academy of Sciences to help investigate multiple aspects of the new territory. The Great Northern Expedition, as the new expedition was named, was to last from 1733 to 1743. Its mission was to: 1) map the entire Northern Asian coastline, 2) map the route to Japan, and 3) explore the Pacific Ocean to the east of Kamchatka, and find Juan da Gama Land and America. Bering was also instructed to organize the local production of ropes and other supplies in faraway places to be used for shipbuilding. The expedition was also ordered to try and convince those foreigners they would meet in the new territories to come under the protection of Russia. Further, the scientists were to investigate minerals, ores, and so on, in the new territories and consider if they

might be of economic importance.

Bering's second-in-command from the first expedition, Martin Spangsborg, was to lead the part of the expedition that went to Japan; and a third Dane, Peter Lassenius, was put in charge of the expedition that started at the mouth of the Lena River. Bering was the overall leader, and he and officer Aleksei Chirikov were each to lead a ship on the expedition to America. But before that point, it would take the next eight years to start the mapping and construction projects and move the expedition, with all its men and equipment, over the 7,000 km to Avacha Bay on the Kamchatka Peninsula.

The involvement of the Academy of Sciences made this expedition much larger than the first one. The core consisted of 500 persons with families and 500 soldiers. Local assistance of up to 2,000 persons at a time was called upon. Because the expedition included prominent scientists and their families, there was much more personal baggage and supplies to carry along, and the quality of lodging and other accommodations had to be higher. For the same reason, many more ships were needed, requiring larger amounts of materials and supplies. At least 28 cannons, among other things, were brought along.

The Great Northern Expedition

The large caravan left St. Petersburg in February 1733. Bering sent Spangsborg ahead to Okhotsk, where he arrived in the Spring of 1735. Despite the orders from Czarina Anna to build five or six ships, nothing had been done. Meanwhile, Bering oversaw the building of two ships in Tobolsk, that then departed under the command of Lassenius for the Arctic Sea (they never completed their mission).

By 1737, Bering reached Okhotsk, where only two ships were ready to sail. Under heavy pressure from St. Petersburg to show results, Bering sent the two finished ships and his old vessel *Gabriel* to Japan under the command of Spangsborg. Even the labor that was meant to build his new ships had to be diverted to help ready the supplies for this trip to Japan. Then, from 1738 to 1740, two new ships, *St. Peter* and *St. Paul*, were built, and supplies made ready. Each ship had 14 cannons and carried 76 men. In 1739, Ivan Yelagin was sent by Bering to the east coast of Kamchatka to build a base with houses and supply depots at Avacha Bay, at a place later named Petropavlovsk, in honor of the two ships.

On May 30, 1741, *St. Peter* and *St. Paul*, under the commands of Bering and Chirikov, finally left Petropavlovsk, each with five months' supplies. They had expected to double the total supplies so that they could spend the Winter in America, but could not do so because a supply ship sank with half of their supplies. In accordance with their instructions for the expedition, Bering and Chirikov then sailed southeast to find Juan da Gama Land. Had they sailed due east, they would have reached what were later called the Aleutian Islands, which they could have followed all the way to America. Had they sailed north-northeast, they would have had a much shorter journey.

4. See note 2.

But because their instructions were to find Juan da Gama Land, they took a long trip without sighting land.

Later a storm separated the two ships, and they were on their own. On July 17, Bering's crew sighted a mountain, later called Mount St. Elias, on the American coast. Four days later, they went ashore on Kayak Island to get freshwater. Here the scientist Steller, after heavy pleading, was allowed to go on land to study the new continent for a grand total of ten hours. As he later bitterly complained, it took ten years of travel for the expedition to get to this new continent, and science was only given ten hours to study it. Bering then sailed north while mapping the coastline. With supplies running low, he decided on Aug. 10 not to spend the Winter in America, but to head back west. By then, they already had problems on board with scurvy.

The End of Bering's Journey

In hindsight, it seems a shame that Bering did not simply set up a camp and winter over in America while investigating the area. But their supplies were low, and Bering and his crew they had no idea of what the Winter would be like, or if hostile local tribes or powers would turn up and finish off the expedition. Also, a sailing vessel depends on the winds. Had they hesitated too long before turning back, they might not make it before the Winter. It does not help humanity that you have travelled to the ends of the world, if you do not make it back to tell about it.

Bering decided to head west, while continuing to map the coastline and islands along the way. But, as they continued west, encountering various adventures, Bering and most of the crew fell ill with scurvy. On Nov. 10, too late in the year to still be out on the ocean, they finally saw the island that was later named after him—Bering Island. They could hardly sail the ship, since scurvy had so taken its toll, that only ten men were still capable of standing up.

They were hoping to land on Kamchatka. But 12 men had already died and 49 were sick. They settled on the uninhabited island, and most of the men recovered. Bering was among those who died. Despite the hardships, and although a storm later smashed their ship, the rest of the expedition survived the Winter. Under the command of a Swede named Sven Waxell, they built a smaller ship that allowed 46 of the original 76 onboard to arrive at Avacha Bay on Aug. 27, 1742. They spent the Winter in Petropavlovsk, and arrived in Okhotsk the next year, much to the surprise of the local residents, who had given up hope of seeing the expedition again, and had sold off the personal belongings of expedition members.

While Bering found his final resting place on the island that came to bear his name, most of his crew made it back to Russia. Over the coming years, all the maps and scientific records slowly made their way back to St. Petersburg, and with much delay, to the rest of the world. Unfortunately, the scientific impulse had been weakened in Russia during the decade of the expedition, and it would take time before the sacrifices its members made were truly appreciated. One of the immedi-

ate effects, however, after the crew members came back with many rare furs and skins from their stay on the Bering Island, was that commercial expeditions were sent to Eastern Siberia, North America, and the islands in between, in a "gold rush" to hunt for more such furs. That secured those new territories for Russia, and Alaska came under Russian rule until 1867, when it was sold to Russia's good friend and ally, the United States, for \$7.2 million.

'Manifest Destiny'

Gottfried Wilhelm Leibniz saw in Peter the Great the chance to transform Russia from a brutish and backward country into a modern European nation that could be a bridge between Europe and China, and that Chinese culture Leibniz respected so much. Key to the manifest destiny Leibniz envisioned for Russia was the establishment of a Russian Academy of Sciences, and the sending of expeditions to discover and conquer the wild and unknown eastern part of Russia. As history had it, it was a Dane, Vitus Bering, who, nine years after Leibniz's death, took on the mission of leading the two expeditions through the vast Siberia. He also visited and mapped part of America and cleared the way for incorporating the Eastern Frontier and parts of North America into the nation of Russia.

Today, another project that carries Bering's name, the Bering Strait Tunnel Project, is the key to fulfilling Russia's manifest destiny of conquering Siberia and putting its vast raw material resources to use for mankind, while connecting the world's two transcontinental powers in a strategic partnership that also fulfills the manifest destiny of the United States. The United States was not only created to secure the inalienable rights of life, liberty, and the pursuit of happiness for its own population, but as a power that could finally defeat imperialism, like that of the British Empire, and fulfill the hopes and aspirations in the rest of the world, throwing off the shackles of the European oligarchy to have free and sovereign nations prospering through scientific and technological progress. The time has come for the United States to heed the advice of its Leibniz, Lyndon H. LaRouche, Jr., and join Russia, India, and China in building a New Bretton Woods financial system with the Eurasian Land-Bridge and the Bering Strait Continental Bridge as its backbone.

In a decade or two, a Danish maglev net, now being discussed under the inspiration of the Schiller Institute, will be connected to maglev lines extending over the vast areas of Russia, linking up with North America through the Bering Strait tunnel. As for the Eurasian land mass that took Bering years to traverse, we will pass over it comfortably in less than a day's time. From Alaska, the line will continue through Canada to a revitalized United States that once again has become the beacon of hope and temple of liberty for all mankind. And it will take place in a world where the promises of the American Dream for the first time can be available to all men.

The author heads the Schiller Institute in Denmark.

Maglev: Transport Mode For the 21st Century

Drs. James Powell and Gordon Danby tell how magnetic levitation can revolutionize world transport, in this article reprinted from 21st Century Science & Technology, Summer 2003.

Maglev is a completely new mode of transport that will join the ship, the wheel, and the airplane as a mainstay in moving people and goods throughout the world. Maglev has unique advantages over these earlier modes of transport and will radically transform society and the world economy in the 21st Century. Compared to ships and wheeled vehicles—autos, trucks, and trains—it moves passengers and freight at much higher speed and lower cost, using less energy. Compared to airplanes, which travel at similar speeds, Maglev moves passengers and freight at much lower cost, and in much greater volume. In addition to its enormous impact on transport, Maglev will allow millions of human beings to travel into space, and can move vast amounts of water over long distances to eliminate droughts.

