

## Russia is Eurasia's keystone economy

by Lyndon H. LaRouche, Jr.

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The world is waiting for the outcome of the twenty-two nation, Washington (Willard Group) conference on international financial and monetary matters now scheduled for April 16. All rational participants in the preparation and conduct of that conference should agree, that there are three leading topics of interrelated financial, monetary, and economic policy-shaping, topics which must be considered as crucial for a true solution to that global, systemic crisis, the which has pushed the world to the present brink of a threatened, sudden plunge into a global new dark age.

1. The fact that the present crisis is *global and systemic*, rather than *regional* or *cyclical*, must be acknowledged. This acknowledgement is the required premise for any rational discussion to follow. Within these bounds, those recent decades' institutionalized changes in policy, which are responsible for a three-decades build-up of the present crisis, especially since August 1971, must be identified, and entirely removed. Nothing less than radical excision of those institutionalized practices will suffice.

2. The present, fatally ill, global financial and monetary system, must be radically reorganized. This must be done through the concerted actions of a key initiating group of governments. It must be done in the manner of a reorganization in bankruptcy, conducted under the authority of sovereign governments. The acceptable model for the reorganized international monetary-financial system, is the incontestably superior, successful functioning of the old Bretton Woods system of the pre-

1959 1950s, over anything existing since those axiomatic changes in direction of policy-shaping, which were introduced by the U.K., U.S.A., et al., during 1966-1972.

The required measures include: a) Periodically fixed exchange-values of national currencies; b) limited convertibilities, as may be required; c) exchange controls; capital controls; d) fostering of necessary protectionist measures in tariffs and trade regulations; and e) outlawing of the creation of markets which conduct financial speculation against targetted currencies.<sup>1</sup>

3. As measured in physical, instead of the usual monetary terms, the world's economy is presently functioning at levels of "negative free energy" which are presently far below a break-even point. The current levels of net physical output are insufficient to prevent the existing populations and economies from continuing to collapse into a spiral of accelerating, general physical-economic contraction and ultimate physical collapse. Unless this shortfall in per-capita physical-economic output is reversed and soon eliminated, no financial and monetary system, however otherwise sound in design, could function: no mere medication could save a man who is being starved to death. There is no financial and monetary system which could possibly succeed, unless it were accompanied by a general program of forced-draft physical-economic recovery, a program which must rapidly approach and reach the levels of sustain-

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1. I.e., as a criminal act tantamount to complicity in the counterfeiting of the legal tender of a sovereign state.



*Lyndon LaRouche talks with participants in an April 1994 seminar at the Russian Academy of Sciences. LaRouche's discussions with Russian economists came about largely through the circulation of a Russian edition of his 1984 introductory university-level textbook in the science of physical economy.*

able, positive “free energy” ratios.<sup>2</sup> This means a recovery analogous in important respects to the Franklin Delano Roosevelt recovery in the U.S.A., is needed on a global scale.

There is an obvious objection to be expected from most critics. The customary objection will be, that such a sudden and radical approach is politically impossible. Perhaps those critics are right. Perhaps, it will prove impossible to find a significant number of governments willing to push through such radical measures in a short-term period. If those critics are right on that point, then the civilization will not live out the present century in its present form. If those critics are right, then the first generations of the coming century will be a planet-wide new dark age, a catastrophe like that which Europe experienced during the middle of the Fourteenth Century, but, this time, on a planet-wide scale. I would therefore respond to such critics with the following impassioned recommendation: let those political leaders who lack the will to carry out the measures I have proposed, get out of the way, and pass the authority to act to those among us who are willing and able to enact these measures, and do so suddenly.

The immediate future of this civilization, if it is to have

2. Ratio of physical-economic “free energy” to “energy of the system,” under the condition that the ratio of “free energy” to “energy of the system” must be positive, and not decline secularly, despite the fact that maintaining this ratio requires an increase in the relative “energy of the system,” the latter both per capita and per square kilometer of the Earth’s surface.

an immediate future, lies in the hands of those who are willing to act with pungency and force, along the lines I have indicated. That said, let us be optimists. Let us push the voices of those useless critics out of our minds, and concentrate on the actions which must be taken to avert the catastrophic economic collapse which now threatens to crush us all in the near future.

All rational discussion of these matters depends upon a clear understanding of the following point. The essential moral responsibility of the participants in those forthcoming, and related proceedings, is their obligation to recognize, that the mere fact that this is a global *systemic* crisis, rather than either a merely regional crisis, or merely a global cyclical crisis, is sufficient, crucial, proof-of-principle evidence, that the causes for this crisis are the fundamental errors of judgment and practice embedded in those axiomatic changes in official and other thinking, about the subjects of economic, financial, and monetary policy, which have dominated international policy-shaping during approximately thirty years to date. These are those axiomatic changes first introduced during 1966-1972.

The discussion must contrast the generally downward trends of the 1966-1997 interval, with the upward trends predominant during the great post-war recovery period of 1946-1966. In face of that evidence, the notion that the present international system of “free trade,” “floating exchange-rates,” and “globalization,” could be saved by a few added reforms, must be regarded as a wishful delusion common to those who are not yet prepared to face the reality which already grips this planet.

Those present financial and monetary policies of a floating exchange-rate system, are not institutions to be rescued; they are the disease to be expunged. Unless those policies are radically excised, the present economies, and nations will not outlive the passing of the present century.

This is true for the United States. It is true for the world as a whole. It is most emphatically the critical state of affairs now crushing Russia. In the context of such a discussion, Russia's distinguished young economist and statesman, Dr. Sergei Glazyev, has some important things of crucial strategic relevance to say concerning Russia's role in such a global turnabout. Thus, we publish the English translation of one of his more important, and recent studies here. To situate his study of the present Russia situation within its proper global context, his piece is prefaced by the present set of remarks.

As to Dr. Sergei Glazyev himself, he is generally recognized in Russia as a leading thinker among the younger generation of economists. To our personal knowledge, he reflects a certain spectrum of views, concerning the increasingly imperilled, increasingly desperate, recent and current state of Russia's economy. This spectrum of views, represents the most respected figures of the nation's scientific community. He also supplies a unique, and, as the accompanying paper shows, a commendably energetic view, on both the underlying characteristics of the situation, and what he identifies as uniquely required remedial measures to be undertaken, and that very soon, within Russia itself. His most urgent practical recommendations, as we may observe in this instance, are so compelling, by their combined nature and competence, that no rational person should consider his proposed key remedies as subjects for dilution by today's customary diplomatic (i.e., irrational) form of political compromise.

This view of Russia must be considered in light of a relevant political difficulty to be overcome inside the U.S.A. itself. In the United States, and other nations besides, a three decades-long process of cultural decay, in education and popular behavior, has fostered a situation in which many younger members of the U.S. Congress, for example, exhibit a kind of cultural dementia, a pathological state of mind, which is sometimes described, euphemistically, as "a loss of institutional memory."<sup>3</sup> Excepting those who wish the Soviet Union

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3. The validated principles of Classical art and statecraft, like the validated principles of physical science, are transmitted, as knowledge, from one generation to its successor, solely by one means. In a competent education in physical science, the student who merely learns to repeat the formulations from the textbook or classroom lecture, as though it were some arbitrary religious dogma, should be awarded a richly deserved failing grade. The student must relive the mental experience of reenacting the original cognitive act of discovery and validation of that principle, this within the sovereign precincts of his, or her own cognitive processes. The transmission of culture by means of such Classical-humanist methods of cognitive reenactment of discoveries of principle, is the active principle of history and the historical method. This applies to art and political knowledge, in exactly the same way it applies in the realm of physical principles. No institution, or person, which evades that historical method of shaping judgment, is competent either to

still existed, but only that they might have a more plausible hate-object to give strategic focus to their political rant, there appears to be, especially among the young Republican representatives, a lack of any recognition of the present and future relevance of the nations which, until less than a decade ago, constituted the second most powerful military force on this planet. Such folk are not merely ignorant of history, they are militantly devoted to refusing to learn any lessons from it. Thus, for many among these unfortunates, Russia is simply not on the agenda.

Contrary to Francis Fukuyama, in reality, history did not end in 1989-1992.<sup>4</sup> The forces which shaped the Russia of the Soviet system, and Russia's power in Eighteenth and Nineteenth Centuries' Europe earlier, still exist, and that in presently ferocious ferment, although in a new form, and in a new situation.

In fact, the present strategic significance of Russia is threefold. It is a major nation of the world, in a terrible crisis, headed toward a threatened internal explosion, which, if it occurs, will have terrifying, chain-reaction effects throughout the planet. Secondly, it is a crucial part of continental Europe, a crucial part of the opportunities upon which the future of the western portion of continental Europe depends. Thirdly, it is the keystone nation of Eurasia today. It is that third aspect of Russia's role, which is to be included as a matter of leading relevance for the deliberations of the twenty-two nations invited to the Willard conference called by U.S. Treasury Secretary Robert Rubin.

