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# On the Subject of Tariffs and Trade

by Lyndon H. LaRouche, Jr.

*EIR is presenting this 2004 article in three installments. The first part follows here. The next two installments will follow in subsequent issues.*

During 1959-60, I began warning, as an economist, that if the policies associated with Arthur Burns were continued deep into the 1960s, we must expect a series of crises in the existing monetary system during the second half of that decade. I warned, that if those policies were continued, despite the warning-shots of these monetary crises, there would be a general collapse of the existing Bretton Woods system. President John F. Kennedy threatened to correct those erroneous policies; the 1962 missile crisis, his assassination, and the official Indo-China war which his assassination made possible, ensured that the economic trends against which I had warned in (admittedly) reports of limited circulation, would continue. Whether my voice were much heard or not at that time, the decision was made, in effect, and the consequences which I had foreseen followed.

These warnings had been made initially within limited circles, but came increasingly to public attention during the 1966-67 interval, especially in the aftermath of the successive shocks of the Autumn 1967 crisis of British Sterling and the ensuing, January-March 1968 crisis of the U.S. dollar.

The general collapse of the Bretton Woods system, against which I had warned, occurred between the August 15-16, 1971 collapse of the system by the hand of President Richard Nixon, and that 1972 Azores monetary conference which set the presently doomed floating-exchange-rate monetary system into operation. The 1971 crack, which virtually all other economists and textbooks said was impossible under the

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reign of existing “built-in stabilizers,” defined me as a political form of intellectual force with which the establishment had to reckon. They “reckoned” that they should be rid of me as quickly as possible, before the effects of my earned credibility would bring me into a position of greater political influence than they considered tolerable.

At that time, I warned that if we failed to learn the lesson of this 1966-1972 experience, the world would be lurching in the direction of new threats of fascist insurgency, like the fascist insurgencies of 1922-1945.

Now, we are in the grip of the terminal phase of a general collapse of the existing world monetary-financial system. As I warned, we are also gripped by the threat of a general fascist insurgency, as merely typified by the impact of U.S. Vice-President Cheney’s revival of a strategic doctrine of “preventive nuclear warfare,” and a Nazi-like replacement of the traditional military forces and doctrine of modern civilization, by a military doctrine echoing the Roman imperial legions and the Nazi intent to establish a world-reigning international Waffen-SS.

The process which has brought us to this point, since the onset of the official U.S. war in Indo-China, has had the character of a long-wave cultural-paradigm shift, a cultural change which erupted as the mid-1960s “rock-drug-sex counterculture” and the related phenomena of the 68ers and so-called “post-industrial” faddisms. Since 1971-72, there has been a systemic uprooting and destruction of the institutions upon which both U.S. recovery from the Coolidge-Hoover depression and Europe’s recovery from the ruin of World War II, had depended.

During this period, from 1971 to the present, I have warned of the need to resist this cultural-paradigm shift.

Those warnings have been accompanied by long-range economic forecasts which have always proved accurate estimates of the nature and timing of new critical developments in the economic-monetary system. Those warnings, repeatedly vindicated, were shrugged



EIRNS (map), Transrapid (maglev train)



Mount Washington Hotel

*Fundamental to LaRouche's shift in economic policy is some \$6 trillion in credits generated for modern economic infrastructure. The "world land-bridge" transport corridors including new high-speed and maglev rail lines, shown above, show the overall mission in which American infrastructure investment will take place. Such a shift requires a monetary reorganization to get rid of the speculative global casino floating-exchange-rate system. LaRouche would restore the best features of the fixed-exchange-rate system inaugurated by Roosevelt at the Bretton Woods, New Hampshire conference of 1944 (left).*

off. Now, the accumulated effects of that against which I had warned, have doomed the present world monetary-financial system.

This means, that either my warnings are accepted in relevant ways now, or our civilization generally is faced with the likely prospect of a relatively immediate plunge into what will emerge as a generalized, planetary new dark age.

Therefore, the subject of this report, is certain urgently needed, radically new policies, respecting the regulation of tariffs and trade. These will be a crucial part of the changes, in our nation's thinking and practice, which must be made soon, if there is to be any realistic hope of a durable reversal of the presently inevitable, and early bankruptcy of the U.S. economy. This collapse, unless reversed by an early turn to the philosophy of practice of President Franklin Roosevelt in comparable circumstances, would mean a collapse of the present world monetary-financial/economic system into a relatively much deeper trough than during 1928-1933.

Despite the repeatedly fraudulent figures crafted by

Chairmen Paul Volcker's and Alan Greenspan's Federal Reserve System, there is no possibility of recovery from the presently onrushing general depression, unless we, throughout the course of the coming four years, stimulate national economic growth with a relatively vast shift of national policy, away from financial-market speculation, back to new medium- to long-term capital investment in employment for production of basic economic infrastructure, and other useful physical goods. This recovery program must include investment in basic economic infrastructure, in the order of no less than \$6 trillions of today's valuations for the years immediately ahead. This newly created Federal long-term credit, must be used both to raise the level and quality of employment of the labor-force.

In this way, by these measures, we shall raise the level of real income of the nation and states above the level of break-even, and create an even vaster amount of new long-term capital investment in both new economic infrastructure and new technologies.

However, under the presently disastrous world financial situation, even that kind of recovery effort

would fail, unless the world's presently bankrupt, floating-exchange-rate monetary-financial system, were replaced by a return to that model of the fixed-exchange-rate system which was launched at the original, war-time Bretton Woods conference. This new, Bretton-Woods form of fixed-exchange-rate system, must include a long-term commitment to continuation of such policies, over a span of two coming generations, under basic long-term-credit terms of between 1 and 2% simple-interest rates.

Most crucial of all the changes needed, if the U.S. economy is to survive the presently onrushing catastrophe, is a deep-going, sweeping change in the way of thinking, away from the trends of the recent forty years, back to that world-outlook expressed by President Franklin Roosevelt, upon which the U.S. recovery had depended for recovery from the effects of the Coolidge and Hoover administrations' follies. Our survival as a nation will now depend upon the willingness of the majority of our people, and our institutions of government, to reverse the trend into the predominant, so-called "post-industrial" ideologies of the "Baby Boomer" and "Generation X" generations of the U.S.A., Canada, and western Europe today. We must turn away from those foolish ideologies which have brought us to ruin today, and turn back to what had been the traditional, successful policies of the Roosevelt-led recovery from the last great, world-wide depression.

This investment by initiative of governments, which I have continued to propose, must be typified, largely, in such categories of U.S. investment in basic economic infrastructure as a.) generation and distribution of power; b.) large-scale water management, and related "environmental" programs; c.) mass transport, chiefly rail, maglev, and new air-ground transport systems; d.) health-care facilities and related systems; e.) educational systems installations; f.) a space-oriented science-driver program; and g.) reformed modes of urban infrastructure. Like the TVA project under President Franklin Roosevelt, these investments will be associated with investment cycles of initial financial maturities of from a quarter to half a century.

These categories of long-term investment in basic economic infrastructure, will be used as the principal new stimulant for expansion and technological upgrading of expanded employment within private entrepreneurships.

The question implicitly posed is, therefore: what might be the foreseeable likelihood, that the new issues

of financial capital investment might be diverted largely into wasteful financial speculation, diverted into waste like that we have seen under the Presidents we have enjoyed during the preceding three-and-a-half decades? We must not send new capital down the same economic toilet-bowl into which vast amounts of previously invested financial capital has been dumped by our economy under those misguided administrations.

Therefore, we must pose the following question bearing on needed changes in policies respecting tariffs and trade.