In Maglev—which is short for MAGnetic LEVitation—high-speed vehicles are lifted by magnetic repulsion, and propelled along an elevated guideway by powerful magnets attached to the vehicle. The vehicles do not physically contact the guideway, do not need engines, and do not burn fuel. Instead, they are magnetically propelled by electric power fed to coils located on the guideway.

Why is Maglev important? There are four basic reasons.

First, Maglev is a much better way to move people and freight than by existing modes. It is cheaper, faster, not congested, and has a much longer service life. A Maglev guideway can transport tens of thousands of passengers per day along with thousands of piggyback trucks and automobiles. Maglev operating costs will be only 3 cents per passenger

mile and 7 cents per ton mile, compared to 15 cents per passenger mile for airplanes, and 30 cents per ton mile for inter-city trucks. Maglev guideways will last for 50 years or more with minimal maintenance, because there is no mechanical contact and wear, and because the vehicle loads are uniformly distributed, rather than concentrated at wheels. Similarly, Maglev vehicles will have much longer lifetimes than autos, trucks, and airplanes.

Second, Maglev is very energy efficient. Unlike autos, trucks, and airplanes, Maglev does not burn oil, but instead consumes electricity, which can be produced by coal-fired, nuclear, hydro, fusion, wind, or solar power plants (the most efficient source now being nuclear). At 300 miles per hour in the open atmosphere, Maglev consumes only 0.4 megajoules per passenger mile, compared to 4 megajoules per passenger mile of oil fuel for a 20-miles-per-gallon auto that carries 1.8 people (the national average) at 60 miles per hour (mph). At 150 mph in the atmosphere, Maglev consumes only 0.1 of a megajoule per passenger mile, which is just 2 percent of the energy consumption of a typical 60-mph auto. In low-pressure tunnels or tubes, like those proposed for Switzerland's Metro system, energy consumption per passenger mile will shrink to the equivalent of 10,000 miles per gallon.

Third, Maglev vehicles emit no pollution. When they consume electricity, no carbon dioxide is emitted. Even if they use electricity from coal- or natural-gas-fired power plants, the resulting CO₂ emission is much less than that from autos, trucks, and airplanes, because of Maglev's very high energy efficiency.

Maglev has further environmental benefits. Maglev vehicles are much quieter than autos, trucks, and airplanes, which is particularly important for urban and suburban areas. Moreover, because Maglev uses unobtrusive narrow-beam elevated guideways, its footprint on the land is much smaller than

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Transrapid

In the German Transrapid system, electromagnets are attracted upwards to iron rails at the edges of a T-shaped guideway beam, providing the magnetic force to levitate the vehicle.

that of highways, airports, and railroad tracks.

Fourth, Maglev has major safety advantages over highway vehicles, trains, and airplanes. The distance between Maglev vehicles on a guideway, and the speed of the vehicles, are automatically controlled and maintained by the frequency of the electric power fed to the guideway. There is no possibility of collisions between vehicles on the guideway. Moreover, since the guideways are elevated, there is no possibility of collisions with autos or trucks at grade crossings.

How Does Maglev Work?

Maglev has been a dream since the early 1900s. Emile Bachelet proposed to magnetically levitate trains using attached alternating current (AC) loops above conducting metal sheets, such as aluminum, on the ground. Other ideas followed, based on conventional electromagnets and permanent magnets. However, all these proposals were impractical. Either power consumption was too great, or the suspension was unstable, or the weight that could be levitated was too small.

The first practical Maglev system was proposed and published by us in 1966.¹ It was based on Maglev vehicles carrying lightweight superconducting magnets that induced currents in a sequence of ordinary aluminum loops mounted along a guideway. These induced currents interacted with the superconducting magnets on the vehicle, levitating it above the guideway. The levitated vehicle is inherently and passively stable against all external forces, including cross-winds, and the centrifugal forces on curves, whether horizontal or vertical. If a cross-wind tries to push the vehicle sideways, an opposing magnetic force is automatically generated that holds the vehicle on the guideway. If the vehicle is pushed down towards the

guideway, the levitation force automatically increases, preventing contact. If an external force lifts the vehicle away from the guideway, the levitation force decreases, and the vehicle drops back towards its equilibrium suspension height.

The levitation process is automatic, as long as the vehicle moves at a speed above its lift-off speed. Below this speed, which is in the range of 20 to 50 mph depending on design, the finite electrical resistance of the aluminum loops on the guideway decreases the induced currents to the point where the magnetic force is too weak to levitate the vehicle. The vehicle is supported at low speeds by auxiliary wheels, or by locally powering the guideway. These lower-speed sections of guideway are very short and are needed only when a vehicle accelerates out of a station or decelerates into it.

Our 1966 paper sparked intense interest in Maglev in many countries. It was quickly realized that superconducting magnets made Maglev practical. Basically, superconducting magnets are extremely powerful and lightweight permanent magnets. Because they have zero electrical resistance, even when they carry currents of hundreds of thousands of amps, their power consumption is zero, except for a very small amount of electric power for the refrigerators which keep the superconductor at cryogenic temperature.

After our 1966 publication, Maglev programs started in the United States, Japan, Germany, and other countries. Sadly, U.S. Maglev development stopped in the early 1970s (although it has since recommenced—more on that later), when the Department of Transportation decided that High Speed Rail and Maglev were not needed in the United States because auto, trucks, and airplanes would suffice for the indefinite future.

However, major development programs continued in Japan and Germany. Japan focussed on superconducting Maglev, and now has a commercially ready passenger Maglev system based on our original inventions. Japan Railways operates Maglev vehicles at speeds up to 350 mph on their 20-kilometer guideway in Yamanashi Prefecture. Japan Railways vehicles operate in the open atmosphere and in deep mountain tunnels, both as individual units, and as linked sets of up to five units.

The basic features of superconducting Maglev are a U-shaped guideway similar to the one in Japan. The set of passive, null-flux aluminum loops on the sidewalls of the guideway levitates and laterally stabilizes the moving vehicle. The vehicle is magnetically propelled along the guideway by a second set of aluminum loops on the sidewalls, called the Linear Synchronous Motor (LSM). The LSM loops are connected to a power line through electronic switches. When ener-

gized, the AC current in the LSM loops pushes on the superconducting loops attached to the vehicle, causing it to move along the guideway.

The LSM propulsion acts like a conventional rotary synchronous motor, except that it is linear instead of cylindrical. It pushes the Maglev vehicles at a constant speed that is fixed by the frequency of the AC current in the LSM loops, regardless of whether there are head or tail winds, or the vehicles are climbing or descending a grade. The spacing between vehicles always stays the same, making collisions impossible. Linear Synchronous Motor propulsion is very efficient—more than 90 percent of the electric power fed to the LSM loops ends up as drive power to the vehicles.

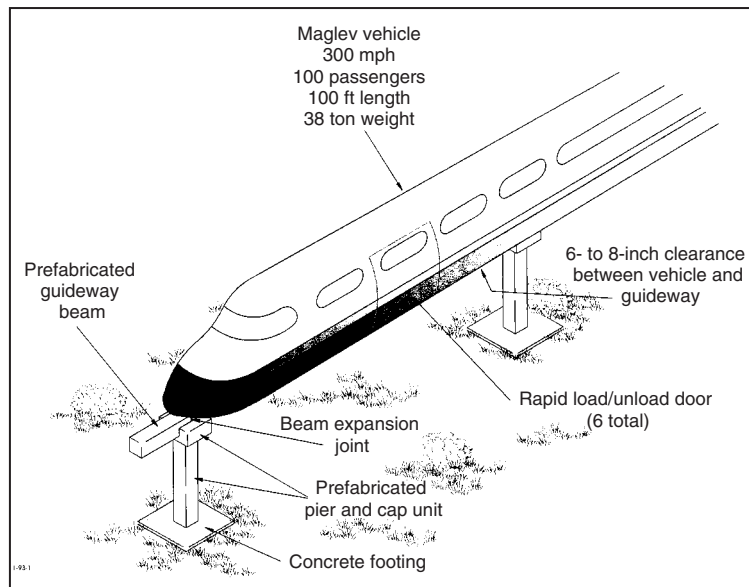
Japan Railways plans a 300-mile Maglev route between Tokyo and Osaka, to carry 100,000 passengers daily with a trip time of one hour. More than 60 percent of the route would be in deep tunnels through the mountains in the center of Japan. The proposed route would open this region, now sparsely populated, for development. Japan has spent more than \$2 billion in developing its Maglev system, and Japan Railways' Maglev vehicles have clocked over 200,000 kilometers on the Yamanashi guideway, carrying tens of thousands of passengers.