### Where Russia is situated globally

Simply, the majority of the world's population lives in the combined area of East, Southeast, and South Asia, a collation of nation-states pivoted on the two great keystone nations of Asia, China and India. Already, as a result of the self-inflicted decline of the economies of the Americas and western Europe, during the recent thirty-odd years of downward shifts in policy-shaping axioms, the center of gravity of world economy has shifted from the trans-Atlantic crossing, to the Pacific connections between the United States, on the one side of that great ocean, and China and Japan, on the other.<sup>5</sup> Although

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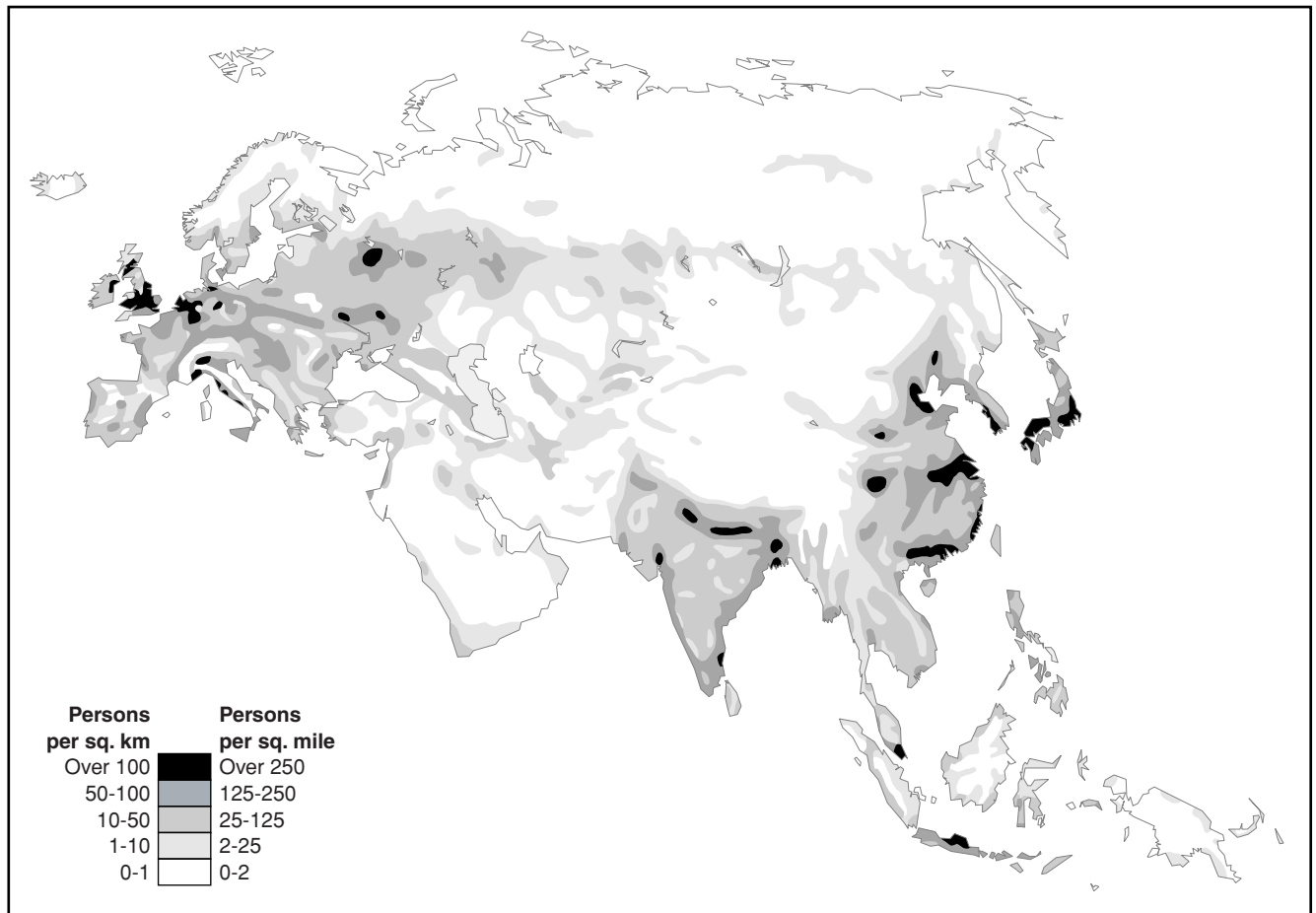
function as an official of state, or even competent to cast a vote. Correspondingly, to deny the relevant quality of education in this historical method to any young person, is a crime against humanity, a denial of that individual of his, or her most essential rights as a human being.

4. Francis Fukuyama, *The End of History and the Last Man* (New York: Free Press, 1992).

5. For the longer term, such a shift was historically inevitable. In rough terms of approximation, since all persons are made equally in the image of the Creator, by virtue of the universal capacity of individual human cognitive potential, population as such must ultimately determine the global "center of gravity" of physical-economic and related activity. This is not in the nature of a simple, algebraic calculation of a center of "mass." The method is that which commonly underlies the notion of a multiply-connected physical-space-time manifold, as developed successively by such notables as Johannes Kepler, Gottfried Leibniz, Carl Gauss, and Bernhard Riemann. Long-range

FIGURE 1

**Population density in Eurasia, 1990**



western continental Europe figures significantly in this new strategic-economic pattern, especially France and Germany, the only possibility of a hopeful future for western continental Europe, is as an economic-strategic participant in a new economic-strategic polarity defined by combined political and economic relations between the Presidents of the U.S.A. and China.

Look at the map of Eurasia! Look at the concentrations of population on that map! [Figure 1] See the crucial strategic

economic forecasting, must emulate Gauss's uniquely original, successful approach to determining the orbit of the asteroid Ceres. Casting aside all mechanistic delusions, such as the popularized folly of presuming linearization in the extremely small, it is by discovering the characteristic form of absolutely non-linear "physical-space-time curvature" in the very small interval of observable action, that the entirety of the orbital pathway (e.g., the long-range economic outcome) must be adduced. In the actual case referenced, the shift of the economic "center of gravity," from the Atlantic to the Pacific crossing, occurred, not naturally, by means of catch-up by the nations of the so-called developing sector, but, rather, chiefly as a result of a self-induced degeneration of the economies of Europe and the Americas.

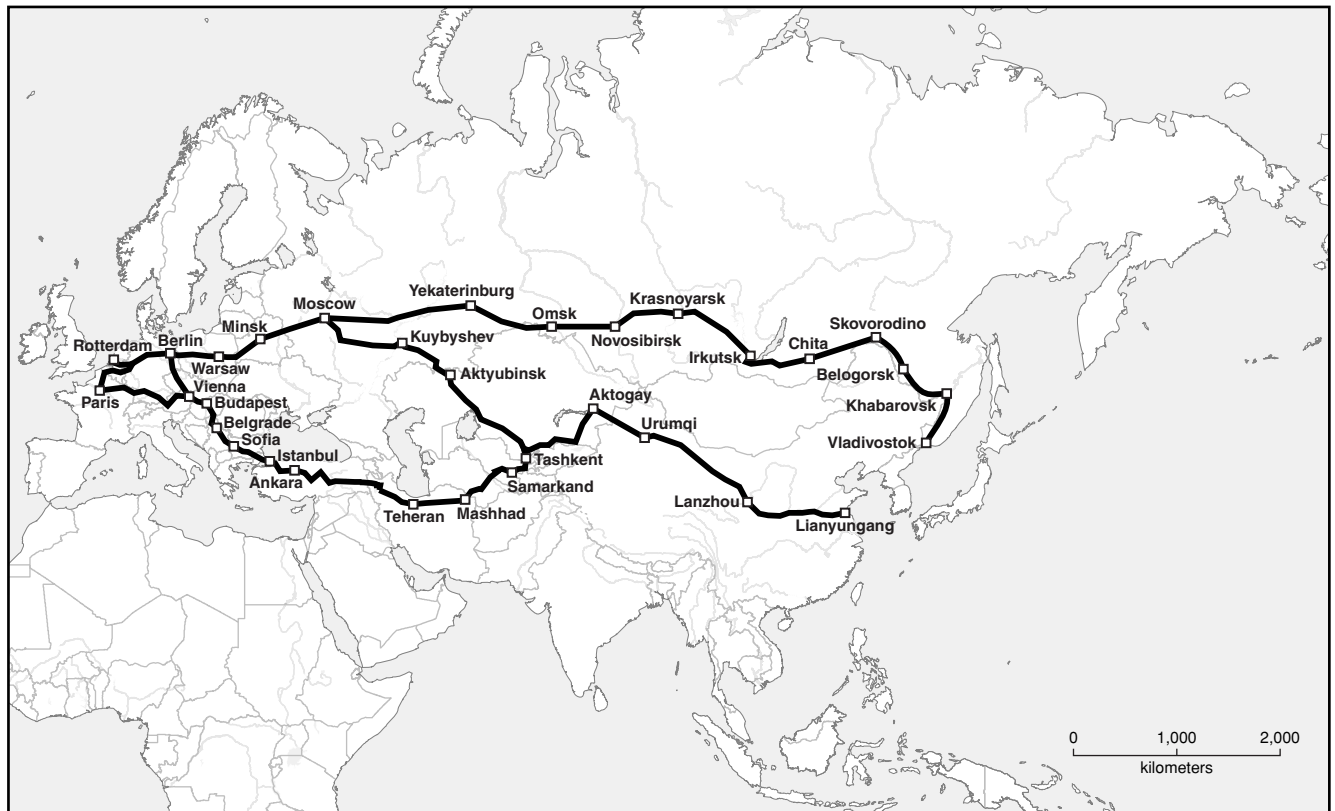
anomaly! Where is the population concentrated? Where is the economic activity concentrated? Where are the production of wealth and places of habitation concentrated? What of the vast inland area of the inland regions, such as the plateau of the sub-continent, inland China, or the expanses of Siberia and central Asia? Look at Russia in this light.

The stability of this entire Eurasia inland region, depends, immediately, on recognition of the almost desperate, strategic self-interest in cooperation, among the three keystone powers of Asia: China, India, and Russia. These three, relatively most weighty nations of the Eurasia heartland, must be cultivated as strategic partners of the United States, a partnership which must be centered, on the U.S. side, in the person of the U.S. President, and his Executive Branch.