On what premises might we honestly assure both government and private investors, that the financing of economic recovery during the relatively short-term, will not be diverted from the purpose stipulated above, into a long-term, bottomless rabbit-hole of "free trade," like that into which we have been sent, by the policy-making of government and others, during the recent four decades: four decades of shift of U.S. national policy, away from having been the world's greatest producer nation, into becoming today's intrinsically bankrupt, parasitical nation of "bread and circuses" life-style pursuits?<sup>1</sup>

For discussion of that subject, we must situate the arguments within the context of implementation of the "New Bretton Woods" system of fixed exchange-rates, a system which must supersede the world's presently, hopelessly bankrupt, floating-exchange-rate, monetary-financial system. Our subject here is, therefore, as I shall explain, the, unfortunately little understood, crucial roles of medium- to long-term sets of relatively fixed standards of tariffs and trade agreements within the process of a general recovery of the U.S.A.'s—and the world's—present economy.

To situate that discussion itself, I shall take into account the following general problem of mental life, which is prevalent among both leading figures and ordinary citizens, in our nation and elsewhere, today. I

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1. Secretary of Defense Robert Strange McNamara's Indo-China war was an expression of the utopian military-economic doctrine first launched, as the war-time strategic bombing of mass civilian targets, under Prime Minister Winston Churchill, and as the firestorming of Tokyo and nuclear bombing of such targets by President Harry S Truman. This utopian doctrine was revived, by McNamara and others, in the aftermath of anti-utopian President Dwight Eisenhower's completion of his two terms in office. The assassination of President John F. Kennedy, enabled McNamara and others to reverse Kennedy's policy for withdrawing from Indo-China. That revived, mid-1960s war policy was the context in which the utopian economic policies leading into 1971-72 were set into motion during the closing weeks of 1964.

launch that discussion with the following general observation, to which I shall return, to examine in some much-needed depth, at a later point in this present report.

### **The Root of the Problem**

The important remedies for this crisis, include a return to U.S. principles of tariffs and trade policies which were the prevalent doctrines of our republic's founders, policies which stood us in good stead when we returned to them repeatedly, as under President Franklin Roosevelt. Today, those policies, which are among the essential elements of any workable economic recovery from the presently onrushing collapse, are rather fiercely resisted. Were that resistance to prevail, our republic might not survive the coming several years of crisis in a recognizable form. This resistance, is as grave a threat to our republic's continued existence, as any other. Therefore, the roots of that resistance must be identified, if the republic is to be saved from the dangers menacing it today.

The leading political problem, which most leading political figures of our republic are most reluctant to address, is the popularity of axiomatic-like notions such as "free trade." Although, as the ruinous effects of NAFTA [North American Free Trade Agreement] show, "free trade" is a principal cause of the ruin of our economy today, it is an issue which few political figures have the courage to address in an efficient way. "Free trade" has become deeply embedded in the most popular of the relevant academic and kindred sophistries of our time. Policy-shapers therefore prefer to seek remedies which do not offend that disease of contemporary sophistry, lest they go against the current majority of popular opinion.

Thus, as long as citizens demand simple, populist slogans as the basis for choices of policies, our republic were doomed. Unless the majority of our people can be taught to abandon that sophistry which is the popular opinion in favor of continuing "free trade" and related policies, this republic would not now long survive. Therefore, all simplistic arguments bearing on policies of tariffs and trade, pro and con, must be tossed aside. Sophistry must be replaced by reason, however unpopular reason might appear to be these days.

In respect to my own personal role in these matters, the warnings and policies I have presented during nearly a half century have been affirmed by history to date. During more than three of those decades, since

1971-72, my arguments have been circulated widely, among leading national and international circles. Over the latter period, it must be said that my views have been proven correct, and those who opposed them wrong. When people in high positions refuse to learn proven relevant lessons of this importance, the ideology responsible for their stubbornness must be examined with the intent to uproot those sophisticated opinions which have prevented those now richly validated remedies for our present crisis which have been postponed for so long.

Also, considering my position as, with Senator John Kerry, among the most likely surviving of the present candidates for the 2004 Democratic Presidential nomination, I have a corresponding, special form and degree of responsibility for publishing an account of the scientific and related premises of my policy-shaping. Whether all citizens fully understand the principles of my exemplary accomplishments in the field of economics, they have a right to have access to a careful account of the principles I employ in addressing the crucial policy-issues confronting our republic during the coming four to eight years. I take that responsibility into account here, accordingly.

We must therefore address the underpinnings of the issue of policies respecting tariffs and trade regulations. We must expose, and uproot the popularized sophistries which have sent our republic down so deep, for so many decades. We must poke into the minds of those who have adopted the relevant sophistries, as I act to educate what must become the leading policy-shapers associated with the next President of the U.S.A.

With rare, and precious exceptions, today's now-dominant generation of university-qualified economists and general public, alike, are pathetically ignorant of even the most elementary of the long-term physical principles of successful political economy. Under the present circumstances, of onrushing general collapse of the present, floating-exchange-rate, world monetary-financial system, that prevalent ignorance among even professionals, now represents a severe threat, a source of mortal danger to the continued existence of our own republic.

To quote from my recent remarks to a Mainz-Laubenheim (Germany) youth conference: in the matter of economics, today's typical U.S. citizen, whether of high or low academic ranking, is like one of a swarm of captive fish in a goldfish bowl, a bowl which, itself, is being carried, presently, toward the financial-cultural

toilet where the contents of the fishbowl might be dumped.

The bowl which imprisons those captives so, is a delusion concerning the nature of both economy in general, and money in particular. That citizen is a victim of belief in a set of axiom-like assumptions which are false to reality, such as the dogma known as “free trade,” a dogma in which he believes more or less devoutly. His beliefs are bounded by a set of such axiomatic, or axiom-like assumptions, which prompt him, or her, to deny any actuality which exists outside the bounds of consistency with his delusory assumptions.<sup>2</sup>

The trouble is, that the typical citizen views the opinions he, or she, derives from such axiom-like assumptions, as “practical.” He, or she, therefore considers opinions contrary to those assumptions as “impractical,” “only theoretical,” or, perhaps what the sick-minded existentialist of today derides as “conspiracy theories.”

So, the unwitting citizen’s mind is imprisoned within a goldfish-bowl-like wall, in which that mind swims, as if refusing to accept the notion that anything really exists outside that wall, or, even the existence of that wall itself. Such a citizen, within his bowl of self-delusion, becomes, thus, comparable to the legendary lemming, running over the edge of the cliff to the rocks below, for the sake of “party unity,” because he rejects the notion that it were socially unacceptable to act differently. However, usually, the man in the bowl does not actually run over the cliffs; rather, he lets his bowl of delusion carry him to his doom as if spontaneously. So, the world’s most productive economy of 1963, has been transformed, over forty intervening years, into the disaster which acquired habit has produced for today.

2. The typical member of the middle-income family of today, has become so obsessed with the idea of income from personal “financial portfolios,” that he, or she tends to associate the notion of national economy with the actual or merely imagined yields which might be found on that grandest of all gambling casinos, known as “the financial markets.” The popularity of legalized gambling among state governments, is a symptom of the widespread influence of this mental disease of “the magic of the marketplace.” “What is happening on the markets?!” is the midday war-cry even among an astonishingly large ration of members of the U.S. Congress during deliberation on some important issue, such as U.S. national security! This is clearly comparable to the mass-insanity of the Eighteenth-Century John Law and South Sea Island bubbles which pauperized so many in France and England, or by Martin van Buren’s Land Bank swindle of the period of the Andrew Jackson administration. Few of the Baby Boomers in those brackets can be fairly described as inhabited by their “right minds” where matters of income and life-style are considered.