Germany's Transrapid

Germany has followed a different path to Maglev. Instead of using superconducting magnets, the German Transrapid system uses conventional room-temperature electromagnets on its vehicles. The photo on page 52 shows how the electromagnets are attracted upwards to iron rails at the edges of a T-shaped guideway beam, providing the magnetic force needed to levitate the vehicle. However, in contrast to superconducting Maglev, which has an inherently stable magnetic levitation force, the Transrapid magnetic levitation force is inherently unstable. In superconducting Maglev, as the vehicle gets closer to the guideway, its magnetic repulsive force becomes greater, automatically pushing it away from the guideway. In electromagnetic Maglev, as the vehicle gets closer to the guideway, the magnetic attractive force becomes greater, automatically pulling it closer to the guideway. To prevent the high-speed vehicles from being drawn up to and into contact with the guideway, and to overcome this inherent instability, Transrapid uses a servo control system that continuously adjusts the magnet current, on a time scale of thousandths of a second, to maintain a safe gap between the vehicle electromagnets and the iron rails on the guideway.

Because the electromagnets consume substantial amounts of electric power to generate their magnetic field, the gap between the Transrapid vehicle magnets and the guideway must be small, on the order of one-third of an inch. In contrast, vehicles that use superconducting magnets are 4 inches or more

FIGURE 1
Maglev 2000 of Florida Vehicle Parameters



An M-2000 vehicle on a prefabricated narrow-beam guideway.

away from the guideway. Transrapid vehicles have also logged hundreds of thousands of kilometers on their test track in Emsland, Germany, and carried tens of thousands of passengers at speeds up to 280 mph smoothly and safely. The world's first commercial Maglev system went into operation in December 2002 in Shanghai, China. The 30-kilometer Transrapid route carries passengers between the center of Shanghai and its airport.

In our view, superconducting Maglev systems are better than electromagnetic or permanent magnet ones. The much greater clearance of the superconducting systems enhances safety and greatly mitigates the problems of snow and ice buildup in colder regions. Large clearance also permits greater construction tolerances, substantially reducing the cost of the guideway. Second, because a superconducting Maglev system can carry heavy trailers and freight as well as passengers, its revenue potential is much greater. Finally, the inherent very strong stability of superconducting Maglev systems helps to guarantee that safe operation is maintained at all times.

Implementing the first-generation Japanese and German Maglev systems has been hindered by the \$40 million to \$60 million per mile cost of their guideways. Assuming a daily ridership of 30,000 passengers—high for the United States—a \$50 million per mile Maglev route with a net revenue of 10 cents per passenger mile (ticket revenues minus operating and maintenance costs) would take 50 years to pay back its construction cost.

Highway and air transport systems have historically been—and continue to be—heavily subsidized by the U.S. government. Indeed, investment by government into more ef-

efficient modes of transport increases the productivity of the whole economy, and thus pays for itself in added economic output. However, because of the current large budget deficits, the weak economy, and even weaker economic thinking, a new mode of transport like Maglev is unlikely to be supported by the present government unless it can pay back its cost within a few years. Moreover, if Maglev systems can be paid back quickly, they will attract private investment.

To achieve this fast payback capability, we are now developing a second-generation superconducting Maglev System that will be much less expensive to build, and that will produce much greater revenues by carrying piggyback trailers and automobiles. This second-generation system is described in the next section. Initial levitation tests of the system will be carried out this year [2003] at our Maglev-2000 of Florida facility, with funding from the U.S. and Florida Departments of Transportation.

Moving People and Freight

The second-generation Maglev-2000 system achieves four major innovations over the first-generation Japanese and German systems:

- (1) Much lower guideway cost—\$12 million per mile, compared to \$40 million to \$60 million per mile.
- (2) Much faster payback times—5 years instead of 50, by carrying piggyback trucks.
- (3) Electronic switching of vehicles at high speeds from the main guideway to off-line stations for loading and unloading.
- (4) Ability to use existing, conventional railroad tracks for Maglev vehicles.

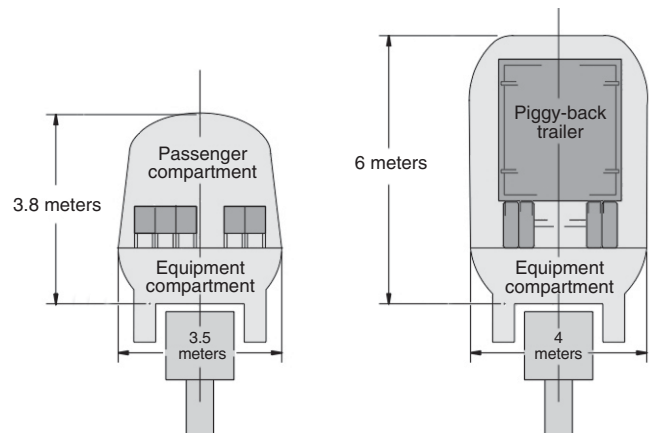
Key to these innovations are three fundamental Maglev-2000 inventions:

- Mass-produced, low-cost, prefabricated guideway beams and piers.
- Quadrupole magnets (with two pairs of North-South poles, at right angles to each other), which enable vehicles to travel on, and smoothly transition between, both narrow beam and planar guideways.
- Electronic switching from the main guideway to secondary guideway, without any mechanical movement of the guideway's structures.

Figure 1 shows an M-2000 vehicle on a prefabricated narrow-beam guideway. The prefabricated, conventional, reinforced concrete box beams, with their attached aluminum-loop panels, are mass produced at low cost at a factory. The beams are then shipped from the factory, by truck or rail, to the Maglev construction site, along with the prefabricated piers. The only field construction required is the small poured concrete footings for the piers. Cranes lift the beams and piers into place, allowing a complete guideway route to be erected in a few weeks. The beams and piers can also be transported along finished portions of the guideway to the erection site, eliminating the need for road or rail transport. The projected cost of \$12 million per mile for the M-2000 elevated narrow

FIGURE 2

Passenger and Freight Vehicles on the M-2000 Guideway



The schematic drawings show the relative size and configuration of Maglev-2000 passenger and freight vehicles.

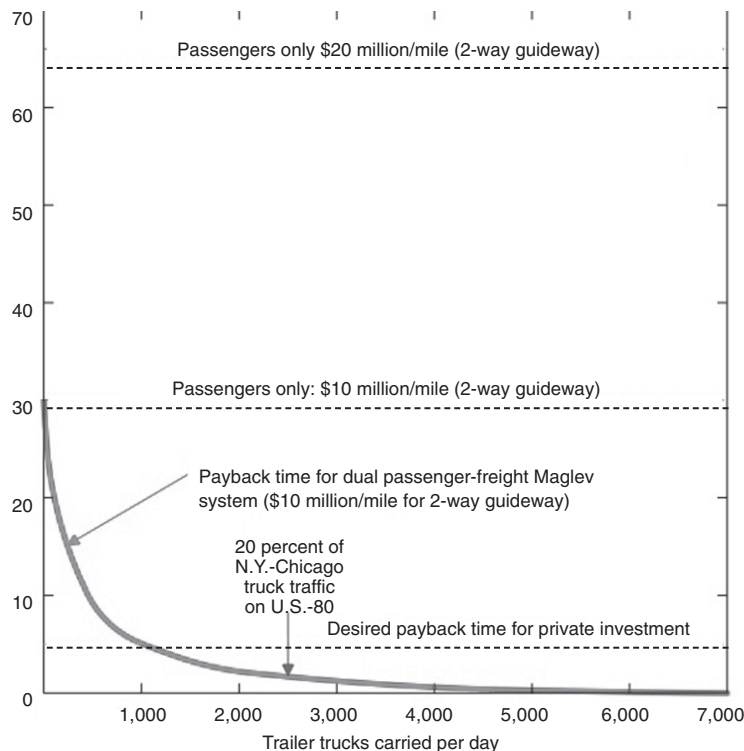
beam guideway is based on our fabrication experience for full-size guideway components, including the beam. The projected costs do not include land purchase or modification of existing infrastructure.

Maglev is usually pictured as a high-speed train for intercity passengers, or as a lower-speed system for urban transit. Although these are important applications, the big market for freight transportation in the United States is intercity trucking. The United States currently spends more than \$300 billion annually on intercity trucking, compared to only \$65 billion per year on intercity air passengers. The biggest intercity air passenger route, Los Angeles to and from New York, carries only about 10,000 passengers daily, while many U.S. Interstates carry 15,000 trucks per day, with some highways carrying more than 25,000 trucks daily. A Maglev route carrying 2,000 trucks per day—20 percent or less of the daily traffic—would take in as much revenue as a route carrying 100,000 passengers per day, which is 10 times greater than the largest intercity air passenger market in the United States.