Hopefully, in western Europe, Germany will, once again, play the crucial leading role in U.S. cooperation with its principal strategic partners of the middle to late Nineteenth Century: the Russia of Czar Alexander II, D. I. Mendeleyev and Sergei Witte; the Germany of the heirs of Schiller and von Humboldt, and of Emil Rathenau; and the U.S.'s friends in

FIGURE 2

**Currently existing main routes of the Eurasian Land-Bridge (simplified)**



East Asia. This was the great Eurasian railway land-bridge program, as first envisaged and proposed by Friedrich List, and set into motion by the personal initiatives of Henry C. Carey. This was the land-bridge program which the British Empire aborted through its sole leading, geopolitical motives and responsibility for World War I. This time, the program must be carried through.

The pivotal issue of Russia's crucial participating role in this, is its crucial economic role in the successful development of the "land-bridge" corridors across the thinly populated, and presently greatly underdeveloped expanses of central Asia. [Figure 2] The task is not simply to lay track across the expanse from the Bohai region of China to the ports of Hamburg, Brest and Rotterdam. [Figure 3] The task, modelled upon the Carey-Lincoln success in the development of the U.S. railway land-bridge from the Atlantic to the Pacific, is to develop the railway right-of-way as a developmental corridor of approximately 100 kilometers in width, which becomes, rapidly, economically self-sustaining through each average 10,000 square kilometers along that route.<sup>6</sup> [Figure 4]

6. The principal writings of the present author and his collaborators on the subject of the Eurasia Land-Bridge, were published in Germany. In addition

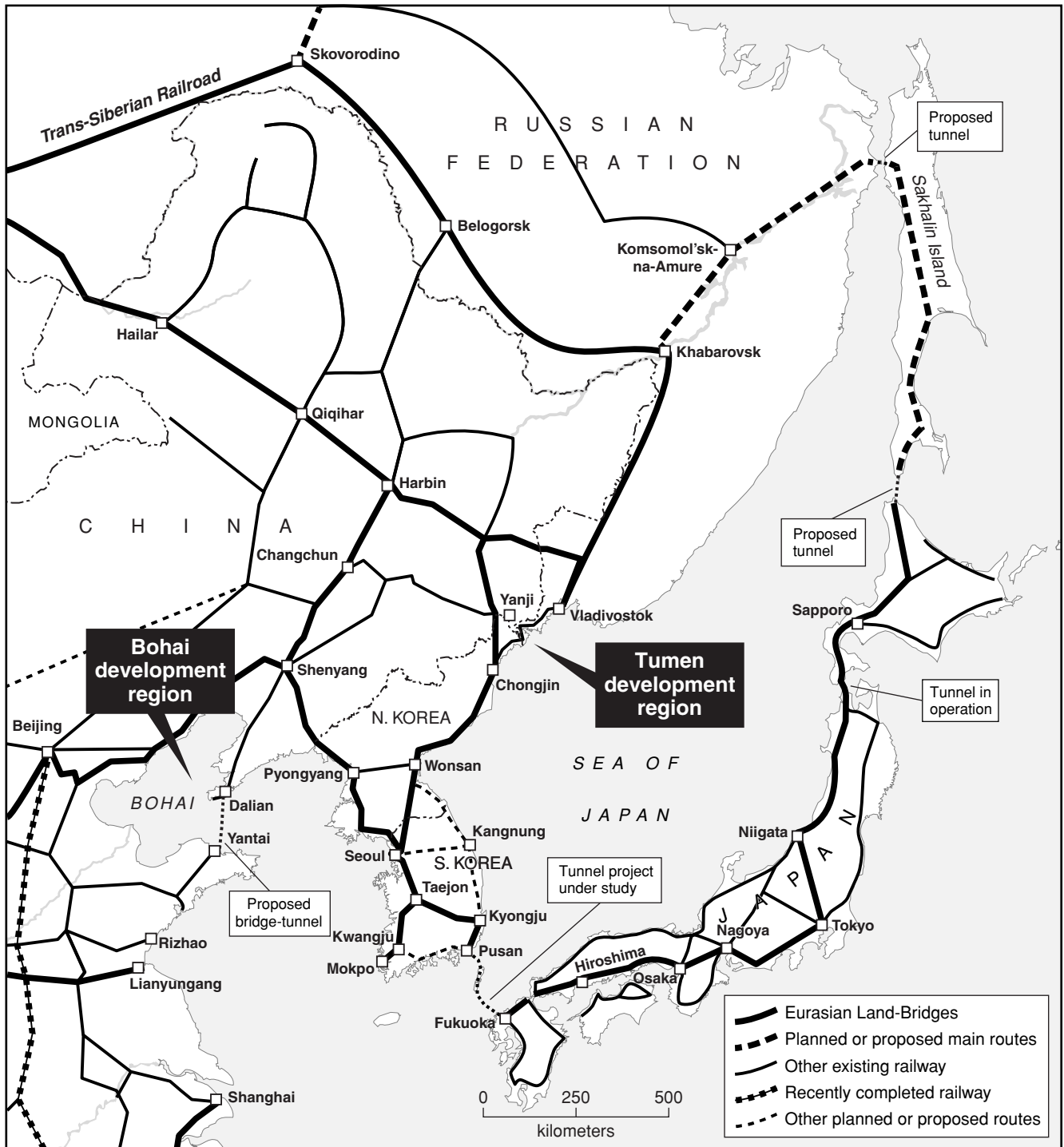
Three principal components are required for such development of such corridors:

1. The typical such transportation corridor is a route of what is in the process of becoming economically self-sustaining development. This requires large-scale infrastructure development in water-management and related land reclamation, transportation, and power. This must be accomplished through very large-scale infrastructural development programs, backed both by na-

to reports featured within periodicals, such as the weekly *Executive Intelligence Review*, the following German reports are most notable. *Das "produktive Dreieck" Paris-Berlin-Wien*, EIR GmbH, August 1990; *Der Osten Europas in den 90er Jahren*, EIR GmbH, December 1991; *Die eurasische Landbrücke*, EIR GmbH, November 1996 (released in English as *The Eurasian Land-Bridge: The 'New Silk Road'—Locomotive for Worldwide Economic Development*, EIR, January 1997); *Die neue Industriegesellschaft: Maschinenbau, Mittelstand, Klassische Bildung*, EIR GmbH, June 1997; *Die Neue Seidenstrasse*, EIR GmbH, February 1998. The project, now best known as "The New Silk Road" project, was first projected by the present writer and his wife, Helga Zepp LaRouche, during November-December 1989. It was she and her collaborators in Germany, who steered the development of the design, and carried the project eastward, through Russia and Ukraine, into discussions with relevant circles in China.

FIGURE 3

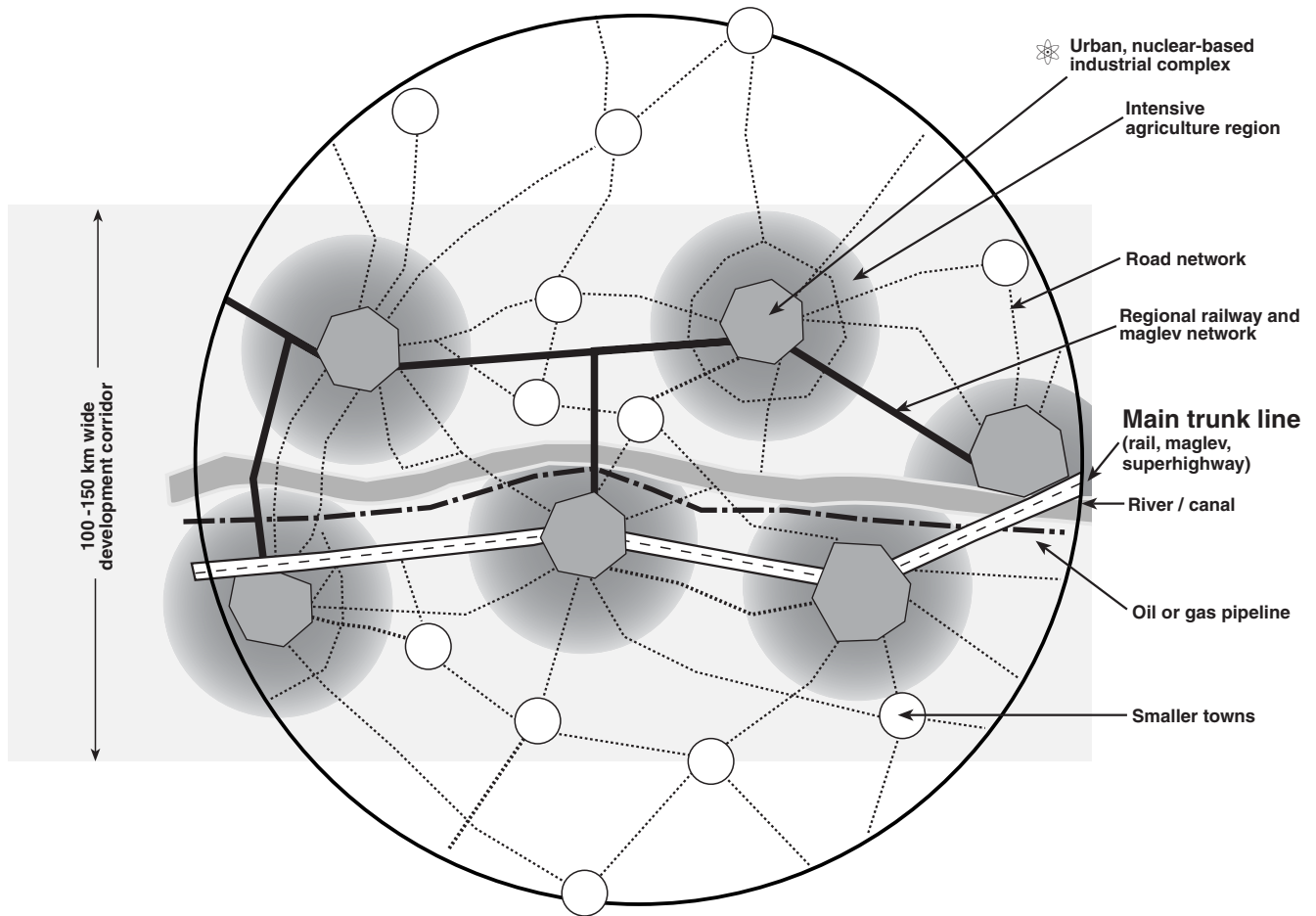
The Bohai and Tumen development regions in the context of the Eurasian Land-Bridge