### Chairman Greenspan remains in control

EIRNS/Claudio Celani

*Fed Chairman Alan Greenspan’s “goldfish bowl” of economic-policy axioms shuts out the real world of the physical economy, which is being destroyed. The mental health problem strategically crucial to today’s ongoing economic collapse, is that the citizen’s “whole world” of economic thinking, is bounded by the goldfish bowl of free-trade axioms.*

I shall return to that strategically crucial problem of the mental health of the U.S. today, at a later point in this report, after I have lain the basis for that discussion, by, first, now, identifying the way in which a “free trade” system, such as the present “floating-exchange-rate” monetary-financial system, destroys an economy by destroying those modes of capital investment on which continued prosperity depends.

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## 1. The Notion of Capital

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Forget what most among us today had been taught to believe that they knew about economics. Ignore what today’s usual university-trained economist attempts to teach you about economics, even in face of the evidence that those teachings have led our nation into present conditions of virtual U.S. national bankruptcy. Instead of accepting such popularized delusions, think as a scientist should.

From the standpoint of any competent form of elementary business management practice, the notion of capital is associated with “stored up” costs of production. Two directly opposite notions of such capital, physical versus financial, exist. In today’s widespread, disoriented state of mind, which has become commonplace among most economists, accountants, and the general public, it is assumed that capital is essentially of the form of financial holdings (which are, after all,

only “paper,” rather than being measured primarily, ontologically, in real, which is to say, physical, terms).

Real, physical capital includes improvements, such as those in basic economic infrastructure, which are a form of physical, rather than often delusory, fictitious notions of financial capital which are still widely popularized today. Otherwise, apart from such accounting fantasies as those, we may agree with that practice of most accounting which defines “current” as what might show up on the balance-sheet and profit-or-loss statements at the close of a fiscal year. Using a one-year cycle as a standard for comparisons, just as we use the same measure, the cycle of the Solar (or, Sidereal) year, as the comparative standard for astronomy, we have, then, the following relevant distinctions for our discussion here.

We must make the approximate distinctions among: short-term capital (that invested in the interval, often less than a year, between the start of production of a product and its purchase for consumption); medium-term capital (involving a cycle of investment, production, and consumption contained within a few years; and, long-term capital (such as machinery, plant, and equipment) whose life-cycle of investment may be as long as one to two generations (a quarter- to a half-century).

In all competent discussion of the role of capital in an economy, we start with the notion of physical capital, and compare cycles of growth and depletion, and trends so defined. We must contrast the actual, physical capital invested, to the money-value used for financial and cost accounting for those physical investments. This confronts us with the challenge of regulating financial values of capital to conform to the functional, rather than object-by-object notion of comparative financial valuation attached to physical values. The regulation of financial and monetary behavior, for the purpose of controlling the wild-eyed follies inhering in the irrational behavior often induced by blind religious faith in money, is the means, by which, despite delusions about money, we are enabled to foster a sane effect in the real, physical economy. This role of sanity



USWA website

*“This role of sanity by government, is what is known as protectionism.” But the unions and workers who demonstrated for steel tariffs in 2002 did not understand that the purpose of protection must be to develop investment in the productive technological power of the domestic economy, not just to substitute for imports.*

by government, is what is known as “protectionism.”

Two contrasted, but each valid ideas associated with the notion of a physical value of physical capital, must be compared:

First, we must replace the physical capital which is being used up. Second, we must take into account the additional effects of technological attrition. We must not merely replace worn-out capital; we must introduce the new, more advanced technology needed to overcome the backwardness caused by lack of technological improvements.

That pair of considerations obliges us to introduce the notion of physical-economic values as such, in the following way.

### **Gauss, Riemann, and Economy**

On the subject of an economic science, as in the case of any branch of science, there is always a single, underlying, universal principle which properly defines the subject-matter. Without adherence to a valid such principle, there is no science, but no more than a sophist’s mere opinion, as the latter fault is typical of the customary textbooks and classroom instruction on economics today.

As a matter of physical-scientific principle, the known basis for a science of economy is, as I shall indicate here, at least as ancient as the adult lifetimes of Athens’ Solon and Plato; but, the existence of a true economy is a creation of modern European history,

which dates from its beginning in the founding of the first modern nation-states, Louis XI's France and Henry VII's England, during the late Fifteenth Century.

The underlying, fundamental principle of a science of economy, from whose application modern economy is derived, is the notion of "powers" (ancient Greek: *dynamis*) which Plato adopted, chiefly, from the work of the Pythagoreans. All of the important varieties of incompetent modern doctrines of political-economy, such as the empiricism of Locke, Mandeville, Quesnay, Adam Smith, and Jeremy Bentham, take the root of their intrinsic incompetence in either simply evading, or flatly denying the existence of the principle of "powers," as Euler and Lagrange, et al., have denied the actual existence of those *Leibnizian* universal physical principles which are higher in authority over the universe than any mere financial or other arithmetic.<sup>3</sup>

The presently onrushing collapse of the world's floating-exchange-rate monetary-financial system, is an example of the outcome of the most extreme kind of general incompetence in thinking about economics, as by most among the generation of those currently leading political and academic figures, who are typical victims of the "Baby Boomer" generation, who are currently either in their fifties, or entering their sixties. Recognition of that systemic incompetence, is key, as I shall show later in this report, for understanding the follies of much currently prevalent academic opinion on the subject of tariffs and trade.

What reductionists such as Leonhard Euler, Thomas Huxley, and Frederick Engels, or the far more radical reductionists Ernst Mach, Bertrand Russell, Norbert Wiener, and John von Neumann, never wished to understand, is that the human individual is neither a higher ape nor a form of non-life, such as a mere machine. That observation is the essential point of the argument to be made against the reductionists, the argument which Carl F. Gauss made against Euler, Lagrange, et al., in his 1799 **The Fundamental Theorem of Algebra**.

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3. Carl F. Gauss, **The Fundamental Theorem of Algebra** (1799), in **Carl Friedrich Gauss Werke**, Vol. III (Hildesheim, Germany: Georg Olms Verlag, 1981). The reference is to Leibniz's discovery of the fundamental principle of the perfectly infinitesimal calculus, the principle of universal physical least action. Leibniz's treatment of the implications of the catenary, as expressing a physical, rather than Cartesian geometry of space-time, is the underlying characteristic of the complex domain as conceived prior to the impact of the work of Gauss, Abel, and Riemann's attention to the implications of that work.

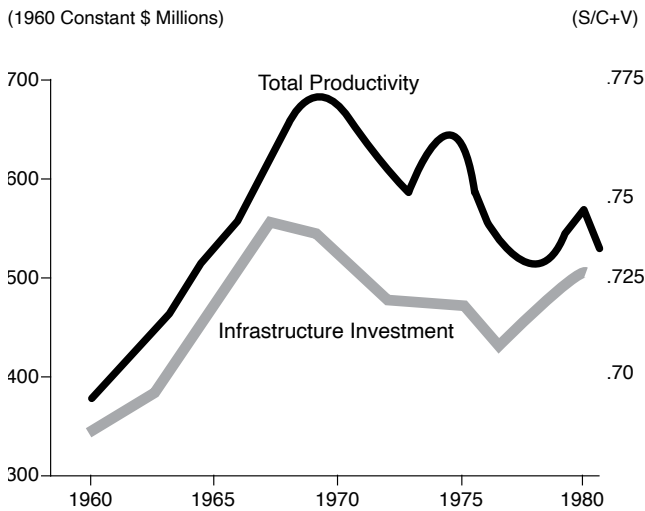
**bra**. There, he exposed the foolish blunders of Euler and Lagrange, on the particular subject of mathematical physics. The "complex domain" of mathematics, which Euler, Lagrange, and other empiricists had rejected, reflects man's knowledge of those experimentally provable fundamental physical principles which are not perceived *directly* through the senses. Contrary to Euler and Lagrange, Johannes Kepler's uniquely original discovery of universal gravitation is typical of principles knowable for mankind, which can not be known as objects directly through mere sense-perception.<sup>4</sup>