The average haul distance for intercity trucks is more than 400 miles, with many travelling 1,000 miles or more. Using Maglev, truckers could pick up a load and drive it a few miles to the nearest station. The trailer would be put onto a Maglev vehicle (**Figure 2**), taking only a couple of minutes. At 300 miles per hour, the trailer could cross the country from California to New York in a few hours, instead of taking days by highway. After arriving at a station near its destination, the trailer would be unloaded and driven to the customer. Everyone would benefit: The shipper would pay less to transport his goods, and could shrink inventory by just-in-time delivery; the shipping company would make more money, and reduce wear and tear on its trucking fleet; and the drivers would not

FIGURE 3

Economic Advantages of Maglev Carrying Both Passengers and Trucks



The figure shows the time it takes to pay back the cost of the Maglev guideway carrying passengers only, and a dual system that carries both passengers and freight. The conditions used in the calculation are 3 million passengers per year, at 10 cents per passenger mile, net revenue, and 25 tons per trailer truck at 20 cents per ton-mile revenue.

need to spend long, tiring hours on the road.

Figure 3 shows the economic advantage for Maglev to carry trucks as well as passengers. Even at \$10 million per mile for the Maglev-2000 guideway—well below the \$40 million to \$50 million per mile for the German and Japanese systems—paying back the guideway takes 30 years. However, by carrying 2,500 trucks daily—only 20 percent of the truck traffic between New York and Chicago—payback time drops to just three years. Short payback times will help attract massive private investment, aiding the rapid implementation of Maglev.

Unique, High-Speed Train Switching

In addition to attractive economics, Maglev must be easily accessible and efficiently integrated with other modes of transport. Maglev-2000 is unique in its ability to electronically switch high-speed vehicles from one guideway to another, without having to slow down the trains, and mechanically move sections of the guideway, as do the German and Japanese systems. The superconducting quadrupole magnets on

the Maglev-2000 vehicles allow them to smoothly transition, back and forth, between narrow-beam and planar guideways. Most of the time, the vehicle rides on the low-cost, narrow-beam guideway, where the sides of the quadrupoles magnetically interact with aluminum loops attached to the sides of the beam to levitate and automatically stabilize the vehicle. At locations where the vehicle may switch off the guideway, it transitions to a planar guideway, where the bottom of the quadrupoles magnetically interacts with the aluminum loops on the guideway beneath, levitating and stabilizing the vehicle.

At switch locations, the vehicle can either continue along the main guideway, or electronically switch, at full speed, to a secondary guideway that leads to an off-line station. The switch section contains two lines of aluminum loops. Depending on which line of loops is activated when the vehicle enters the switch, it can either keep going on the main guideway, or switch to the secondary one. The vehicle slows down on the secondary guideway, and stops at the station to unload passengers, or a truck, and pick up a new load. It then accelerates out of the station on the secondary guideway, to rejoin the main guideway at full speed.

Maglev-2000 systems can thus have many stations in an urban/suburban region, without sacrificing high speed and short trip times. Users would board a Maglev vehicle at a nearby station and travel at full speed to a station close to their destination, without stopping at intermediate stations. Unlike airports, which are limited to one or two locations in a given urban/suburban region, making access difficult and time-consuming, Maglev can have 10 or 20 stations, or more, in a given region.

A National Maglev Network

In addition to easy access, for Maglev to be a major mode of transport, it must function as an integrated, interconnected network. Isolated, separate point-to-point Maglev systems could be useful, but would not provide the broad transport capability needed in the 21st Century. The National Maglev Network proposed by Maglev-2000 is a 16,000-mile network, which would be built on the rights-of-way land alongside the U.S. Interstate highways, serves 90 percent of the population. Major metropolitan regions would have multiple stations, as described above, with the result that 70 percent of Americans would be living within 15 miles of a Maglev station. Travelers could reach any destination in the United States, and the major cities in Canada, within a few hours of leaving their house, while trucks could cross the continent in less than 10 hours.

Travel on Maglev would be much more comfortable than by air. There would be no noise or vibration, no turbulence,

and all passengers would ride in comfortable, first-class-type seating. Maglev vehicles will cost much less than airplanes, and are not space constrained, so there is no need to jam passengers together to maximize loading. Because Maglev fares will be much less than those for air travel, passenger volume will be greater, allowing more frequent and convenient scheduling. Instead of one or two flights daily to a particular destination, there will be hourly, or even more frequent, Maglev departures.

The cost to construct the Maglev-2000 National Network is projected to be about \$200 billion. Although this is a large sum of money, it is equivalent to only two months of the annual U.S. transportation bill of \$1,200 billion, of which \$1,000 billion goes to autos and trucks. The transportation savings enabled by the U.S. Maglev Network would exceed \$100 billion annually, paying for the system in a couple of years. Unlike highways, autos, trucks, and airplanes, Maglev guideway and vehicles have no wear and tear, need virtually no maintenance or repair, and should last 50 years or more.

Maglev-2000 proposes to build the first U.S. Maglev System in Florida. There would be a 20-mile route connecting the Port Canaveral Seaport and the Space Coast Regional Airport in Titusville, with an intermediate station at the Kennedy Space Port. The M-2000 line would carry cruise passengers to the seaport and visitors to the Kennedy Space Center; it would also demonstrate the transport of trucks and freight to and from the seaport. Once operating, the M-2000 line would act as a convincing demonstration of the practicality and desirability of Maglev transport, and would help spur the construction of Maglev routes at many other locations in the United States. With a vigorous construction effort, the National Maglev Network could be in full operation well before the year 2020.

The Great Trans-Siberian Land Bridge

The growing world economy requires the movement of ever larger amounts of people and goods over long distances. In particular, China, India, and other rapidly developing Asian countries, where most of the world's population lives, need modern, efficient, and low-cost transport systems that connect with Europe, America, and the rest of the world. Although most travellers to and from Asia now go by air, ships still move most of the goods. There are drawbacks for ship transport to Asia: The distances and travel times are very long, shipping costs are expensive, and ships consume a significant fraction of the world oil production.

As an example, the shipping distance between Japan and Europe is 12,000 miles via the Suez Canal (18,000 miles for the Cape of Good Hope route), and the trip takes several weeks. At 1-cent per ton mile, the shipping cost from Asia to Europe is \$100, or more, per ton of cargo. World shipping presently consumes approximately 7 percent of the world's oil production, a significant drain on oil resources. For much of the world's long-distance transport, Maglev can move

goods much faster, cheaper, and with less energy use than can ships. For example, by using the existing Trans-Siberian railroad structure, Maglev could transport cargo between Europe and the Far East in only one day (compared to weeks by ship), at a much lower cost, and using much less energy.

EIR's Special Report on the Eurasian Land Bridge,² shows the present railroad routes connecting the Far East with Europe and other Asian countries. The report describes how these routes, combined with a network of new rail lines, could help to develop and transform the region, by moving people and goods efficiently and cheaply. An interconnected Maglev system based on this railroad network can be quickly developed. The initial phase of the Maglev system would start with the existing 6,000-mile-long Trans-Siberian railroad. This Trans-Siberian route already carries substantial freight, approximately 100,000 Trailer Equivalent Units (TEUs) annually from Japan to Europe. At 25 metric tons per TEU, and 6,000 miles, this is equivalent to 15 billion ton-miles per year. Transport times are many days, however.

Building an elevated Maglev-2000 guideway along the Trans-Siberian route would cost \$60 billion, a formidable investment. However, there is a Maglev alternative that can enable a high-speed system at lower cost. This system uses existing railroad trackage to levitate high-speed Maglev vehicles, and can be built for only \$2 million dollars per mile. The M-2000 MERRI (Maglev Emplacement on Railroad Infrastructure) system attaches flat panels containing aluminum loops to the wooden or concrete ties of the existing trackage. The railroad can still operate conventional trains while the panels are being installed. After all of the panels are installed, Maglev operation on the resultant planar guideway can begin. The iron rails still remain in place, but they do not hinder Maglev operation. Using MERRI, Maglev vehicles would average 200 miles per hour across Siberia, travelling 6,000 miles in only 30 hours compared to a week by ordinary train. The energy amount and cost per trip would be modest—about 300 kilowatt hours and \$15 (at 5 cents per kilowatt-hour) per passenger, and 600 kilowatt hours and \$30 per ton of cargo. The total investment for the MERRI system is about \$15 billion, including installation of the planar guideway, stations, and an initial rolling stock of 400 Maglev vehicles. With its high speed capability, a single Maglev vehicle carrying 50 tons of cargo each way could transport 10,000 tons per year between the Far East and Europe.