The region around the Bohai coast, i.e., the four provinces of Shandong, Shaanxi, Hebei, and Liaoning, the major cities of Beijing and Tianjin, and a portion of Inner Mongolia, is potentially one of the richest in China. Although the region comprises only 12% of the land surface, about 20% of the Chinese population live there. And these 240 million people produce one-fourth of the total Chinese production. The Bohai coast is the center of China's heavy and machine-tool industry, and includes its second-largest oil and gas reserves, and third-largest chemical industry center. Moreover, the region is part of the northeast Asian economic zone, encompassing China, Japan, North and South Korea, and the Russian Far East. Plans exist to develop seven ports along this C-shaped coast. Central to this development strategy is to connect the peninsular provinces of Shandong and Liaoning by means of a 57-km bridge, cutting some 2,000 km from circumvention of the Bohai coast, which will act as an ideal connector between the northern European Land-Bridge through Russia and the southern Eurasian Land-Bridge through China. The project entails several bridges and a long tunnel; a railway bridging the expanse will connect Dalian, the main port of Liaoning, to Yantai in Shandong.

FIGURE 4

**Graphic representation of a 'development corridor'**



tions which are directly along the route, and other cooperating nations.

2. This can not succeed economically, without emphasis upon that which most of East, Southeast, and South Asia most want: adequate scale of modern machine-tool-design capability. Without high rates of infusion of technological innovation, which can not be supplied, except through an adequate scale and quality of development of the relevant machine-tool-design capabilities, such a project could not be economically self-sustaining. The three areas of the world which still muster a significant active machine-tool-design capability are Germany, the U.S.A., and Japan. However, in the relatively short term, the greatest single additional source of machine-tool-design capability whose potential might be activated, is the former Soviet scientific-military-industrial complex.

3. The most critical bottlenecks are lack of power and the need for water-management on a vast scale. Siberian water now flowing into the Arctic, is a critical component. Power can be supplied, chiefly, through high-temperature nuclear-fission reactors of the Jülich HTR or related types.<sup>7</sup> In both categories, Russia is crucial.

7. We have passed the point, at which the discussion of water-management can be limited to managing the flows from rainfall to the seas and oceans. We must supplement rainfall, increasingly, by high-energy-density modes of both desalination, and also reprocessing of waste water. Thus, the coastal regions of Eurasia, or Africa, for example, will become exporters of water "mined" by desalination, to water-scarce, adjoining, inland regions. The use of rights of way defined by rail or magnetic levitation transport, as conduits for piped delivery of water, natural gas, and nuclear-produced synthetic methane, in addition to trunk-lines of electrical power, should emerge now as an increasingly commonplace feature of the Eurasia, Africa, Australia, and West Coast U.S.A. landscape. The idea of taking water from the Colorado system, in the U.S.A., for use by seaside Los Angeles and its vicinity, is ecological lunacy run amok.



Russia and Ukraine, have presently, chiefly fallow, but reactivatable capabilities for becoming suppliers of relevant energy technologies.

There must be no continued silliness about the role of London in these undertakings. As typified by recent statements of London's asset George Soros [see box], and the perennial foe of Asia's development, Sir Leon Brittan [see box], British imperial policy today has not changed axiomatically on these issues, from the Nineteenth Century of Palmerston and that evil Prince of Wales who became Edward VII. If Britain cooperates, so much the better; however, Britain must not be permitted to exert any approximation of veto power respecting any of the measures we have indicated, or the measures proposed by Dr. Glazyev in the accompanying piece.

This will work, only if such remedial action arises from a leading role by the U.S. President, and if it has the character of a joint initiative by a group of sovereign nations, all rallied as partners of a coalition built around the U.S.A., China, and, hopefully, India, Russia, hopefully Japan, and, hopefully, such continental western European nations as Germany. That coalition must assume responsibility for the immediate and more distant future of this planet. Others, whether inclined to do so, or not, must follow, in their own vital interests in enjoying a global economic recovery.

Russia must be viewed as positioned to supply a crucial

contributing role in this endeavor. That said, I devote the remainder of these prefatory remarks to some very important points about Russia's role, and about aspects of Dr. Glazyev's argument, which most other strategic analysts would almost certainly overlook.

### States with socialist constitutions

As the reader comes to read Dr. Glazyev's accompanying piece, that reader must take into account the following background.

China describes itself today as a state with a socialist constitution, but one conducting a reform with "Chinese characteristics." China must be, variously, compared, or contrasted, thus, to the leading nations of the former Soviet Union, and, to a large degree, also the former Comecon more broadly. All among those are to be seen, culturally, as emerging from "states with socialist constitutions." The experience of almost four generations, is not expunged from the populations of the former Soviet Union so quickly, so easily. The same may be said, if with less emphasis, of the two generations of populations of Eastern Europe which lived under 1946-1989 Soviet hegemony. This comparison is the more strongly to be recommended, in light of the fact, that, in this region of Europe, the physical-economic conditions of family life for the population as a whole, have been much worse, much more insecure, under post-

## Soros on the new British Empire

British-owned speculator George Soros was interviewed by Israel's Shimon Peres, in the Italian magazine *Liberal* of March 12. Among the topics of discussion was monetary reform, and Soros called for a "new Bretton Woods"—making it clear that what he has in mind is an instrument of British-dominated world government, modelled on the British Empire itself.

"On an international scale," Soros says, "we need some global regulating institution, in the Bretton Woods spirit. . . . If we do not create institutions aimed at preserving stability of international markets as well, then we will go towards a crash.

"The global capitalist system is based on a belief, on the false assumption that, if all this activity of private capital were left alone, the whole system would tend to stability. As the Asian crisis demonstrates, this is simply false. It is not unstable because of some external shock: It is intrinsically unstable." Soros then differentiates between "private technocrats" who, by pursuing individual profit,

destabilize the system, and "public technocrats," such as central bankers, who play a regulating, stabilizing function. He calls for "the idea of a global central bank or a control function given to 'stability technocrats.'" But in addition to this, those countries that have not done it, must open to democracy." Soros says, however, that his idea "could be implemented only after a crash."

"Left alone," Soros affirms, "states do not maintain peace. We need an international organization aimed at keeping peace. *It can be an empire, or a balance of powers. Or it can be some sort of international institution.* Current international institutions . . . cannot succeed because they are formed by states, and therefore they are instruments of state interests. During the Cold War there was a balance of powers. Today America is the only superpower left, but it does not have the capacity to be the world policeman. In the 19th century, we had a global capitalist system as well, and *it was Great Britain, representing the imperial power, that maintained stability*, until it entered into a conflict with the other imperial powers (Prussia, the Austro-Hungarian Empire, the Ottoman Empire) and peace was destroyed. Currently, we have no system of peace. We do not have balance of powers, and no imperial power either" (emphasis added).



Communist political conditions, than under the former socialist systems.

Dr. Glazyev himself is chiefly a product of an education supplied by the economics elite of an older generation, as only typified by the case of his former teacher, Academician Dmitri Semyonovich Lvov of the Central Economic-Mathematical Institute (CEMI).<sup>8</sup> The present writer emphasizes this, partly, at least, on the basis of discussions with Academician Lvov, Dr. Glazyev, and others of that stratum. It is relevant for the reader to know, that such discussions came about largely through the circulation of a Russian edition of the writer's own 1984 introductory university-level textbook in the science of physical economy, a textbook which also circulated among relevant circles in Ukraine.<sup>9</sup>

It was inevitable, that among the patriots of those countries which had been states with socialist constitutions, the

8. See D. Lvov, "Toward a Scientific Grounding for Economic Reforms in Russia," *Executive Intelligence Review*, August 25, 1995.

9. In fitting irony, a secondary factor in the writer's reception in post-Gorbachev Russia was the role of the writer in designing what President Reagan had announced on March 23, 1983 as the *Strategic Defense Initiative (SDI)*. Not only had the President's adoption of SDI occurred as a by-product of this writer's back-channel discussions, conducted on U.S. behalf, with a Soviet representative; the writer's role had become a subject of extraordinary attention in the Soviet press and leading circles during the 1983-1986 interval. Thus, the writer's influence arrived in post-Gorbachev Russia with certain historic predicates attached.

science of physical economy, for which the present writer is currently the world's leading exponent, would be the preferred alternative to the wild-eyed monetarism of such Mont Pelerin Society's devotees and political hucksters as Prime Minister Margaret Thatcher, the Heritage Foundation, *The Wall Street Journal*, Jeffrey Sachs, exemplary modern English privateer George Soros, and the vandal horde of International Monetary Fund bureaucrats. Inside Russia, the choice is between the imported liberalism of those "chop-shop entrepreneurs" who stuff their own purse with money from foreign sales of national assets at stolen-goods prices, and Russians of more patriotic inclinations, notably those whose overriding commitment, as professionals, is to filling the barren, physical-economic market-baskets of their perilously hungered countrymen. Dr. Glazyev typifies the latter category.

On this account, there is a strategically crucial special relationship between present-day Russia and present-day China. Under the leadership of the recently deceased, venerable Deng Xiaoping, China has emerged as the only success-story among all nations from the former array of states with socialist constitutions. For this China, what the Soviet system, under Andropov and Gorbachev, did to itself, is the nightmare of the century!