As I shall emphasize repeatedly here, and elsewhere—respecting the case of the "goldfish bowl"—in the course of this report, Gauss' 1799 argument against Euler, Lagrange, and the reductionists generally, reflects his recognition of the importance of an anti-Eu-

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4. The Twentieth-Century doctrine, that the human mind represents nothing more than a mechanical process, owes its current popularity chiefly to such devotees of the cult of Bertrand Russell's **Principia Mathematica** as the Orwellian utopians Professor Norbert Wiener and John von Neumann. Notable are the Massachusetts Institute of Technology's "Elmer Gantrys" of the cult of "artificial intelligence," Professors Marvin Minsky and Karl Korsch follower Noam Chomsky. Korsch, a leading Communist of the 1920s, was, together with Rudolf Carnap, a founder of that school of linguistics, and mentor of the Soviet Union's Josef Stalin in the latter's publication on the subject of linguistics. In 1938, Russell convened a meeting of his "Unification of the Sciences" project, which had been co-sponsored by Chicago University's Robert M. Hutchins, at the site of the University of Pennsylvania. Participating were founders of the linguistics cult, Korsch and Carnap. One among the numerous notable outcomes of that meeting was the development of a school of linguistics, headed by Noam Chomsky's sponsor, Professor Zellig Harris, at that university. Later, as an offshoot of the 1938 conference, the Josiah Macy, Jr. Foundation's so-called "Cybernetics" project, the RLE, was set up at MIT, with Norbert Wiener the totemic figure, Chomsky and Minsky in residence, and former super-Communist Karl Korsch hovering like a familiar witch from a nearby location. However, the leading figure popularly featured in today's accounts of the actual development of the cult-worship of "artificial intelligence," has been John von Neumann, whose posthumously published **The Computer and the Brain** has been the principal reference for the spread of the relevant lunacy among the "science-affliction" and IT cult circles of today. The common feature of the problem, as from Euler through "neo-Cartesian" Chomsky, has been the radically reductionist conceit that all knowledge can be generated from the kernel of Lagrange's defense of Euler's misconception known as that doctrine of the alleged falsity of "imaginary numbers," an empiricists' dogma which Gauss demolished in his revolutionary, 31-page, 1799 statement of **The Fundamental Theorem of Algebra**. After Gauss, as buttressed by the work of such followers as Lejeune Dirichlet and Bernhard Riemann, and after the relevant discoveries of V.I. Vernadsky, the mathematical proof that the human mind represents a phase-space which is both above the abiotic domain of computers, and also above the biotic domain generally, must be considered as fully established among competent scientists.

FIGURE 1  
**U.S. Infrastructure Investment and Productivity, 1960-80**



Source: *EIR*.

clidean (also known as ante-Euclidean) physical geometry, as distinct from what is fairly described as merely a non-Euclidean geometry (e.g., those of Lobatchevsky and Bolyai).

No lower form of life, including the higher apes, let alone a mere digital computing device, is capable of discovering, and knowing a physical principle. This unique quality of the human species, sometimes called “Promethean” or “the Sublime,” defines the meaning of “spiritual” for physical science, including the science of physical economy. This is the empirically knowable, “Promethean,” or “Sublime” quality of the human social individual, on which is premised the notion of man and woman as made equally in the likeness of the Creator of the universe.

Therefore, this rigorously scientific notion of that special, immortal, spiritual nature of man, as distinct from lower forms of life, is the basis for what is known to competent theologians and historians as “natural law.” The principles of sovereignty, the general welfare (e.g., common good), and posterity, which are set forth, in the Preamble, as the fundamental principles of the U.S. Federal Constitution, are expressions typical of such natural law. All sound political-economy, and related statecraft, such as what Treasury Secretary Alexander Hamilton described as “The American System of political-economy,” is derived from the application of that body of natural law, as I summarize here those rel-

evant crucial aspects of that matter bearing on the issues of regulation of tariffs and trade.

The discovery which Gauss presented in that 1799 paper, reflects those foundations of pre-Euclidean Greek mathematics, called “spherics,” which Thales, Pythagoras, Plato, et al., obtained from under the shadow of those remarkable astronomical instruments known as the Great Pyramids of ancient Egypt.

The relevant argument respecting economic science proceeds from that point, as follows.

Every experimentally validated universal physical principle corresponds to the discovery of some stubborn anomaly within the domain of sense-perceptual experience. Such anomalies reflect the fact, that the human individual’s sense-perceptual apparatus is a part of the mortal organism of the living individual. Therefore, our sense-perceptions are the footprint, not the foot itself, of the passage of the real universe, upon our biological sense-apparatus. The challenge to the human mind is to discover the principle which has generated the footprint.<sup>5</sup> Gauss’ notion of the complex domain, as presented in opposition to reductionist fanatics such as Euler, Lagrange, et al., defines an approach to mathematical physics by means of which we are able to show a functional correlation between the sensed part of experimental experience and the unseen, but discovered principle, which controls the casting of the relevant shadow, the footprint.

Kepler’s uniquely original, finely detailed discovery (1609) of such a principle of universal gravitation, is an historic example of this.

My own original discoveries of 1948-1953, within the context of Leibniz’s original (1671-1716) discoveries in the science of physical economy, were initially developed by my viewing technological progress as the outcome of those discoveries of universal principle which are situated within the domain of that notion of irony which is defined otherwise, but to the same effect, according to the principles of Classical artistic composition.

In other words, I rejected the contemporary, popu-

5. I.e., the *Geistesmasse* of Herbart and Riemann. Cf. **Bernard Riemann’s *Gesammelte Mathematische Werke***, H. Weber, ed. (New York: Dover Publications reprint edition, 1953); “*Zur Psychologie und Metaphysik*,” “*Erkenntnistheoretische*,” and “*Naturphilosophie*,” pp. 509-538. The concept of the notion of a universal physical principle as an object of supra-sensual knowledge (*Geistesmasse*), rather than merely a formal reductionist-mathematical generalization, is the underlying, applicable crux of Riemann’s method, as applicable to a science of physical economy. Compare Riemann’s notion of *Geistesmasse* to his references to a “Dirichlet’s Principle.”



larized division of academic knowledge into what British author C.P. Snow identified as a division between “two cultures,” physical science versus the arts.<sup>6</sup> I recognized a Classical form of irony (e.g., metaphor most emphatically), if it were truly Classical irony, as the complement to the paradoxes which promote the birth of discovered physical principles. Physical science, as usually viewed, pertains to the implicitly direct relationship of the cognitive powers of the sovereign individual mind to the physical universe. Classical art, especially Classical artistic irony, references the same kind of individual cognitive powers, but for the case that the immediate subject is the social process, rather than the individual’s ostensibly simpler, presumably direct relationship to the physical domain.<sup>7</sup>

I recognized, in a way re-enforced by my subsequent study of Riemann’s argument, that it is in the social dimension of cognition, that the individual forms those ideas for practice which are valid universal principles of physical science.<sup>8</sup> Hence, the relative uniqueness of my discovery on this point.

In the effort to give my own discoveries the “legs” needed for day-to-day, mathematical or quasi-mathematical practice, I revised my preceding discoveries, in 1953, in accord with Riemann’s 1854 habilitation dissertation.