Based on the *EIR* Silk Road Report, about 2 million tons of cargo is carried per year (1997 figures) on the Trans-Siberian Railroad, assuming 25 tons per TEU, with the traffic expected to grow substantially. With 400 Maglev vehicles, the MERRI Trans-Siberian route could transport 4 million tons of cargo per year. At \$100 per ton, this would be a revenue of \$400 million annually. Revenues would then grow rapidly as shippers begin to appreciate the MERRI route's benefits.

Total annual freight traffic in the United States is 3.7 trillion ton miles, or more than 10,000 ton miles per person. High

volumes of freight traffic are indispensable for good living standards, and reflect the necessary movement of foodstuffs, fuels, raw materials, and manufactured goods back-and-forth over long distances. Assuming similar per capita volumes of freight traffic, for the roughly 5 billion people who will live in the Eurasian continental land mass and its associated islands by the year 2050, freight traffic in the region will total more than 50 trillion ton-miles annually.

As traffic grows, the system would evolve, becoming larger and more capable. Other railroad routes would be converted to the MERRI system, new routes would be added, and dedicated Maglev guideways built. An intriguing possibility is the construction of a super-speed Maglev system across Siberia. In the super-speed Maglev-2000 system, described below, Maglev vehicles operate in an evacuated tunnel at 1/1,000th of normal ambient atmospheric pressure. Traveling at 2,000 mph, Maglev vehicles would make the 6,000-mile trip in only 3 hours, instead of the 30 hours for a Maglev vehicle in the open atmosphere. The energy cost for the trip would be less than \$1 per passenger, and about \$1 per ton of cargo.

The Trans-Siberian route is very appealing for super-speed Maglev. Because much of the terrain is flat and undeveloped, low-cost evacuated surface tubes can be used, instead of much more expensive underground tunnels, which are needed in regions having substantial populations and/or terrain changes. While the investment for a super-speed Trans-Siberian route is considerably greater than for a MERRI system—\$100 billion compared to \$15 billion—the increased traffic revenues and decreased operating cost would offset its greater cost.

There are many other places in the world where Maglev land bridges could aid economic development, and improve living standards. Some are outlined in the *EIR* Silk Road Report. As an example, the Trans-Siberian Maglev system could extend to the Bering Strait, where it would connect to an American-Canadian Maglev system. The Bering Strait is relatively narrow, about 50 miles across at the bridging point, and could be crossed by a bridge or tunnel. Both have been studied, and judged technically and economically practical.

Integration of North America—and eventually South America, through Mexico, Central America, and the Isthmus of Panama—with Eurasia and Africa would connect almost all of the world with high-speed, low-cost, energy-efficient transport of people and goods. Africa would connect to Europe, via the proposed Gibraltar bridge, and through Egypt to the Middle East. Of the seven continents, only Australia and Antarctica would not be in the world Maglev Network, although there are plans for Maglev across Australia.³

When could a world Maglev Network come into being? Clearly, it would evolve over decades. Initial sections, like the U.S. National Network and the Trans-Siberian Maglev route could operate in 10 to 15 years. The full world Network would be in full operation by 2040 to 2050.

New York to Los Angeles in One Hour

Because there is no mechanical contact or friction between levitated Maglev vehicles and the guideway, in principle the Maglev speed is unlimited. However, there always are limits. In the ambient atmosphere, Maglev vehicles are limited, by air drag and noise, to a maximum of about 300 miles per hour. In Maglev tests, Japan Railways has operated at 350 miles per hour. Because air drag increases as speed cubed, this is a practical limit. Noise emission increases as the seventh power of speed, so that noise would limit speed to about 300 miles per hour, even if air drag did not.

In low-pressure tunnels, however, Maglev speed is virtually unlimited, at least for transport on Earth. The only limitations are the straightness of the guideway, which is not a problem for underground tunnels, and centrifugal effects, which are important only when close to orbital velocity, that is 8 kilometers/second (18,000 miles per hour).

At 2,500 miles per hour, travel time from New York to Los Angeles is only 1 hour. The energy expenditure per passenger would be negligible, about the equivalent of one quart of gasoline. In contrast, an airline passenger expends almost 100 gallons of jet fuel for the same trip. The reasons for the difference are simple. An airliner continuously burns fuel to stay aloft and overcome air drag, while the Maglev vehicle expends virtually no energy after it reaches cruise speed in the low-pressure tunnel (There is a small magnetic drag caused by the resistive losses in the aluminum guideway coils, but this is taken into account by the quart of gasoline.) Moreover, virtually all of the kinetic energy which the Linear Synchronous Motor (LSM) imparts to the Maglev vehicle when it accelerates to cruise speed, is recovered when the vehicle decelerates to stop at its destination. During deceleration, instead of acting as a motor, the Linear Synchronous Motor functions like a generator, converting the kinetic energy of the vehicle back into electricity, which is fed back to the electric grid.

The concept of super-speed Maglev in low-pressure tunnels has been studied over the last 20 years. The proposed Swiss Metro System would operate Maglev vehicles in low-pressure tunnels through the mountains. The planned Japan Railways 300-mile-long line between Tokyo and Osaka has 60 percent of the route in deep tunnels. The line could be built for low-pressure Maglev, although the relatively small time savings, that is, 20 minutes out of the nominal trip time of one hour, might not warrant the additional tunnel cost.

Tunnelling costs are currently high, but not impractically so. Tunnels cost on the order of \$30 million per mile in competent rock. The U.S. Superconducting Super Collider facility, for example, planned a 45-mile tunnel for the superconducting magnets that confined the 10-trillion electron volt colliding particle beams. Several miles of Superconducting Super Collider tunnel were excavated using a tunnel-boring machine. As tunnelling technology advances, costs should drop, making super-speed Maglev more economical. At an average of \$10 million per mile for a 15-foot diameter tunnel,

a two-tunnel Maglev system between New York and Los Angeles would cost \$50 billion. Intermediate stops at Cleveland, Chicago, and Denver would connect to the 300-mph open air National Maglev Network, allowing travellers to reach all the major metropolitan areas in the United States in a few hours. Although the National Network will operate first, super-speed Maglev will eventually connect the main Network hubs, as an ultra high speed overlay.

Super-speed Maglev technology is similar to, and actually simpler than, the open-air technology. There are no wind or weather problems, vehicle levitation and stability is not affected by vehicle speed changes, there are no curves, and no need for Linear Synchronous Motor propulsion on most of the guideway, because magnetic drag at cruise speed is very small.

StarTram: Riding Maglev Into Space

So far, space travel has been a big disappointment—at least from the perspective of the millions of people who want to visit hotels in space, and jet to the Moon, Mars, and beyond. We ordinary folk have to be satisfied with television shots of the astronauts in the space station, and tiny robots looking down on the moons and planets of the Solar System. In many ways, we have lost ground since the 1960s and 1970s, when astronauts drove Rovers on the Moon, hit golf balls, and brought back gobs of Moon rock.

The cost of getting into space has not come down much over the last 40 years. It still costs \$5,000 to put a pound of payload into Low Earth Orbit, and much more to land it on the Moon. As for Mars—forget it. This is not surprising. Despite repeated attempts to build cheaper rockets to reach orbit, these rockets remain very complicated and expensive. Unfortunately, this is inherent. Payload fraction is small, only a few percent, and the engines and structure are stressed to their limits. If a person is fortunate enough, and willing to pay \$20 million for the trip, it is possible to spend a few days in orbit.

There is a better way. The cost of the energy to reach orbit is only 30 cents per pound, if one could do it efficiently without using a rocket. The StarTram Maglev system is that better way. By using electric energy to propel and accelerate spacecraft, Maglev can achieve speeds of 8 kilometers per second or more, enough to go into orbit or reach the Moon, without needing propellant. This greatly reduces the weight and cost of the spacecraft and makes the launch cost very low. Five kilowatt hours of electrical energy, (at an average cost in the U.S. of 6 cents per kilowatt hour) is equal to the kinetic energy of a pound of material travelling at 8 kilometers per second, the speed of an object in Low Earth Orbit.

There is a constraint and a problem in using Maglev to launch into space, however. The constraint is relatively minor, but the problem is major. First, the constraint: To reach super speeds, the acceleration process must take place in a low-pressure environment over a long path. As described in the previous section on the Los Angeles to New York super-speed

Maglev system, Maglev vehicles can travel at super speeds in low-pressure tunnels. The length of the tunnel needed to reach 8 kilometers per second will depend on the acceleration rate. For human passengers subjected to an acceleration of 2 g (2 times the Earth's gravity), an 800-mile long tunnel is required; for unmanned cargo craft, which could accelerate at 30 g without damage, a 60-mile tunnel is sufficient. Even at \$30 million per mile of tunnel, the amortized cost of a Maglev tunnel per pound of payload delivered to orbit would be small—less than the cost of energy.