The same observation must be made concerning the results of the recent decade's so-called "reforms," for every nation of the former Comecon, and also London's principal geopolitical asset in today's Balkan crisis, the rump state

## Sir Leon Brittan on the Eurasian Land-Bridge

*Sir Leon Brittan, vice president of the European Commission, gave the speech excerpted here at the Beijing International Symposium on Economic Development of the Regions Along the New Euro-Asia Continental Bridge, on May 7, 1996.*

... To put it bluntly, demand to use a land-bridge between Europe and Asia will only be high if certain political conditions are met: There must be peace along the land-bridge, there must be stability and a prospect of continued peace, there must be sound independent economic structures that allow transporters and economic operators to get on with their business free of the fear of arbitrary or discriminatory government attention. Only if these conditions are met will foreseeable demand for use of a bridge grow to a level where the necessary capital can be attracted.

On this score, the picture so far is mixed. . . .

Chinese negotiations for the WTO are not, I fear, a subject for optimism today. Very few observers believe that the prospects of an early breakthrough in talks are great. I continue to believe that China wants to be in the WTO as much as we want China to be a member. But WTO is a rules-based organization, and we cannot engineer China membership on false terms. There is good will on both sides, but we must look carefully at the details of the deal. What the WTO members need from a new applicant is a clear indication of the applicant's commitment to accept the rules of the WTO, all the rules. . . .

Rules are needed and are difficult to draw up where many countries are involved and vested interests are great. For a land-bridge to work, the rules must be in place before the prospectus is issued. And among those rules must be the most liberal rules possible for access by transport operators to a land-bridge network, and a guarantee that those willing to operate over the network will have pay a reasonable but not an exorbitant fee to those who run the network, particularly because those running the network are likely to be the commercial companies that build the network rather than the governments of the states along the line. . . .

known presently as Yugoslavia. It is the pattern of rampant political-economic suicide, among virtually all states formerly with socialist constitutions, which China's leaders are passionately determined not to repeat. That sense of horror, experienced in Beijing, is also felt among those informed patriots of related nations, the which have examined the pattern of consistently disastrous results of the so-called reforms imposed upon Russia (and other nations of eastern Europe) during the course of the recent decade. The recent years' pattern of return of former Communist apparatus circles to power in elections throughout formerly Communist eastern Europe, attests to this pattern and the political reactions to it.

In fact, what the patriots of these nations desire, whether they recognize that fact yet, or not, is what used to be recognized as the anti-British, "American System of political-economy."

This was already the case among some leading Bolsheviks of the early 1920s, who sought to learn American agro-industrial methods, as opposed to what they recognized as inferior British and French models, for guidance in building up the Soviet economy. The expression of "American methods" which they admired, was the form of machine-tool-centered development, of large-scale basic economic infrastructure and high rates of increase of productivity through investment in scientific and technological progress. The model of industrial economy which spread throughout much of the world, including Germany, Czarist Russia, Japan, and others, during the last decades of the Nineteenth Century, was the 1861-1876 Lincoln-Carey model featured at the 1876 Philadelphia Centennial Exposition. This form of the Leibniz-based, Franklin-referenced "American System" of U.S. Treasury Secretary Alexander Hamilton, the two Careys, and Friedrich List, is a form of political-economy based upon Leibniz's principles of physical economy, incorporating the Leibnizian conception of the machine-tool-design industry, the which was developed, and also introduced to practice by Lazare Carnot.<sup>10</sup>

That is the result implicitly desired by the patriots of Russia and China, alike, albeit, in the second instance, "with Chinese characteristics," and, in the first instance, "Russian characteristics." From this vantage-point, Dr. Glazyev's arguments, in the accompanying report, are better understood.

### However, an element of misunderstanding

There is, nonetheless, a significant error in certain among the assumptions which Dr. Glazyev expresses, if but as overtones, within the structure of his argument. The issue is identi-

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10. Through the Carnot-Monge model of machine-tool-design industry, transmitted to Commandant Sylvanus Thayer's U.S. West Point Military Academy, that method was employed by the 1861-76 Lincoln-Carey economic "crash program" to the effect, that by 1876 the U.S. had become not only the world's most powerful economy, but, the most advanced technologically, this by a large margin.

fied in the first among the appended notes. In the first paragraph of Note 1, we are informed, quite accurately:

"The author uses terminology from the so-called long-wave school of economic research, initiated by N.D. Kondratieff (1882 until his 1930s death in a Siberian prison camp), and continued by Harvard's Joseph Schumpeter (1882-1950) in his 1939 book, *Business Cycles*, and [by] others."<sup>11</sup>

Although the adoption of those sources as authorities is problematical, the present writer is happy to report that he has found no programmatic feature of Dr. Glazyev's report at hand, which need be corrected on this account. Nonetheless, the influence of the doctrines of Kondratieff et al. among relevant Russian academics is widespread, and the errors embedded in his "long wave" dogma do represent a significant, actively manifest source of misassessments of the strategic correlation of forces with which Russia must deal in the world at large. Since this influence is widespread among the most qualified relevant strata of Russian professionals, it is urgent that the nature of the problem be understood among the U.S.A.'s, and Russia's and other continental European professionals. For that, among other relevant reasons, the matter should be addressed here.

There are three summary, outstanding fallacies in Kondratieff's theory of "long waves:"

1. The empirical basis for Kondratieff's adducing a specific array of "long waves," represents an elementary fallacy of composition. He assumes, *petitio principii*, that the datings for his statistical curves are reflections of pulsations internal to the very long-wave economic process whose existence the statistics are represented as reflecting. In fact, they are not "economic waves" as such, but, rather, flotsam. They are reflections of conflicting interventions into the economic processes from outside them, from the domain of politics—and, often, geopolitics as such. Thus, he errs in treating as evidence of an adduced economic principle, effects which originate outside economically determined causes as such. To repeat the crucial point: these effects originate, not from within economic processes as such, but, rather, from the domain of political-strategic conflicts on a global scale. In short, on this specific account,

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11. "Others" includes, notably, Professor Wassily Leontieff, a Kondratieff student, who emigrated to the U.S.A., was based for an extended period at Harvard University, and played a key role in developing the U.S. Government's methods of national income and national product accounting. Leontieff, now based at New York University, has served as a key figure in a group of notable economists who have been supplying technical advice to relevant professional circles in Russia. Cf. Lyndon H. LaRouche, Jr.'s view of *Pragmatic Gradualism: Reform Strategy for Russia*: "More 'Nobel Lies,'" *Executive Intelligence Review*, May 21, 1996.



*Lyndon and Helga LaRouche meet in Moscow with Academician Dmitri Semyonovich Lvov (right) of the Central Economic Mathematical Institute in June 1995.*

Kondratieff commits the combined errors of *petitio principii*, fallacy of composition, and ahistoricity.

2. In a related, but distinct, second fallacy of composition, Kondratieff's dogma relies upon a misapprehension of politically determined "business cycles," in defining the shape of the pulsations within and among these business-cyclical movements wrongly, as he misdefines his statistical long waves: as originating within the realm of economic processes as such, rather than acknowledging the actual source, political processes which lie outside economics, but which do act upon decision-making in the economics domain.

3. Like Karl Marx and other successors to the combined neo-feudalist schools of the Physiocrats, of the Venetian school represented by J. Sismondi, and of the British East India Company's Haileybury School: the approach of Kondratieff and Schumpeter, ignores the axiomatic issue, of cognition as such, which underlies technology. On that same account, Marx et al. ignore the otherwise plain evidence of the social basis for those political determinations which actually govern the pulsations within the economic domain as such.

To appreciate Kondratieff's influence, we must recognize the circumstances from which the present influence of his "long waves" doctrine is originally dated. That occurred within the context of the "Soviet industrialization" debates within the Soviet Union's early through middle 1920s. We should recognize three distinct aspects to that influence.

First, on the positive side of his influence, Kondratieff's

argument complemented the warnings of economist and "Left Opposition" founder Evgeny Preobrazhensky, against the London-steered policies of N. Bukharin. These were the Bukharin policies which the historian familiar with that period must recognize, as ominous forerunners of some of the worst "macroeconomic" features of recent pro-monetarist reforms in Russia today.<sup>12</sup> In those specific historical circumstances, the economic-determinist implications of Kondratieff's argument, were assimilated into part of the charges thrown against the ahistorical, Viennese positivism of Bukharin's pro-monetarist policy. That implication of his influence during the mid-1920s, naturally tends to find expression in current Russian opposition to the neo-Bukharinist policies which Mont Pelerin Society ideologues of London, Washington, and the IMF have imposed upon the collapsing Soviet-Comecon system and its sequelae.<sup>13</sup>

12. Like the E. Preobrazhensky who reacted consistently, to support J. Stalin's industrialization program against "Right Oppositionist" N. Bukharin, Kondratieff latter disappeared into the anonymity of the purges of both former Bolshevik Left Opposition and Right Opposition, which gripped the mid-1930s Soviet society, following Hitler's consolidation of power in Germany.

13. These implications of the 1920s "Soviet industrialization debate," have a significant echo in informed Russian views on the roles of neo-Bukharinite elements of the Anglo-American intelligence community and trade-union organizations, in shaping U.S. foreign policy still today. A central reference is to the networks of the former, Bukharin-installed Secretary of the Communist Party U.S.A., Jay Lovestone, and to the network of both Communist International (CI) "Right Oppositionists" and others deeply embedded, still, among the present writer's political adversaries in both the official U.S. national-security apparatus, and in control of the international division of the AFL-CIO. This CI network based itself, under "Plantation" manager David Dubinsky, in the administrative apparatus of the International Ladies' Garment Workers' Union (ILGWU) (e.g., the industrial-engineering section under

In other leading respects, Kondratieff's argument shares two potentially fatal, axiomatic errors otherwise common to both Karl Marx himself, and the putative orthodox Marxists of the Twentieth Century's social-democratic and communist movements. The first of these two, which will be our concluding topic in these prefatory remarks on Dr. Glazhev's report, is, as we have indicated, a mechanistic, ahistorical view of the origins of modern European and U.S. business cycles. The second, upon which we shall focus attention first, is the typically Marxist misconception of the nature and functional characteristics of technological progress, a common, axiomatic blunder of, not only the British liberal economists and Austro-Hungarian positivists, but also both Marx and the so-called "orthodox Marxists."