Hence, the application of Riemann’s discoveries to my own original discovery: the so-called LaRouche-Riemann method. This method has proven itself to be not only the best tool for long-range economic forecasting, but virtually the only known competent, and only consistently successful such tool during the period of about four decades. The “goldfish bowl” pedagogical, treated within this present report, will illustrate the crucial point about my method of long-range forecasting.

Riemann’s discoveries, most notably his 1854 habilitation dissertation and his treatment of Abelian functions, are the natural outgrowth of that general theory of curved surfaces which Gauss had developed from the seed of his attacks on Euler, Lagrange, et al., in his own, revolutionary, 1799 **The Fundamental Theorem of Algebra**.<sup>9</sup>

6. C.P. Snow, **Two Cultures and the Scientific Revolution** (London and New York: Cambridge University Press, 1959; 1993 reprint).

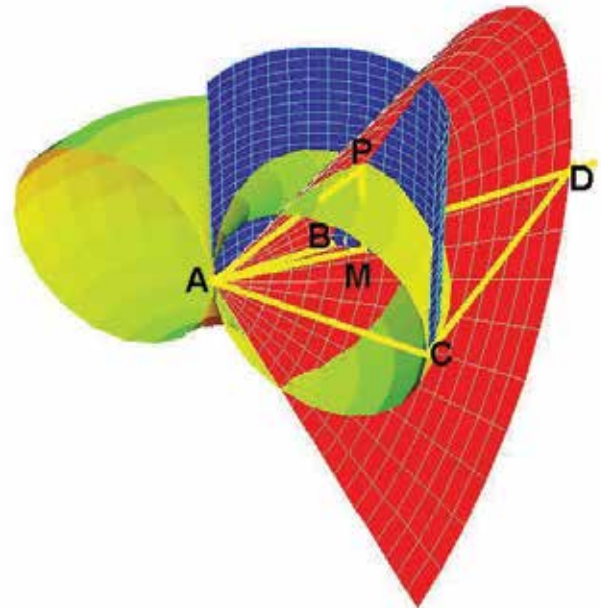
7. I.e., Riemann’s notion of *Geistesmasse*.

8. I.e., again, Riemann’s notion of *Geistesmasse*.

9. During the middle of the Eighteenth Century, Euler, then based at Berlin, joined with the scoundrel Maupertuis and others, in a rabid campaign against Leibniz’s principle of an infinitesimal calculus,

FIGURE 2

### Archytas’ Construction for Doubling the Volume of a Cube



*To double the volume of a given cube, one must find a length equal to what we call today the cube root of 2. Forget the calculator, can you construct it? Archytas, a contemporary and collaborator of Plato, was the first to show how. His solution requires the intersection of three surfaces. The solution is derived from the point P in the illustration, where the torus, cylinder, and cone intersect. Gauss’s construction in the 1799 “Fundamental Theorem of Algebra” paper also involves the intersection of three surfaces, and can be used to produce the doubled cube.*

I say again, that the significance of these discoveries was already known, implicitly, to such pre-Euclidean Greek astronomers as Pythagoras, and also to Plato. Gauss’ referenced 1799 paper refers explicitly to that ancient, pre-Euclidean connection to the geometrical methods of the Pythagoreans and Plato. The case of the doubling of an axiomatic line, square, or cube, is the simplest illustration of the point made by the pre-Euclideans of Plato’s time, and Gauss later. These three

against Leibniz’s discovery of a principle of universal physical least action. For as long as the great Moses Mendelssohn remained alive and active, the Berlin empiricist fanatics around Euler were cautious about attacking the great Platonist Mendelssohn and his friend, Abraham Kästner-sponsored Gotthold Lessing. When Euler left Berlin, leaving his pupil Lagrange in his place there, the emergence of Immanuel Kant’s doctrines became the form of Romanticist corruption which expressed the psychosexual impotence of both Euler and Kant (“I Can’t”) in the Romantic mode popularized during the Nineteenth Century.

elementary cases of paradoxical doublings, as amplified by the construction of the Platonic solids, already define ontologically what Gauss presents as the complex domain.

In each case, the solution to the paradox is a principle which is invisible to sense-perception, but which corresponds to a willful human action by means of which the solution is generated, as by the action of construction.<sup>10</sup> The most dramatic of these ancient solutions is, of course, Archytas' solution for the construction of the doubling of the cube, in which two successive mean actions are required. The typical modern example, is, I have already emphasized here, Kepler's uniquely original discovery of universal gravitation, as detailed, for example, in his 1609 **The New Astronomy**. Beyond the scope of Gauss' restatement of the three most elementary Pythagorean examples, is the construction of the Platonic solids, which serves Plato, as in his **Timaeus**, as demonstrating that physical space-time exists beyond the axiomatic bounds of a Euclidean (or, Cartesian) *aprioristic* geometry,

By such pre-Euclidean (e.g., pre-Aristotelean) geometries, we should intend what I have referenced above as what the Pythagoreans knew as "spherics."

### Physical Astronomy

Looking up to the night-time sky, we find ourselves, as observers, within what must seem to be a spheroidal physical space-time of unknown diameter. In these observations, we know only angular displacements. Among these observations, we may distinguish anomalous angular motions, apparent motions which are not consistent with a simply regular spherical action; the equinoctial cycle, for example, known to the ancients long before the earliest known sign of civilization of a pre-Dravidian language-group culture called Sumer.<sup>11</sup> What are discovered include what Egypt's Great Pyramids attest to be very, very long cycles, which are adduced from study of apparently anomalous patterns not consistent with the attempt to read simply continuous motion into regular patterns of directly sense-perceived angular displacement.

These invisible principles, which produce visible, experimentally proven expressions of universal cycles, or like anomalies, were known to the ancient Pythagoreans, and Plato, as "powers" (*dynamis*). Thus, to those ancient, pre-Euclidean Greeks and their relevant prede-

cessors, no *aprioristic* (i.e., so-called "self-evident") notions of definitions, axioms, and postulates are allowed in science. Only experimentally defined universal "powers" are permitted, in the place where reductionists have wrongly introduced arbitrary, fanciful definitions, axioms, and postulates.<sup>12</sup> Thus, Riemann's 1854 habilitation dissertation brings us, beyond Gauss, to a notion of a universe in which the only axiomatic characteristics of geometry are those powers which qualify as experimentally defined universal physical principles.

"Powers" so defined, are the absolutely exclusive basis in principle for any competent form of study of political economy. Such a political economy is, essentially, a science of physical economy. The relevant connections are, summarily, as follows.

Broadly stated, were man a species of higher ape, the human population would never have much exceeded several millions living individuals. Today, we have a reported total in excess of six billions. Animals, including apes, can not acquire powers beyond what is implicitly in their relatively fixed, "genetic" dispositions. Thus, we measure the effect of the relative viability of a culture by measuring its estimated *potential relative population-density*. The gains in potential relative population-density are delimited by the accumulation of those powers *currently employed* as the repertory of that society. This is the required approximate measurement of the relative productive powers of labor of a given, current national culture, for example. The rate of discovery of such powers, and the rate of realized application of those discoveries, indicates the potential of that society for growth, and for recovery from man-made or other catastrophes.

So, the competent modern form of a science of physical economy is broadly defined as Riemannian. In place of fanciful, aprioristic definitions, axioms, and postulates, we allow only the notion of powers, and of changes in geometry of practice effected through employment of newly discovered, relevant powers. Such is a generalized notion of a Riemann surface as applicable to the domain of practice of a science of physical economy.

Now, examine the practical implications of this for shaping policies of nations. Start with the distinction between basic economic infrastructure and entrepreneurial-local action.