The major problem, that of leaving the low-pressure tunnel and entering the atmosphere, is not as easily solved, unfortunately. At 8 kilometers per second, atmospheric heating and drag forces would quickly destroy the spacecraft, even if it entered the atmosphere at high mountain altitudes. However, there is a solution to this problem. A low-pressure Maglev launch tube, termed StarTram, can itself be magnetically levitated to extremely high altitudes—high enough that the atmospheric heating and drag forces, produced when the spacecraft leaves the tube and enters the atmosphere, become acceptable. At an altitude of 70,000 feet (about 13 miles), for example, atmospheric density is only 5 percent of the sea level value; at 105,000 feet (20 miles), it is only 1 percent. At such altitudes, today's spacecraft structures are strong enough to survive the heating and drag forces, without compromising the health and safety of passengers and cargo.

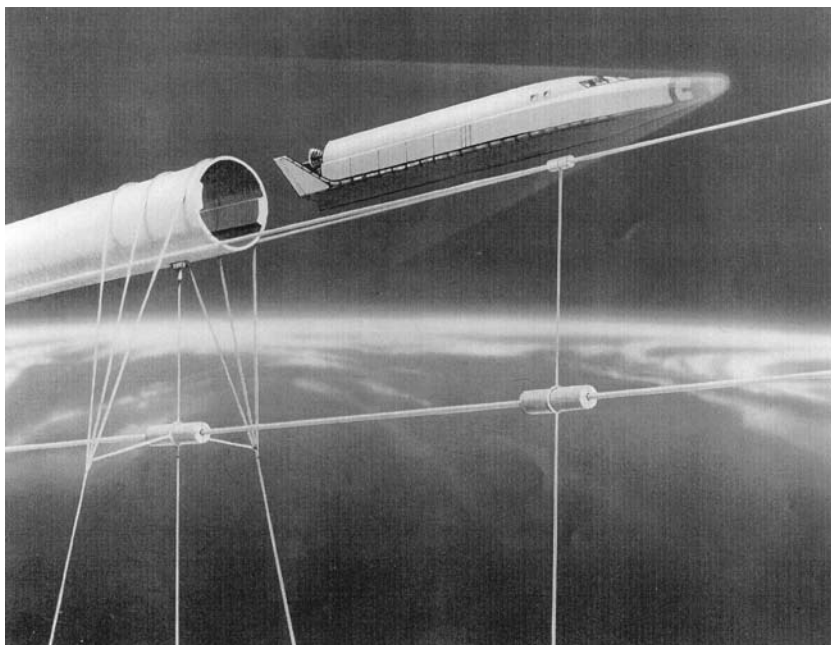
Levitating the StarTram launch tube to such altitudes, although a challenging task, is quite feasible. Large magnetic levitation forces, for example, several tons per meter of tube length, can be produced by the repulsion force between a set of superconducting cables attached to the tube, and a second set of superconducting cables located on the ground beneath. The two sets of cables carry oppositely directed supercurrents, generating a magnetic levitation force that substantially exceeds the weight of the launch tube and its cables. To hold the StarTram launch tube at a stable equilibrium height, lightweight high-strength tethers (Kevlar or Spectra) are attached to it and anchored at ground level. Using a combination of vertical and angled tethers, the launch tube is held in place even in the presence of high winds. The length of the tethers along the launch tube depends on what is needed to keep the tube at the proper angle, as it is pressed upward by the repulsive magnetic force.

The magnetic levitation force is very large, even at high altitudes. For example, if the launch tube cables carry 30 megamps of supercurrent, and the ground cables carry 100 megamps, the magnetic levitation force is 3 metric tons per meter of launch tube, at a vertical separation of 20 kilometers (66,000 feet) between the tube and ground. The levitation force increases with decreasing separation distance, being 6 metric tons per meter at 10 kilometers separation.

After the spacecraft reaches launch speed in the low-pressure Maglev tunnel located at ground level, it transitions to the StarTram launch tube, in which it coasts upwards to the

FIGURE 4

A Spacecraft Launch in Low-density Atmosphere



Artist's illustration of a StarTram launch.

release point in the upper atmosphere. Upon reaching the upper end of the launch tube, the spacecraft exits through the open end into the low-density atmosphere (**Figure 4**). The interior of the launch tube is kept at low pressure by a combination of auxiliary systems. These include a mechanical shutter that opens just before the spacecraft enters the launch tube, gas jet ejectors that start up when the shutter opens, and a magnetohydrodynamic (MHD) pump that expels any residual air that leaks past the gas jet ejector system. (A radiofrequency source ionizes the air in the MHD pump). Turbo molecular pumps supply additional pumping to help maintain low pressure in the launch tube.

After entering the atmosphere, the spacecraft coasts upwards through the small amount of residual atmosphere to orbital altitude, where it makes a small ΔV (velocity change) burn to finalize the orbit. Depending on launch speed, the spacecraft can go into Low Earth Orbit, Geosynchronous Orbit, or any orbit in between. With slightly greater launch speed, it can reach the Lagrange points, or the Moon. As illustrated in Figure 4, the spacecraft would launch with its wings folded. For the return to Earth, the wings would deploy for atmospheric braking. Because a Maglev spacecraft does not use propellant, and its launch energy cost is virtually zero, weight is not an issue. Thus the StarTram spacecraft can be much stronger and more rugged, with much better thermal protection, than the Space Shuttle.

All of the technology for StarTram is available. The su-

perconductors, cryogenics, refrigerators, tethers, Maglev guideways, and spacecraft can be built with materials that already exist and are in use. This contrasts to the Space Elevator Concept, which requires structural materials that are 100 times stronger than any now in existence.

A single StarTram facility could launch a million tons of cargo, along with hundreds of thousands of passengers, per year into space. Flying into space would not cost much more than it now takes to fly around the world. If human beings really want to have hotels and manufacturing in space, a robust defense against asteroids, solar power satellites, colonies on the Moon and Mars, and so on, StarTram is the way to go.

Maglev, Oil, and the World Economy

Modern transport is the indispensable backbone of a high living standard. Without autos, trucks, airplanes, railroads, ships, and pipelines, we would retreat to subsistence on small patches of land, farming for produce and gathering wild foods to sustain life. In turn, oil is the indispensable backbone of

modern transport. Without it, we would not have autos, trucks, and airplanes. Coal-fired railroads and ships could still operate, but much less capably.

The amount of oil in the world is limited. The presently known total world oil resources are only about 1 trillion barrels, about 30 years' worth at the current consumption rate of 80 million barrels per day. As living standards improve, and the world economy grows, the demand for oil will increase, resulting in an ever-greater rate of consumption. It is not possible to know precisely when the world will reach the point when oil runs out, because the date will depend on factors like the amount of oil deposits yet to be discovered, how difficult and expensive it will be to extract them, and how rapidly the world economy grows.

There is a clear fork in the road here. If the world continues to rely on oil for transport, its economy cannot grow much beyond the present level. In fact, the economy will shrink, and living standards will fall, as oil production declines. To maintain a growing world economy and an increasing standard of living, it will be necessary to shift to new modes and energy sources for transportation. New energy sources are possible, but there are limits. Hydrogen has been proposed as a long-range fuel for transport. However, enormous amounts of electricity would be needed to manufacture the hydrogen that would be needed, if it were to become the major energy source for transport.

The United States currently burns approximately 5 billion

barrels of oil per year for transport, which is approximately 70 percent of total U.S. usage. To produce the equivalent energy from hydrogen fuel would require 10 trillion kilowatt hours of new electric power—a factor of 3 greater than current U.S. electric generation. To meet the 2020 world demand for hydrogen fuel as a replacement for oil, would require constructing new electric generating capacity equivalent to 10 times the present world capacity. This is not a credible scenario. Hydrogen can be produced from coal, but the resultant CO₂ emissions would be much greater than those released by burning oil. Accordingly, hydrogen fuel does not appear to be a major practical solution for meeting the massive transport needs in the 21st Century.

Maglev, because it uses electric energy with very high efficiency, can meet 21st Century transport needs in a practical, energy efficient way. Maglev energy usage is a factor of 10 or more better than autos and airplanes. The total annual passenger traffic in the United States—autos, air and rail—is 2.5 trillion (2,500 billion) passenger miles. If all this travel were by Maglev at an average speed of 200 mph, the total electric energy use would be only 100 billion kilowatt hours, which is about 3 percent of the 3,700 billion kilowatt hours currently generated in the United States. The total annual freight traffic in the United States—trucks, rail, oil pipelines, and air—is 3.7 trillion ton-miles. Moving all freight by 200-mph Maglev would consume an additional 10 percent of current U.S. electric generation.