### Marx's blunder on technology

Among socialist economists, the problem of dealing with Kondratieff's work, follows from Marx's confessed blunder, of ignoring the "technological composition of capitals." In "orthodox" socialist circles, the relevant commonplace blunder, was typical of the unpleasant side-effects of philosophical materialism: the search for a relatively mechanistic explanation of scientific discovery, an explanation which did not, for example, upset F. Engels' pathetic view, borrowed from Darwin and Huxley, of the transition from higher ape to man.<sup>14</sup>

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William Gomberg), and was integrated into the Office of Strategic Services (OSS) during World War II. This "Right Opposition's" entry into the combined Soviet, U.S.A., and British intelligence services, was effected through the 1933-1934 assimilation of the Bukharin-Brandler-Thalheimer-Lovestone "Right Opposition's" creation known as the International Rescue Committee (IRC). During this period, IRC agents were self-esteemed Soviet agents, coordinated by Soviet intelligence networks, but also reporting directly to such western officials as the U.S. Ambassador in Berlin. This outgrowth of the Communist International's Right Opposition network, includes the hard core of the nominally Jewish-American neo-conservative pack, and is otherwise typified by that London-directed elements of the U.S. intelligence community long associated with Lovestone's personal asset, the scurrilous curmudgeon Leo Cherne. It must be added, as an urgent qualification, that, from the mid-1930s, until the end of his tormented existence, Cherne was always really a lackey (in the strictest sense of that term) of wealthy Anglophile financier-oligarchical families centered in Wall Street. However, as the exemplary family case-history of London's Joe Godson and his son, Vice-President George Bush's 1980s asset Roy Godson, attests in most indelible terms, the Lovestone-Cherne network was always under ultimate control of British intelligence. It should be noted that a significant number of persons and families of nominally "Trotskyist" pedigrees, bearing names such as Wohlstetter, were recruited to the Lovestone-Cherne cabal of today's neo-conservatives.

14. On this account, F. Engels' hilariously pathetic ruminations on the subject of the "opposable thumb," are a throwback to such typically empiricist silliness, as that of Bernard Mandeville's *The Fable of the Bees*, neo-feudalist François Quesnay's *laissez-faire*, both Adam Smith's *Theory of the Moral Sentiments* and his plagiarism of *laissez-faire* as "free trade," and Jeremy Bentham's *Introduction to the Principles of Morals and Legislation*. A still more radical, and sillier version of the same argument has been offered by two devotees of Bertrand Russell: Professor Norbert Wiener, in his "information theory," and John von Neumann, in his philosophically infantile "systems analysis" and "theory of the brain." In acknowledgment of Wiener's misuse

Also notable, is the case of Lenin's pre-World War I treatment of the pathetic followers of Ernst Mach, such as Moscow's Vienna-trained N. Bukharin, Lenin's *Empirio-Criticism*. This is a factional piece by Lenin, somewhat famous among specialists, in which he affirms the reductionist world view of the philosophical materialist, against the also-reductionist virtual reality of the radical empiricists (i.e., logical postivists) around Mach.<sup>15</sup>

Since the following point has been amply referenced in earlier locations, it is sufficient merely to identify its highlights here.

The ontological presumption underlying "long wave" doctrine, is the relatively simplistic notion of the unfolding of the impact of a single, relatively fixed technology, or family of such technologies. This mislocates the matter entirely, attributing to a non-living, "material" agency, a technology as such, that quality which, in reality, lies only in the living individual human mind's inexhaustible ability to generate new, superior technologies. As Heraclitus would have rebuked Kondratieff, "In this universe, nothing exists but change." So, Socrates, in an aside within the relevant Plato dialogue, pointed out the folly underlying the desperate, repeated incompetence of the Eleatic reductionist of that dialogue, Parmenides. Parmenides overlooked the ontological implications of an existent, superseding, subsuming principle of *change*.

The ontologically primary reality of human existence, is the willfully ordered increase (*change*) of the potential relative population-density of the human species, through willfully ordered successive, revolutionary breakthroughs in practiced science and technology. It is that active, efficient principle of *change*, which is supreme in economic processes; it is that principle, by which technologies are superseded, which is the determining characteristic of physical-economic processes, rather than any fixed array of types of technologies.

To approach economies effectively, even in a rule-of-thumb manner, one's rules of thumb must be informed by

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of Ludwig Boltzmann's H-theorem, the collection of these and kindred follies ought to be grouped under the common rubric of "gas theory."

15. Researches conducted in Europe, have documented the origins of Freudian psychoanalysis and the related "Frankfurt School," to a satanic (theosophist) cult spread from London, into Austria-Hungary, and, later, Germany, beginning the 1880s. The key event in this process was Richard Wagner's reception of a coven of these satanists at Bayreuth, on the occasion of the inaugural performance of his musical cult-drama, *Parsifal*. Notable products of this satanic cult's influence included Georg Lukacs, culture minister of the short-lived, 1919, Bela Kun dictatorship of Hungary, and also the doctrinaire who supplied the ideological belief-structure for the 1920s founding of the British-sponsored "Frankfurt School." The overall operation, including satanic cult figure Richard Wagner, Anthroposoph founder Rudolf Steiner, and future founders of the Nazi cult, expressed by circles such as those of Gustav Mahler, and the Ernst Mach out of which both Freud's psychoanalysis and the "Empirio-Critics" sprang, was coordinated as part of a personal freemasonic operation, the Quatuor Coronati research lodge, run on behalf of the Prince of Wales, later King Edward VII.

profound scientific considerations. Even where it is not feasible to make a direct application of a physical principle, that as if in the manner of mathematical physics, our way of thinking about cruder, pragmatic choices of intervention, must be informed by a rigorous insight into the principles which ought to underlie our selection of a pragmatic course of action. To that end, we summarize the rigorous form of the case respecting technological progress—the case respecting what Marx chose to disregard as the “technological composition of capitals.”

Contrary to the elementary presumptions of both the philosophical materialists and the empiricists, validated physical principles never occur as objects of the senses, nor can they be derived from sense-perception by means of deduction.<sup>16</sup> They occur as validated, cognitively generated solutions to ontological paradoxes, usually paradoxes based upon contradictory empirical evidence respecting currently accepted notions of the lawful composition of the universe. Such validated solutions to true ontological paradoxes are termed *ideas*, in the sense of the term *idea* supplied by Plato’s dialogues. The authority of these cognitively generated solutions, is premised upon their experimentally demonstrated efficiency, as the experimentally defined “necessary and sufficient [determining] reason” for a relevant, characteristic, non-linear type of ordering of physical processes.<sup>17</sup>

In Classical art-forms, and statecraft, the same principle of ontological paradox appears under the name of Classical *metaphor*. In this case, contradictions in meaning, arising as ontological paradoxes, are resolved cognitively, by the same methods employed to effected validatable discovered solutions to ontological paradoxes in the physical domain. These solutions to metaphor, are also *ideas*; the metaphor itself, like the title of the relevant Classical poem or tragedy, is often used as the name for the *idea* whose generation it has prompted.

In both cases, discovered physical principles, and solutions for Classical metaphor, the process of cognition is motivated functionally, by a specific quality of passion. The specific quality of passion experienced in scientific discovery, is

the emotional “energy” which enables the necessary intensity and duration of cognitive concentration. It is a passion also experienced as a sense of rejoicing at a valid experience of discovery of principle, or of technology.<sup>18</sup> In Classical art, the same passion, termed *agapē* in the Classical Greek of the writings of both Plato and the Apostle Paul, is applied to a somewhat different subject-matter: to the matter of social relations, taken as defined, as the uniquely human quality of cognition, provides a basis for defining social relations.<sup>19</sup> Hence, the passion and function of Classical art-forms in poetry, tragedy, music, plastic arts, and the study of history from this same Classical vantage-point. These notions of scientific, and Classical artistic *ideas*, are the foundations of epistemology (i.e., *knowledge* as distinct from the relatively sterile, merely deductive, mere learning of taught doctrines).

The application of such notions of *idea* to critical examination of the Kondratieff long-wave doctrine, is most efficiently located in terms of the interdependent notions of multiply-connected manifold, and axiomatically non-linear characteristics of curvature of processes in the relatively very small. These notions are, in turn, situated in the standpoint of the succession of Kepler, Leibniz, Gauss, Weber, and Riemann, in opposition to the empiricist/positivist offshoots of the Venetian school: the schools of English empiricism, French Cartesianism, logical positivism, and Euler, Lagrange, Laplace, Cauchy, Clausius, Bertrand Russell, et al. The exemplary form of such manifolds, is that supplied by Riemann, beginning his 1854 habilitation dissertation.<sup>20</sup>

For this purpose, such Riemannian manifolds should be viewed in the following terms.

Eliminate from geometry all a priori notions of extension of dimensions, including such exclusion of simple-minded intuition of “self-evident” qualities of space and time. In place of a priori dimensions, allow nothing to take the place of “dimensions,” other than (in first approximation) validated physical principles. The existence of space and time can be acknowledged only on the basis of proving experimentally a principle of space, and a principle of time, the which must be

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16. The classical argument to this effect, is supplied by Plato in his *Parmenides*.