10. Hence, the notion of a "constructive" or "physical" geometry.

11. Cf. Bal Gangadhar Tilak, **Orion** (1893).

12. Riemann, habilitation dissertation, *op. cit.*, pp. 272-273.

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## 2. Basic Economic Infrastructure

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The same levels of an individual's skill will have different outcomes in different environments. The productivity of the individual, or individual entrepreneurship, exists within an environment determined not only by the technology employed, but by the relative level of development of the infrastructure in which that individuality operates. On this account, the current, "cross-sectional" state of economic progress of society, is determined by two leading considerations. First, the development of what is called basic economic infrastructure. Second, the degree to which the population is developed, and employed for its relative cognitive potential, rather than as virtual beasts of repetitive, relatively simpler forms of ("cheap") labor.

Glance first at the second consideration.

What we know of the history of mankind, shows that until the revolutionary, Fifteenth-Century European Renaissance, the general, physical-economic characteristic of society, was a relatively smaller number of persons exploiting a larger number as virtual human cattle, either as wild cattle to be hunted down, or, as often enslaved, tamed, herded cattle, kept in flocks which are (usually) duly culled in a timely way. In fact, the latter were not less than human; they represented the individual's potential for discovery and employment of powers; however, in the main, their lives were regulated, by punitive and other measures, in such a way as to suppress the natural expression of the cognitive potential within them.<sup>13</sup> They

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13. For example, after the close of the U.S. Civil War, many among those who had opposed chattel slavery, earlier, turned against the cultural policies of such as Frederick Douglass (development of the highest known powers of the human mind, is freedom of the soul, through which the freedom of the body may be won). They proposed that the mass of freed slaves not be educated above the level of their expected condition of employment. That is an obvious extreme; however, it should point our attention to a general travesty practiced widely in the name of both secondary and also higher education today. Similarly, when it became obvious that the wave of scientific and cultural progress unleashed by Europe's Fifteenth-Century Renaissance could not be stopped entirely, Venice's leading factions (both the old Sixteenth-Century faction, associated with Francesco Zorzi, the marriage-counsellor of England's Henry VIII, and the so-called new faction of Venice, associated with Paolo Sarpi and his household lackey Galileo Galilei) resolved, to adapt to the unavoidable effects of the Renaissance, by adopting a certain stripped-down version of modern science (Venetian neo-Aristotelianism, neo-Ockhamite empiricism), but to ban forms of education which might be designed to foster knowledge of that prin-

were, thus, bestialized in that degree.

Modern European civilization was born during the Fifteenth-Century Renaissance. This liberation from the medieval feudalism of the Venetian bankers and their Norman allies, was the result of a combination of actions. Most important among the positive features of the situation, was the included return to the Classical Christian humanism of the Platonic Greek tradition, the tradition of Christian Apostles such as John and Paul, combined with the related birth of modern experimental physical science, as the latter was typified then by the initiatives of Brunelleschi, Nicholas of Cusa, and Leonardo da Vinci. This Renaissance produced the founding of the first nation-states, Louis XI's France and Henry VII's England, committed to the notion of a *commonwealth*. Under that new form of nation-state, the legitimacy of government was conditional upon its efficient service in promotion of the common good of all of the population and its posterity (*agapē*).

Thus, the Fifteenth-Century Renaissance's liberation of mankind from a "traditional" state, in which the majority of persons were treated as wild or herded human cattle, was the beginning of the modern form of sovereign nation-state, as typified, early, by the mission of Jeanne d'Arc, by Louis XI's France and Henry VII's and Sir Thomas More's England. The notion of natural law, that government were not morally legitimate, unless it were efficiently committed to the promotion of the general welfare of all of the people and their posterity (*agapē*), is the founding distinction of modern political-economy, as distinct from, and opposed to both the Norman-Venetian *ultramontane* model,<sup>14</sup> and the finan-

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ciple of Platonic hypothesis on which valid forms of scientific progress depend more or less absolutely. Friedrich Schiller has described such reductionist forms of education as producing "*Brotgelehrte*" (not educated above the level needed to qualify to earn their bread). Such latter is the approximation of education, and popular entertainment selected for slaves, which predominate in U.S. educational policy of practice today, especially since the impact of the post-1963 "cultural-paradigm" down-shift on policies of secondary and higher education today.

14. The use of the term "ultramontane" to identify the anti-nation-state policies of the Venetian financier oligarchy and its ally the Norman chivalry, takes its origin from the fraudulent assertion that the authority of the Pope was the imperial law-making power conferred by a so-called "Donation" of such authority over western Europe by the Byzantine Roman Emperor Constantine. The imperialism of the Habsburgs/Hapsburgs, of the Eighteenth/Nineteenth-Century Anglo-Dutch Liberal model of financier (i.e., India Company) interest, and contemporary "free trade" and other "globalization" dogmas, is a continuation of the Venetian financier oligarchy's commitment to an ultramontane doctrine.



EIRNS/Bonnie James

*Infrastructure is both science and art, both expressions of the Sublime in human existence—the means of increasing humanity’s general welfare and its power over nature. The highest expression of the breakthroughs of the European Renaissance is seen in the science underlying the construction of Brunelleschi’s dome for the cathedral of Florence, and in the United States in the 1787 federal Constitution, dedicating a nation, in perpetuity, to the general welfare of its citizens and their posterity.*



cier-interest-ruled Anglo-Dutch Liberals’ Eighteenth/Nineteenth-Century, pro-imperialist parliamentary model, a model also known in Eighteenth-Century Europe as “The Venetian Party.”

The crucial distinction of the U.S. 1776 Declaration of Independence, and the 1789 U.S. Federal Constitution’s doctrine of natural law, as expressed by the Preamble, is the distilled prototype of the genius of the modern sovereign nation-state, and of modern political-economy. The establishment of the U.S.A. as the first modern constitutional republic,<sup>15</sup> was a unique expression of that Renaissance heritage. President Franklin Roosevelt’s defense of the general welfare against predatory oligarchical usury, was a reaffirmation of that character of the U.S. as a republic of unique distinctions.

However, during the recent four decades, most of the adult population of the Americas and Europe which came into maturity following 1963, has been relatively bestialized by the transition of the U.S. from the world’s leading producer economy, into the “post-industrial” decadence of “bread and entertainment circuses,” a decadence echoing the tradition of ancient imperial Rome.

15. I.e., a form of society, a Presidential form of sovereign republic, freed of the form of the evils of both the neo-medieval Habsburg reign and the Venetian tradition of a financier-ruled, Eighteenth-Century Liberal model of parliamentary democracy.

Similarly, the introduction of the radically neo-Lockean dogma of “shareholder value,” as from the lips of the frankly fascistic U.S. Supreme Court Associate Justice Antonin Scalia,<sup>16</sup> is an implicitly treasonous attempted transformation of the U.S., juridically, from a true republic to a society based on the subjugation of the lower eighty percentiles of family-income brackets to that systemically brutish corruption known today as “popular culture.” The return, as by Scalia, from the principle of the general welfare, to the inherently predatory, neo-feudal doctrine of Lockean “shareholder value,” is a signal expression of that corruption.

For reasons which I shall show here, the notion of basic economic infrastructure must be derived from the approach expressed as the historically determined features of what our republic’s first Treasury Secretary, Alexander Hamilton described as “The American System of political-economy.” Hamilton expressed the U.S. republic’s scientifically grounded alternative to the academically popular, but pathetically failed, reductionist

16. What became known as “fascism” during the interval 1922-1945, was the outgrowth of the Romantic school of law, founded by Hegel and Savigny, who were enraptured to this effect by the model of the rise of Napoleon Bonaparte’s tyranny. Scalia’s doctrines of “text” and “shareholder value” combine that legacy, of Nazi Germany’s Crown jurist, Carl Schmitt, with the unreconstructed, Lockean doctrine of the Preamble of the Confederate States of America.