Moving all passengers and freight by Maglev would save more than 5 billion barrels of oil annually, or about 70 percent of our current consumption. The dollar savings in the costs of the crude oil, refining, and distribution would be enormous. At a savings of \$1 per gallon of current oil consumption, the nation's transport bill would be reduced by \$200 billion annually, far more than the cost of the electrical power to operate the Maglev. At the U.S. average production cost of 6 cents per kilowatt hour, only \$30 billion of electric power would be needed annually for the Maglev operation. In practice, of course, Maglev will not be the sole mode of transportation in the United States, so that the actual economic and energy benefits will be somewhat less than described above.

Clearly, it will take time to transition from the present auto, truck, and airplane-dominated transport system to a Maglev-dominated system. Moreover, because Maglev will never completely replace autos, trucks, and airplanes, it will operate in concert with them in multi-modal transport patterns. For example, Maglev will carry trucks for the bulk of their inter city travel, using the highway for local pickup and delivery. Similarly, passengers will be able to drive their autos to a Maglev station, and travel hundreds of miles with their car on a Maglev vehicle to a station near their destination, finishing their trip on the highway. The wear and tear on their automobiles would be much less, the travel time much shorter, the cost much smaller, and the trip much safer.

The benefits of improved mobility, greatly reduced energy consumption, freedom from having to depend on ever-shrinking oil resources, and the economic savings outlined above for the United States, will apply to the entire world, making Maglev the major mode of transport in the 21st Century.

The Maglev-2000 Water Train—Fresh Water for the World

Maglev can help solve the world water shortage, by transporting fresh water from areas where it is plentiful, to areas where it is scarce. Water is the most critical natural resource problem facing the world today. Hundreds of millions of people lack sufficient clean water for drinking, washing, and farming, and the situation is growing worse, especially in Africa and Asia, where water tables are dropping as a result of over-pumping and droughts. In the United States, many regions are running out of water, including the Southwest, California, and the High Plains States. Even in the water-rich East, areas like Florida, Atlanta, and others have cut back on water consumption. World population is projected to grow from the present 6 billion to more than 9 billion by the year 2050, with much of the growth in regions that are already water short. This increase in population will require hundreds of trillions of gallons of new water annually. Experts believe that disputes over water rights could spark many new wars and conflicts in the coming decades.

Desalination is often proposed as the solution for future water shortages. Unfortunately, because it is expensive and energy intensive, it can supply only a small fraction of future world water needs. Desalination costs about \$6 per 1,000 gallons of fresh water produced, and consumes approximately 400 kilowatt hours of thermal energy. To supply all of the projected new needs for fresh water in 2050, using present desalination technology, would require \$3 trillion, 10 percent of current world GNP, and virtually all (100 percent) of current world energy usage. This is clearly impossible.

Some improvements in desalination technology appear possible. Using low-cost nuclear energy, instead of expensive fossil fuels, for example, would significantly reduce the desalination cost. Studies of nuclear desalination “nuplexes” have shown them to be attractive for meeting the drinking water and sanitary needs of populations in high GDP countries. However, even with improvements, desalination does not appear suitable for meeting the massive future water needs for agriculture, and for countries with low GDPs, where most of the world's population lives.

Maglev offers a practical cost-effective way to supply much of the new fresh water needs in the 21st Century. The world has plenty of fresh water to support its present and future populations, but many regions have too little, while others have much more than they need. Using Maglev, fresh water can be transported for hundreds of miles at low cost, from places where it is abundant, to users in locations where it is scarce.

Figure 5 is an artist's illustration of the Water Train, a Maglev system designed to transport large amounts of water over long distances. The Water Train consists of a long train of joined and levitated Maglev vehicles, each of which has a bladder that holds 50,000 gallons of water. A 200-vehicle unit train would deliver 10 million gallons per trip. Travelling at 200 mph, each Water Train could make four round trips daily, bringing water from a source that was 600 miles away from its users. For shorter travel distances, even more round trips per day could be made. For example, at 300 miles distance, a Water Train could deliver 80 million gallons of water daily, enough for millions of users.

Energy consumption of the Water Train is minimized by three design changes, which distinguish it from the single Maglev-2000 vehicle proposed for passenger and freight transport. First, by joining the Maglev vehicles into a long, streamlined unit train, the air drag per vehicle is greatly reduced, by a factor of 4, compared to an individual vehicle. Second, collapsing the empty bladders for the return trip reduces air drag by another factor of 2, compared to the drag for full bladders during the delivery trip. Third, placing iron plates on top of the narrow-beam guideway generates a strong upwards attractive force on the superconducting magnets that acts to levitate the vehicle. This "iron lift" levitation force has virtually zero magnetic drag losses. The aluminum loops on the guideway now provide vertical and lateral restoring forces around the equilibrium suspension point, rather than levitation. The electric power losses in the aluminum loops (which are given by the product of the square of the loop current multiplied by the electrical resistance of the loop), still generate some small amount of magnetic drag on the Maglev vehicles, but because their time-averaged currents are much less than when they provided the levitation force, the magnetic drag effects are much less.

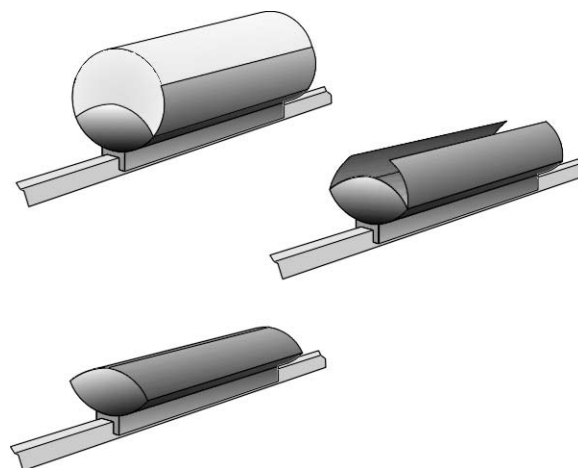
Delivery by the Water Train is much cheaper and more adaptable to terrain changes than by pipeline. For every 300-foot increase in elevation of a pipeline, for example, water pressure decreases by 150 psi; if elevation decreases by 300 feet, water pressure increases by 150 psi. If there are major changes in elevation, pipelines have to either build bridges or drill tunnels—depending on whether the change is downhill or uphill—or change water pressure using turbines or pumps. In either case, the process is very expensive.

Because of its high speed, the Water Train can follow the rise and fall in terrain with virtually no penalty. On upgrades, the Train slows slightly as kinetic energy is transferred to gravitational energy; on downgrades, the train speeds up slightly as gravitational energy is transferred to kinetic energy. At 200 mph, the Water Train can easily negotiate a 300-foot change in elevation, with a speed change of only 20 mph.

The cost of delivery by Water Train is proportional to distance. Taking into account the amortized cost of the on-grade guideway and the vehicles, plus the energy and other operating costs, the total cost for delivering 1,000 gallons of water over a distance of 600 miles is approximately one dollar. In comparison, just the amortized cost (not including operating costs) for

FIGURE 5

Artist's Depiction of the Water Train System



Each Water Train vehicle has a bladder that holds 50,000 gallons of water. Thus a 200-vehicle unit train could deliver 10 million gallons per trip. A Water Train vehicle with bladder filled is shown at top. For the return trip, the bladders would be collapsed (bottom), in order to reduce air drag.

the approximately 600-mile pipeline in Libya—which cost more than \$30 billion to build and delivers 600 million gallons daily—is on the order of \$5 per thousand gallons.

There are many potential routes for Water Trains. In the United States, billions of gallons per day of water could be transported from the Lower Columbia river to California, Nevada, and the rest of the Southwest. In the High Plains region, water could be brought from the Mississippi and Missouri Rivers to Colorado, Texas, Nebraska, and other drought areas. In the Mideast, Turkey has a large water surplus, some of which could help Iraq, Israel, Saudi Arabia, Syria, and other water-short countries in the region.

China has large areas where water is very short, and is considering a \$60 billion canal system to help alleviate shortages. The proposed canal has raised serious concerns about pollution effects, however. The Water Train eliminates these concerns. There are many other areas in Asia and Africa to which the Water Train could bring much needed water.

Finally, in contrast to pipelines, whose only function is to deliver water, using the Water Train, the same guideway that carries the water-bearing vehicles can also carry passenger and freight vehicles, providing efficient, low-cost, high-speed transport to help raise living standards, as well as bringing the water needed for life itself. The very high transport capacity of Maglev enables this dual usage capability.

Getting Maglev Moving

In our view, it is inevitable that Maglev will grow and evolve into the major mode of transport in the 21st Century.

The benefits that it offers—greater speed, no need for oil, zero pollution, reduced cost for passenger and freight transport, and absence of congestion, will draw more and more users to it.