17. These *ideas* are generated only by cognition, never deduction. They are generated only within those sovereign precincts of the cognitive processes of the individual human mind. This generation can not be observed by means of the senses; although this cognitive act can be apprehended as a mental object, such an action within one mind can be observed by another mind, but solely by means of replicating the experience of the first mind. The empirical validation of the resulting conception, as a true solution for the prompting ontological paradox, is the means by which two or more minds can demonstrate that the mental object of the discovery in one mind, is the same mental object similarly experienced by another. This cognitive process is intrinsically non-linear, and thus not subject to measurement by means such as Norbert Wiener’s hoax, “information theory.” “Non-linear,” as used here, belongs to the domain of the multiply-connected manifold, from which Leibniz premises the principle of non-constant curvature in the infinitesimally small, and from which he builds his notion of the *monad*.

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18. A physical principle, such as the principle of electrodynamics derived by Wilhelm Weber, Bernhard Riemann, et al., from the combined seminal discoveries of the Monge Ecole Polytechnique’s Ampère and Fresnel, can find expression in each of an assortment of domains of application. The discoveries of electrodynamical technologies by Thomas Alva Edison et al., are typical of the diversity of types of technologies which may be derived from a single validated physical principle.

19. In Plato, the self-governance of individual opinion and conduct by a ruling passion for justice and truth. In the Apostle Paul’s celebrated *I Corinthians* 13, the governing passion which distinguishes the Christian from the hypocritical pretender.

20. Bernhard Riemann, *Über die Hypothesen, welche der Geometrie zu Grunde liegen*, *Bernhard Riemanns gesammelte mathematische Werke* H. Weber, ed. (New York: Dover Publications reprint edition, 1953). Riemann’s notion of such modular functions is later elaborated in various relevant ways, such as under Leibniz’s title of Analysis Situs, including his contributions to hypergeometry as a distinct branch of study.

independent of any arbitrary, aprioristic presumptions. This constitutes an expandable physical geometry, superseding, replacing, naive, schoolbook geometry.

Thus, the sum-total of physical principles known at a given time, in a specific culture, may be represented by the abstract number  $n$ , corresponding to an  $n$ -dimensional manifold. Such a manifold must be thought of in terms of comparison to the interaction of many astrophysical cycles, in determining the exact position of an observer, or event, within a relatively universal astronomical frame of reference. That is where Riemann's notion of manifold originated historically, and the general outlook, in modern developments of this notion of universality of non-constant ("non-linear") curvatures in the very small, as we have it from that development, from Kepler, through Leibniz and Gauss, which informed Riemann's approach.

Applied to such a manifold, experimental measurement provides us indication of a characteristic curvature of physical-space-time manifold, which distinguishes that manifold, as a mathematical-physical type, from other types of manifolds. It is the same in the science of physical economy, where such methods are the appropriate ones for long-range forecasting.

For addressing historical processes, such as economic processes, we must add to the  $n$  "dimensions" of the physical-space-time manifold, the complementary array of Classical-artistic, and related, historical-political principles, designatable as postulates of a collection (i.e., sub-manifold) abstractly identified as  $m$ -fold.

In this latter configuration of a multiply-connected manifold, the following leading considerations bear upon the case—the Kondratieff "long wave" hypothesis—considered here.

The knowledge of physical space-time represented by an  $n$ -fold such manifold, is fairly identified as representing the relationship between human existence and the physical universe, in a culture expressing the practice of a knowledge corresponding to such a manifold. Thus, the individual's discovery of an *idea*, as this is replicated for practice within the society, is the characteristic activity which defines the human species' historical, physical relationship to the universe at large.

However, we do not simply act as individuals, when we apply the knowledge typified by such a manifold to the universe. The effective action depends upon social processes, through which the discovery of such *ideas* is replicated in other minds, and depends otherwise upon those features of the political and other organization of social relations, which define a number of persons as constituting a society. Thus, it is as social and political postulates of the  $m$ -fold sub-manifold interact with the knowledge represented by the  $n$ -fold physical-space-time sub-manifold, that the policy decisions and practice of a society are ordered.

The exemplary case, is Friedrich Schiller's solution to a

problem posed to continental Europe generally by the abomination known as the French Jacobin phenomenon of 1789-1794.<sup>21</sup> Until this French horror-show, the anti-oligarchical forces of Europe had been inspired by the 1776-1783 American War of Independence, as the model upon which the hope of a truly civilized human existence was premised. The Jacobins demonstrated, to paraphrase Schiller's German, that a moment of great opportunity had, unfortunately, found in the French population, a pathetically little people. Schiller's remedy followed the Classical tradition of such exemplary, relatively immediate predecessors, and adversaries of Voltaire, as Moses Mendelssohn and Gotthold Lessing. Schiller emphasized the role of great compositions in the Classical art-forms of poetry, tragedy, music, and study of universal history, as the necessary *moral* education of the individual's passions. This moral education, supplied by great compositions in Classical art-forms, is required to produce a true citizen of a republic: our  $m$ -fold sub-manifold.

These are the passions, so developed, which enable the scientific discoverer to sustain cognitive concentration in such durability and energy as to make the needed discovery. These are the same passions peculiar to true Classical art, as opposed to the erotic banalities of those productions which pass for popular entertainment of the yahoos today.

Like Karl Marx, and like Marx's adopted empiricist predecessors in the field, Kondratieff attempts to devise a theory ostensibly premised on economic facts, without considering the relevance of those issues of cognition we have just summarized. To make these connections and their relevance clear, begin with a first approximation. For that purpose, consider, as first approximation, the nature of the connection between the validated discovery of a physical principle, and the transformation of the design of products and productive processes through the application of that principle. That does not answer all pertinent questions, but it does expose the rudimentary nature of the phenomena to be considered.

Begin with the most ancient of the known branches of anything worthy of the name of "physical science:" relatively sophisticated, long-cycle, solar-astronomical calendars, such as those of the Central Asia Vedic culture of 6,000-4,000 B.C. (and perhaps much earlier), dating from millennia earlier than the Semites of Mesopotamia first received the rudiments of literacy, from their sea-going Dravidian neighbors. Those ancient, long-cycle, solar-astronomical calendars afford us an insight into the mental processes by means of which such calendars were constructed. As we pick up the thread of this

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21. From July 14, 1789, through July 23, 1794 (The Ninth of Thermidor). That is to say, during an interval which began with a British agent's, the Duke of Orléans' storming of the Bastille, as an election-campaign stunt, that in support of the candidacy for the post of Prime Minister, of the same Swiss banker, Jacques Necker, who had just previously, as Finance Minister, organized the national bankruptcy of France. This interval is concluded with the July 23, 1794 arrest of the principal still-surviving Jacobin leaders of the Terror, most notably Maximilien Robespierre and Saint-Just.

same subject-matter, in comparing the work of the ancient Egyptians and their immediate successors, the Classical Greeks of Plato's Academy through Eratosthenes and his contemporary Archimedes, the emergence of science, and its correlation with increase of humanity's potential relative population-density, form a discernable, and fascinating pattern, leading into the Nineteenth Century further development and application of Lazare Carnot's machine-tool principle.

Summarily, the result is this. When we think that we have resolved an ontological paradox, by discovery of some new physical principle, we are obliged, in the closing words of Riemann's habilitation dissertation, to depart the domain of mathematics as such, for "the domain of another science, the domain of physics," experimental physics. For two reasons, we are obliged to construct something in the nature of a special experimental apparatus. We have two objectives. Our most general objective, is to demonstrate that the new principle we have discovered, is actually indispensable to account for some measurable, undeniable effect, an effect demonstrated to be as pervasive as the discovery implicitly requires. Our associated objective, is to measure the change in characteristic of action in the newly defined physical domain, as compared to the characteristic of action in the previously defined domain.

In general, progress respecting scientific principle, results in what is demonstrably a potentially increased power over nature, per capita. The object is, both to realize that potential in social practice, and also to accelerate the rate of realized scientific progress to such a degree that a certain, general physical-economic constraint is satisfied. The constraint is, that the ratio of physical-economic "free energy" to "energy of the system," for the society as a whole, must be positive and tend to increase, despite the fact that to achieve this progress, the relative physical-economic "energy of the system" must be increased, both per capita and per square kilometer of the planet's surface-area. In other words, the rate of realized scientific progress must be accelerated to the degree that this constraint is satisfied.

This requirement places the emphasis upon the subjective consideration: the relevant development and activity of the cognitive processes of the individual mind. The development of that potential is accomplished by a certain policy of educational practice. The principle of such education and related cultural nurture, is that each young person must relive the cognitive act of original discovery of the most essential, validated physical principles and Classical-artistic conceptions of all humanity to date. The individual so educated, simultaneously embodies that accumulated wealth of history, and, by this means, has trained and honed the cognitive powers to a very high level of potency.

Thus, the association of the educational institutions with fundamental progress in science and Classical art-forms, is the natural center of activity of a well organized culture. If we couple fundamental scientific progress (e.g., discovery of principle and experimental validation of those discoveries)

with such forms of educational activity, we have thus mobilized the younger generations to assimilate and to drive forward the process of scientific, technological, and artistic progress at the relatively highest rates.

The machine-tool-design principle occupies a crucial position in the processes of self-development of such a society. That is, the refined form of apparatus developed for proof-of-principle experiments, is a model for the application of the proven principle in the forms of new designs of products, and improved designs of productive processes.

The point is illustrated by the role of military and aerospace "crash programs," as drivers of economic progress of economies as entireties. We should be startled by the fact, that the production of products which appears to be economic waste (as military expenditures are), can nonetheless increase the wealth and productivity of that society; and this is a paradox well worth examining. Distinguish the benefits of not losing a war, from economic benefits otherwise. How can the production of economic waste increase the wealth of an economy as a whole? The effective product, in such cases, is not the objects produced, but the proliferation of more advanced technologies into those regions of production whose output is economically useful.