Anglo-Dutch Liberal parliamentary models of the British East India Company's Haileybury School. The latter are, notably, the "free trade" models which Karl Marx praised as "the only scientific political-economy" of his time of studies under his British intelligence controller Urquhart at the British Library.<sup>17</sup>

The true history of today's typical academic indoctrination in economics, shows that indoctrination has ill-served most of the world, as the generally accepted recipes for global catastrophes such as the world's presently collapsing, "floating-exchange-rate," monetary-financial system. Unfortunately, "Economics" as it is usually mistaught today, as that incompetence defended by most among the putative academic and other experts, is, as some say, "an altogether different kettle of fish," as you shall now see in my following series of summaries on the underlying principles of basic economic infrastructure.

### To Understand Our Hamlets

As Professors Minsky and Chomsky have shown, at MIT, it is possible to make a credible likeness of the behavior of an ape out of a man (even out of a pair of Professors), but to make a thinking man of out of an ape, is an impossible species-jump. The first law of infrastructure, which should be taught in every introduction to the subject of economics today, is that infrastructure is nothing less than the human species' indispensable management of what V.I. Vernadsky defined as the

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17. Urquhart, a veteran British foreign-intelligence officer, was assigned, under his rival, former Jeremy "Principles of Morals & Legislation" Bentham protégé Lord Palmerston, to be seated at the British Library, where he served the British Foreign Office as corresponding secretary of Palmerston's Giuseppe Mazzini-led "Young Europe" and "Young America." It was through this channel, that Mazzini "Young Europe" asset Karl Marx was assisted in his studies of political-economy, under Urquhart's personal guidance; and, it was Palmerston's asset Mazzini who personally, publicly appointed Marx as leader of the newly founded "First International." It is notable, for relevant contrast, that Marx's father, Heinrich, had been among the supporters for the cause of the American Revolution, and that young Marx himself had completed his secondary school studies at Trier, Germany, under the famous Classical humanist, and scholar of the Brothers of the Common Life, J.H. Wytenbach. Later, Marx had gone over, after his adolescence in Trier, to the opposite side, of Hegelian and post-Hegelian Romanticism, and fell under the influence of the Bentham-Palmerston-Mazzini operations of the British Foreign Office. All this being extremely salutary enlightenment for our putatively anti-Marxist, Adam Smith-loving right-wingers of today, as for today's typical, academically trained American and western European economists generally.

Biosphere.<sup>18</sup> Thus, the functional definition and analysis of infrastructure, is an expression of that quality of the human species which does not exist in any form of life except mankind. The difference that makes, is literally Earth-shaking, as I shall indicate in due course, at bit later, here below.

The concept involved in understanding that distinction, is older than Heraclitus' "nothing is permanent except change." By discovering the kind of added universal physical principles implicit in Gauss' 1799 attack on the fraud of Euler, Lagrange, et al., man becomes capable of distinguishing himself, practically, as a form of existence expressed by a principle of such quality of change. The fact that the universe not only tolerates, but obeys such progress by mankind, demonstrates, that this principle of change is a characteristic principle of the universe itself. That is the notion which underlies Plato's **Parmenides** dialogue, as it also does Heraclitus' famous aphorism. Man is the only known creature made in the image of the Creator of the universe, a universe which is not the fixed creation which the reductionists have assumed it to be, but a self-changing, self-developing universe, which develops in a way comparable to mankind's change, through applied fundamental scientific progress, in mastery of that universe.<sup>19</sup>

The immediately foregoing considerations, lead us to the conclusion that any scientific notion of the roots and characteristics of the functions of basic economic infrastructure, must be derived from the concept of a mission-oriented *predetermination* of long-term investment in certain kinds of choices of investment in infrastructure. This sense of mission is aptly illustrated, if negatively, by the famous case of Shakespeare's Hamlet. An understanding of the tragedy of Hamlet is a better choice of point of departure for discovering the principles of modern economy, contrary to all of the customary academic trash accumulated under the rubrics of Locke, Mandeville, Quesnay, Adam Smith, Jeremy Bentham, John von Neumann, et al.

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18. Lyndon H. LaRouche, Jr., **The Economics of the Noösphere** (Washington, D.C.: EIR News Service, 2001).

19. The reductionist, such as pathetic Immanuel Kant ("I Can't") is unable to solve the relevant ontological paradox. Contrary to the reductionist's hysterical delusion, God (the Creator) can change Himself, that according to a principle of change which is His essential form of knowable existence (e.g., as *Geistesmasse*). Cf. Philo ("Judaeus") of Alexandria on the relevant incompetence and false theology of the Aristotelean heritage of Philo's time. If the reductionist were not a gnostic, he would have recognized the nature of his error.

Accordingly, what I have just stated, summarily, has several crucial practical implications for the design of the much-needed economic-recovery policy. One of those implications is the subject of Shakespeare's **Hamlet**, notably the issue posed by Hamlet's Third Act soliloquy. It was the crucial issue of that kingdom of Denmark; it is the same crucial issue in making a choice of President of the U.S.A. under the conditions of existential crisis facing this planet now.

Hamlet, the killer swordsman, is not frightened by dying, but by what might come after his death. So, he dies as a pathetic fool, taking his kingdom to disaster with him, not for fear of death, but fear of immortality. Review that soliloquy, this time thinking of any typical selection of candidates by the Fowler side of the Democratic Party, the side of National Chairman Terry McAuliffe. See the tragic Hamlet in the faces and conduct of even the relatively best of those candidates. Remember that this play was composed by a true genius, William Shakespeare, a true student-follower of Sir Thomas More's inspiration, who thought like a great historian. What you hear from the lips of Shakespeare now, is no fanciful piece of mere entertainment, no concoction by the like of an Orson Welles, but a profound and true insight into one of the greatest principles of the known history of mankind.

To be? *Or, not to be?* That is the question:  
 Whether 'tis nobler in the mind to suffer  
 The slings and arrows of outrageous fortune,  
 Or, to take arms against a sea of troubles,  
 And, by opposing, end them? To die? *To sleep*  
*No more:* and by a *sleep* to say we end  
 The heart-ache, and the thousand natural shocks  
 That *flesh* is heir to? 'Tis a consummation,  
 Devoutly to be wished! To die: to sleep.  
*To sleep!* perchance *to dream?* Ay, there's the rub.  
 For in that sleep of death *what dreams may come,*  
 When we have shuffled off this mortal coil,  
*Must give us pause:* there's the respect  
 That makes calamity of *so long life.*  
 For who would bear the whips and scorns of time,  
 The oppressor's wrong, the proud man's contumely,  
 The pangs of despis'd love, the law's delay,  
 The insolence of office, and the spurns  
 That patient merit of the unworthy takes,  
 When he might his quietus make  
*With a bare bodkin!?* *Who* would fardels bear,

To grunt and sweat under a weary life,  
*But!* that the dread of something *after* death,  
 The undiscovered country, from whose bourn  
*No traveller returns:* Puzzles the will!  
 And makes us rather bear those ills we have  
 Than fly to others we know not of?  
*Thus,* conscience doth make cowards of us all;  
 And, *thus,* the native hue of resolution  
 Is sicklied o'er *with the pale cast of thought;*  
 And enterprises of great pith and moment,  
*With this regard,* their currents turn awry,  
 And *lose* the name of *action.*

These candidates, even the relatively best, or, also, the least worst among them, have thus, so far, *lost* the capacity for name of *action* respecting those matters which are of life-death importance for our nation, our civilization today. They condemn themselves to relive the tragedy of Hamlet, perhaps even throughout eternity.