The real question is, how soon can Maglev make a major impact on transport, and what can be done to speed up the process? Maglev technology is already here. No fundamental new materials or inventions are needed. Rather, Maglev needs operating experience and testing on revenue routes, and engineering development and optimization to lower the construction and operating costs. Governments, particularly in Japan and Germany, have played a key role in developing Maglev, with each spending about \$2 billion. However, their first-generation systems are too expensive and constrained in scope to be widely implemented. We need second-generation Maglev systems, like that of Maglev-2000, which have a lower capital cost and serve a wider market, such as the transport of truck-type freight.

Although reducing the cost of Maglev systems and broadening their capabilities is necessary, it is not sufficient. Government leadership is also needed to make Maglev happen. Ensuring efficient, effective, and affordable transport is a fundamental duty for government. In the past, the U.S. government has always played a major role in vigorously planning for, and implementing, new and better modes of transport. The rapid westward expansion and industrialization of the United States in the last half of the 1800s, was a result of the massive land grants and subsidies to railroads from the government. Similarly, the U.S. Interstate Highway system, on which our material prosperity strongly depends, came into being because the government planned and funded it. Our quality of life would be much poorer without air travel, which enables the rapid movement of people and goods within the United States, as well as globally, but it also would not have happened without massive government funding of airplane development and airport construction.

Governments can help bring about second-generation systems by funding demonstrations of advances in Maglev technology, and by entering into public-private partnerships to build revenue Maglev systems. In this latter role, government should not subsidize systems that are economically non-viable. Instead, government should offer funding incentives to bring about improved, lower-cost Maglev systems that will attract users. For example, the government's contribution to guideway cost could be structured so that as total cost decreases, the government's contribution would increase. This would be a powerful incentive for engineering improvements that actually lowered cost, rather than a straight subsidy to help prop up an uneconomical system.

It is critically important that governments recognize that developing new, more efficient transport systems like Maglev, which do not need oil, should be a major near-term goal. Oil should be reserved for use as a chemical feedstock. Those countries, like Japan, Germany, and China, which have already started to implement Maglev systems, have the potential to become the world's leaders in this new mode of trans-

port. Maglev will yield enormous benefits, not only from its much lower costs for moving people and goods, and its reduced requirements for expensive energy, but also from the hundreds of thousands of new jobs that it will create. Many of these new jobs will be in companies that manufacture Maglev vehicles and guideways for export to other countries.

Maglev is a transforming technology for transport, as important in its impact as the introduction of ships, railroads, autos and trucks, and airplanes. Just as they transformed humanity's ability for rapid and efficient transport of people and goods, with a corresponding improvement in living standards, so will Maglev.

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About the Authors

Dr. James Powell and Dr. Gordon Danby invented superconducting Maglev in 1966, and were granted the first patent in the field. Their original Maglev design is now operating in Japan.

Dr. Powell was a Senior Scientist at Brookhaven National Laboratory, where he directed research on fission and fusion reactors, from 1956 until his retirement in 1996. He is the inventor of the compact ultra-lightweight Particle Bed Nuclear Rocket, which was the basis for the Department of Defense/Strategic Defense Initiative programs on Space Nuclear Thermal Propulsion in the 1980s-1990s. In addition to Maglev, he currently is involved with space nuclear propulsion and power systems for planetary exploration, as well as advanced low-cost methods for vitrifying high-level nuclear waste.

Dr. Danby was a Senior Scientist at Brookhaven National Laboratory, where he directed research on superconducting magnets and high-energy particle accelerators, from 1957 until his retirement in 1999. He is the inventor of aluminum-stabilized superconducting magnets, and a pioneer in the development of MRI systems—Magnetic Resonance Imagery—for medical diagnostics. In addition to Maglev, he is currently involved in the development of next-generation MRI scanners.

Powell and Danby were awarded the Franklin Medal for Engineering for their Maglev invention in April 2000 (previous recipients included Nikolai Tesla and Charles Steinmetz). Maglev-2000 of Florida is developing their advanced second-generation Maglev system to carry passengers and trailer trucks.

Republic vs. Empire: The Crucial Battle

The United States celebrates the 220th anniversary of its unique Constitution on Sept. 17—and the words of Benjamin Franklin describing the result of that near-miraculous event called the Constitutional Convention have probably never been more poignant: “A republic, if you can keep it.”

There are many who understand the threat to the U.S. Constitution’s principles today, which is represented by the actions of the Vice President and his puppet George. The violations of provisions for the separation of powers, for civil liberties, for treaties, and for just plain laws of the land have been flagrant. There is even a widespread understanding of this government’s total scorn for the general welfare of the population, to which the Preamble commits the nation.

But most Americans, not to mention people from around the world, have *no idea* of the underlying and more serious threat, the warfare being waged by the still powerful, if bankrupt, British Empire.

The British Empire waged three bloody wars against the American republic, and lost every one. When other leading nations, such as Russia, Germany, and Japan, began to pick up the principles of the American System, at the end of the 19th Century, the British panicked, in fear they would lose all their power. They began to play a more sophisticated game, of undermining the educational system and culture of the United States itself. Slowly but steadily they eroded the sense of identity among many of our people, away from that of the independent-thinking, anti-oligarchical, inventive, and inquisitive American, to that of a subject of an English-speaking empire.

There were, and are, exceptions, of course. A nation’s history can never be really taken away, and the potential for reverting to our original character remains. And when Franklin Delano Roosevelt took the Presidency in 1932, he had a full 12 years to work on reviving America’s republican tradition—and he was determined to bring that same anti-empire, pro-economic-development outlook to the entire world, after the defeat of Hitler’s fascism.

But when Roosevelt died prematurely, the British

Empire did not waste a moment in moving to destroy the tradition he had done so much to revive. We live with the horrors created by their success: the destruction of the principle of economic sovereignty for every nation; of the right to economic and technological progress; of the commitment to resolving the world’s problems through economic cooperation, not war.

At this moment, in fact, the British Empire would appear to have succeeded. The United States, under Bush and Cheney, has not only thoroughly destroyed its reputation for positive action in the world, but has also brought the greatest economy in the world to the very edge of destruction. This, of course, is one of the hardest things for non-Americans to understand: that the British Empire’s elimination of economic sovereignty, including U.S. control over its own currency, and that same Empire’s instigation of long wars such as that in the Persian Gulf, are deliberately aimed at the destruction of the United States. While it would appear that the “dollar empire” is in charge, it is, in fact, the British financial oligarchy that is calling the shots.

The British have openly bragged about their success in this endeavor. In an issue of the London *Economist*, long an outlet for the British imperial faction, several months ago, the British proclaimed that their empire was back, by means of their control over the financial system. A major tool in this control is not just the machinations of the City of London, but the *stateless* hedge funds located in the Queen’s own Cayman Islands, an offshore haven for financial entities that are now in the lead of looting every asset in sight.

To save itself, and the rest of the world as well, the U.S.A. must now use its Constitution to once again defeat the British Empire. It won’t take war. All it means is once again asserting sovereignty over the dollar, letting the supranational looters go bankrupt as they should, and using the sovereign powers of government to issue credit for economic development.

Such actions today, as proposed by Lyndon LaRouche, will save our republic, and our Constitution, for our posterity. Can there be any excuse for not taking this action today?

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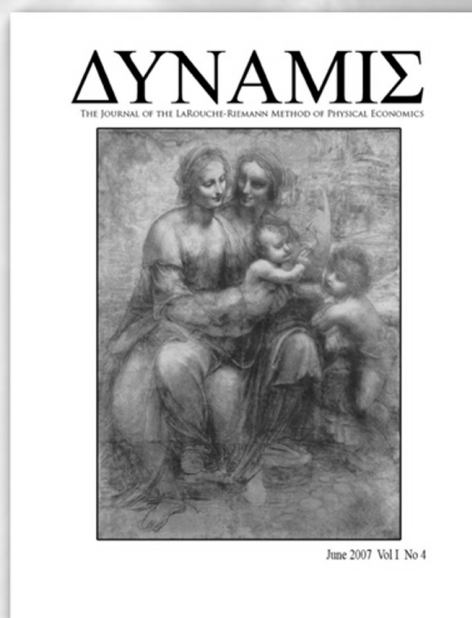
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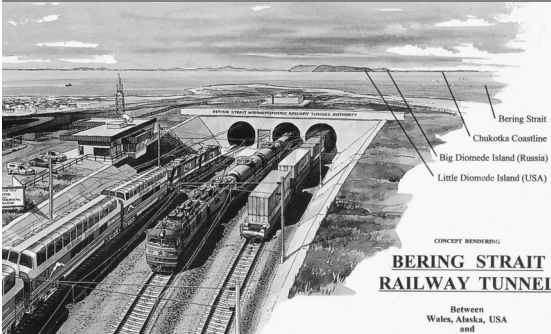
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