For example, the ideal technology driver is a "crash" space program. How does wealth sent out into nearby space, as to the Moon or Mars, benefit us on Earth? The wealth obtained lies not in the objects sent into space, but in the high rate of advancement in technology, supplied, as a by-product of space programs, to the civilian sector of the economy. The

## Russian press features the LaRouche alternative

The Moscow weekly *Ekonomicheskaya Gazeta* reported LaRouche's forecast of a March financial crisis, and his discussion of the need for a New Bretton Woods, in two articles in March.

First, on March 11, under the headline "Will It Crash at the End of March?" the journal excerpts from LaRouche's March 4 radio interview with "EIR Talks," in which he points to the "very interesting situation" around the April meeting of 22 countries to discuss the world financial crisis, under circumstances where "the countries of Southeast and East Asia are now in the process of disintegrating." "Real earthquakes" are likely by the end of March, LaRouche said.

*Ekonomicheskaya Gazeta*, identifying LaRouche as "an opponent of G. Soros," quotes him on the importance of the U.S.-China relationship for organizing the forces to avert "a new Dark Age," and on the coming implosion of



practical problem is to ensure that that connection functions, that the civilian sector is delivered and utilizes such technological progress at the relatively highest rates.

In sum, there is no “long wave” effect, in the sense that Kondratieff argues. Sometimes, external considerations may cause us to think we see such a “long wave,” more or less as some people used to think they saw the face of a man in the Moon. In other words, there is no necessary phase of decline to follow an ascending phase. There is no principle in physical economy which requires society to experience either business cycles or long waves in technology. The actual cause of the business cycle, or apparent long-wave phenomenon, lies outside the n-fold sub-manifold, in dysfunctions located within the m-fold sub-manifold. Under proper policies of education and realization of discoveries, the rate of output per capita may be always upward; any failure to perform so, is a matter entirely located in pathologies of the social and political systems.

A wise ruler sent for a great philosopher, to discover how the terrible condition of his economy might be remedied. The philosopher informed the ruler: “The first step is, that your government must retire, and be replaced by a more suitable one.” The wise ruler asked the philosopher, how they might collaborate to find and install that more suitable government.

## The business cycle

The reason for business cycles ought to be so obvious, that anyone with a slight good knowledge of history could

correctly identify the problem immediately. The difficulty is, that it is risky to speak loudly of the obvious causes of a family’s hunger, as the relevant armed bandits are devouring the household’s food in the kitchen.

The distinctive political significance of Christianity, is that Christ and his Apostles, for the first time, identified all men and women as made in the image of the Creator, and that with no allowance for racial or other ethnic discrimination. Nonetheless, it was not until the late Fifteenth Century that there was established, in Europe, the first nation-state premised upon that principle of equality. Prior to that time, through all known history, the world was dominated by empires of one sort or another. Through the existence of European feudalism, approximately ninety-five percent of the human population existed as virtual human cattle, at the pleasure of a relatively small ruling oligarchy and its attached bands of lackeys. Under these regimes, the oligarchy chose as elected or hereditary ruler, a personality with the authorities of an emperor, from whose capricious will law flowed, tempered only by a cautious regard for the accepted customs of the subject varieties of human cattle.

This ugly condition of Mediterranean society was dominated, from the time of ancient Akkadia, by two principal types of oligarchies: a landed aristocracy, and a financier oligarchy. These oligarchies, acting largely through permanent bureaucracies, exerted virtually absolute power over the masses of people whose existence was essentially that of human cattle.

With the emergence of the original pilot-model of modern

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the derivatives bubble.

The subsequent issue, that of March 18, carries excerpts from LaRouche’s article, “Russian Science: A Strategic Assessment,” which first appeared in *EIR* of Aug. 8, 1997. The translated sections deal with the measurement of physical economy’s “market baskets,” “crash program” principle of science as the driver of an economy, the importance of advanced aerospace programs for economic reconstruction today, and the great benefits for Russia’s science-intensive industry, of producing for Eurasian development.

A polemical introduction is provided by Prof. Taras Muranivsky, under the headline, “Alternative to Monetarism.” It begins:

“The words of Premier Viktor Chernomyrdin about the Russian government’s adherence to monetarism, broadcast to the entire world on Central Television, are still fresh in our memory. In his report to the Feb. 26 government session, he declared that the government, despite criticism, is following monetarism, but just not doing so very well, ‘That means,’ the premier stressed, ‘that we will see our “just monetarist cause” through to the end.’ ”

Muranivsky points out that the latest accomplishment

of Russian monetarism, is the legalization of prostitution in Saratov Province, as a source of “national income.”

“Among the Western critics of this flawed ideology, which parasitizes on the body of the economy, the role and influence of the well-known American economist, politician, and thinker, Lyndon LaRouche, should be specially noted. . . . LaRouche’s scientific works, including those translated into Russian, provide a ‘ray of light,’ cutting through the murky stream of foreign publications and videos, flooding the Russian information market.”

Muranivsky attacks current economics textbooks in Russian as one long apology for greed, as “theoretical justification” for the principle that “the market has no conscience.” LaRouche, by contrast, insists that economics is man’s relationship to nature, to the universe. “It is mankind’s ability to survive. It is life expectancy, the cultural conditions for life, it is science, Classical art, a high level of intellectual culture.” He urges that “LaRouche’s works will be of interest and use, to people from various schools and tendencies, who are interested in restoring the Russian economy, which has been destroyed by the implemented ‘reforms.’ ”

nation-state, the reconstituted France under King Louis XI, there ensued an attempt to destroy the power of the oligarchy, then centered in Venice. However, the betrayal of the anti-Venice League of Cambrai, unleashed a savage feudal reaction throughout Europe, a reaction dominated by a crafty Venice, the center of evil and financier oligarchy, which knew how to manipulate the relatively more bucolic landed aristocracy. Venice's manipulations divided Europe against itself: Protestant North, from Catholic South, Latin West from Oriental East, ally Spain against France, England against both, and Germany almost destroyed in Venice's orchestration of the Thirty Years' War.

With Palmerston's use of his agent, Giuseppe Mazzini, to topple the power of the landed aristocracy under Clement Prince Metternich, the northern-based branch of the reactionary Welf faction of feudalism, the Anglo-Dutch financier oligarchy, emerged as the supreme form of oligarchical power in Europe.

However, the strategic superiority of national economy led to centuries of uneasy symbiosis between the dominant financial power, the neo-Venetian financier oligarchy headquartered in London, and the forces of national economy, represented by the entrepreneurs and ordinary actual or would-be citizens. The characteristic feature of national economy, agro-industrial profit, was thus entangled like the family of Laocoon, with serpent financier-oligarchical usury.

Thus, approximations of the nation-state emerged in continental Europe in the form of increase of the role of parliaments. The result was that only briefly and rarely did true nation-state forms arise in Europe; rather, the nation-state was merely approximated by the increase of privileges granted to parliamentary government, while the oligarchy, usually controlling the permanent state bureaucracy top-down, retained the essential control over the state apparatus.

Even in the U.S.A., which is the only true and durable republic established during the Eighteenth and Nineteenth Centuries, a native financier-oligarchy, chiefly tied to London, grew up around New England opium-traders, treasonous Manhattan bankers, and southern slaveocracy. These combined forces succeeded, especially beginning the Grover Cleveland administration, but more especially after the inauguration of President Theodore Roosevelt, in establishing increased power for a permanent bureaucracy, whose authority and arrogance grew at the expense of the people, and of elective office. A U.S.A. so corrupted, began, more and more, to resemble the state of affairs in Europe.

As long as nations faced threats of war, the financier oligarchy never grew so absolutely powerful, until about thirty years ago, that it dared to crush the forces of national economy, on which latter the military and related strategic capacity of the nation-state depended. Thus, the parasitical depredations of the usurious financier oligarchy hindered economic growth, and the usurious burden of their accumu-

lated financial capital produced periodic economic depressions. However, as long as national economy was a national-security imperative, the financier-oligarchy's depredations were held somewhat in check, and periodic recoveries from economic depressions occurred, chiefly when threat of war, or actual warfare prompted the mobilization of such recoveries.

Functionally, national economy is defined by the principle of "anti-entropy," as represented here. That is to say, the principle that the ratio of free energy to energy of the system must rise secularly, despite the fact that this rise requires an increase of the relative energy of the system per capita, and per square kilometer. This requires the mustering of the cognitive potentials of the population for the benefits of scientific and technological progress.

Functionally, financier oligarchy is purely parasitical. It has no necessary function in a national economy.

Thus, the two processes are separate and opposite in function, and in no way can be represented as a single common function. The object of national economy is to eliminate the weeds of financier oligarchy from the national-economic garden.

The problem has been, that all followers of the notions of political-economy supplied by the British East India Company's Haileybury School, the political-economy of Karl Marx included, have perpetrated the grave error of treating "European capitalism" as a homogeneous political-economic system, rather than a more or less mortal strife between two ultimately irreconcilable adversary-forces: national economy versus financier oligarchy. The attempt was made, to account for business cycles as inhering in a system based upon some common principle of function, rather than a reflection of a symbiosis between species of incompatible functional characteristics.

The result of such false, but popularized academic presumptions, has been a resort, in study of economies, to the unscientific statistical method, rather than functional analysis. There is nothing which allows the financier oligarchy to exist today, except the habituated proneness of the plebeian to bring a knuckle to his forelock when the wealthy financier-oligarch, or that oligarch's lackey, strides past.

Unfortunately, the general population's conditioned proneness to submit to such humiliations, short of the most intolerable extremes, tends to the effect of bringing needed reforms, if at all, only through the bloodiest sorts of wars and social upheavals. Let it be proposed, that if we ceased pretending that financier oligarchy were something other than a noxious parasite, we would at last free ourselves by discovering obvious, better means than we have resorted to in past efforts.

So, if the distinctions appear, deceptively, slight, at first glance, more thoughtful reflections reveal that these distinctions are by no means minor, and are even potentially fatal errors.