Take another dramatic lesson, this time the case of Jeanne d'Arc. Our included advantage in this choice for our reflections, is the essential dramatic agreement between the thoroughly studied facts of the case, and Friedrich Schiller's insightful **Maid of Orleans**. The purpose here, is to emphasize the contrast between the tragic Hamlet and the Sublime Jeanne. She had a mission, which she refused to betray even at the price of being burned alive for that cause; a dedication which aroused France to the liberation which enthroned the first modern nation-state, that of Louis XI, and had also added a crucial impulse to the great Fifteenth-Century Renaissance's rebirth of the Papacy.

We all die. Life is a talent, like a penny to be spent; the trick is to spend it wisely, to spend it fruitfully for humanity. To be fruitful in the higher sense, is, as the Apostle Paul warns in his **I Corinthians** 13, not to pass a standard Texas schoolbook examination in the current President's textbook morality, but to act for love of mankind, to bring forth not that which was expected, but that unexpected which were needed. That is the *Sublime:* to go beyond the limits of the customary, to find a higher solution in the domain beyond the customary, or even the known. To be fruitful in that way, is to act as did the authors of the 1648 Treaty of Westphalia, in finding escape from more than a century of preceding religious warfare by putting first, not one's own desire, but something outside the reductionist's small-minded-

ness, *the advantage of the other*.

Therefore, the most pitiful thing, is to be the kind of leading figure in one's own nation, who, like Hamlet, evades the existential issues of one's time, as my rivals for the Presidency have done, by flight into the imagined safety of avoiding the challenge of the great issues on which the future of one's nation, or even more, depends. They ignore the crisis on whose outcome their nation's, and mankind's fate hangs. Instead of courage, they offer "My Plan is..." They do not call such behavior by them by its right name—a cowardly spirit of inaction—but, rather, they choose, slyly, a less abrasive term, the ring of which were better consolation for the conceits of sorry fools: "prudence," or, even worse, "temperance."

That is but a subsumed aspect of the issue on which we must focus at this juncture. Hamlet typifies the human being, the leader, who has failed. What is the remedy for such examples of tragedy? Look to the other side of the matter; what should be the normal behavior, the normal attitude of the moral individual? What is tragedy? It is failure to meet the challenge of the future; it is the failure to bring forth today, that which the small mind deems a "seemingly impractical" action, but an action on which the possibility of existence of an acceptable tomorrow depends.

Therefore, the most important characteristic of a healthy individual human personality, and the only alternative to tragedy, is a controlling sense of mission-orientation. The moral and related *natural* intellectual quality of the healthily developed individual, that which should be considered the normal, e.g., *sane*, human individual, is a commitment to bring about the discovery and beneficial use of principles of the same type of quality as Kepler's discovery of universal gravitation, or Leibniz's discovery of the principle of universal physical least action. The moral, and immortal function of the mortal human individual, is not to do what is expected, but to perform that unexpected action which contributes to pushing the universe a notch upward, at least by a nudge or two, of making the universe a notch newer and better than it was.

This quality of mission-orientation, looking always outside and beyond the habituated ways, expresses the essential nature of man, the distinction of man from the beasts. The individual who, under conditions of crisis, clings to what he or she considers the safe side—popularized habits, the "generally acceptable"—is not acting

as a person, but as yet another tragic Hamlet-like figure, a person whose motivating self-image has retreated from the divine quality of man, into the realm of the beasts who do, customarily, as their fathers and grandfathers have done dutifully before them. This is the essence of the higher realms of strategy in general; it is also the key to the needed crucial insights into the role of basic economic infrastructure. Take, for example, the investigation of this type of problem by the late Dr. Lawrence Kubie, a distinguished psychiatrist who had something of relevance to say on this matter.

The problem on which this aspect of Kubie's work was focused, was expressed by his aptly titled book: **The Neurotic Distortion of the Creative Process**,<sup>20</sup> as amplified by a later publication, "The Fostering of Scientific Creative Productivity."<sup>21</sup> It was my own studies of the possible causes for relatively successful and failed performances of employees of a large consulting firm, and similar other studies to the same effect, which led me to discovering Kubie's work, a work whose conclusion I found consistent with my own experience of this same problem. The problem which my studies encountered, and Kubie's, is widely characteristic of, among others, post-baccalaureate university professionals. The pattern is congruent with the Hamlet syndrome, and also some leading Presidential pre-candidates and similar cases today. The pattern, as experienced by me, and as described by Kubie, runs more or less as follows.

Given promising young intellects entering university science programs (for example), now as then, there is a tendency for them to lose their creative impulses as they approach the point of being awarded higher professional degrees, or settling into the early phases of their post-graduate career appointments. Like a well-trained old dog, they retain the skills they have acquired through their youthful conditioning in the academic kennels, but their ability to go beyond that has been sharply attenuated, as their efforts focus upon defending the actual, or imagined status they have acquired against the risk of "discovering something" which might prompt their actual, or imagined, ever-vengeful peers, to put their own presently secured career-track into jeopardy.

Hence, I have placed a particular form of impor-

20. (Lawrence: University of Kansas Press, 1958).

21. *Daedalus* (Spring 1962).

tance on young people between the age-interval of 18-25 years, when they are no longer adolescents, but are emotionally young adults, and have perhaps avoided, thus far, the decadence to which Kubie refers, a decadence which often sets in for life thereafter, somewhere between eighteen (or even earlier for the precociously sycophantic) and an age of not much later than thirty.

The more important class of victim of this pathetic syndrome, is the all-too-common tragic case of those gifted physical scientists, whose experimental work is brilliant, but who are terrified of presenting any result, however valid, which might bestir the wrath of the high Babylonian priesthood of generally accepted classroom mathematics. Such are the kinds of real-life cases considered in Kubie's reports in investigations of emotionally driven failures in the field of scientific progress. Mathematicians are, generally speaking, the worst in this respect; the productive experimental physicists have built-in qualities which are, relatively speaking, redeeming, that for much the same reasons which set Gauss apart from and above such formalist fanatics as Euler and Lagrange.

The frequently mistaken reading of such evidence, is expressed by the misguided, all too superficial diagnosis, that the subject person has "gone stagnant" intellectually, his creative powers seemingly aborted in the aftermath of some particular achievement. The problem is not merely that the individual has failed to make a new breakthrough. Science is not a series of steps; it is a continuing process of creativity, in the sense of Heraclitus' "nothing is permanent but change." It is a creativity properly nourished by each accomplishment, an accomplishment which itself moves the healthy mind onward and upward toward greater challenges than those he, or she has just conquered.

It is not "a change" which defines science; it is an ongoing, unbroken, growing, ever-strengthening process of constantly changing, a progress which continues to the last good years of an individual creative life. Scientific achievement is not a discovery; it is an unending process of further discoveries. The true scientist is not a discoverer of this or that; he, or she, embodies a process of ongoing, successive discoveries. It is not the act of discovery, that defines the scientist; it is the unending process of generating new discoveries.

So, contrary to the creative personality, the stultified

academic neurotic considers himself, or herself, at a certain point, like Hamlet, a perfected swordsman, a professional. That neurotic becomes for us, thus, as like a dead Egyptian soul, like poor Hamlet, admiring the image of his mummy. Some might, therefore, say of him: "Mummy-dominated." In contrast to that wretched outcome, the healthy mind locates his or her identity in being on a continuing mission of discoveries, continuing change of accumulation of principles. He or she has a mission-orientation in life. He does not merely have an adopted mission; *his or her life, his or her very existence, becomes an impassioned mission-orientation.* So, we have the contrast between the politician who fears risking his career, as Hamlet might; and, the rarer, needed political leader who rises to the challenge to become whatever society's progress requires him to put himself at risk to become.

The Hamlets of political life understand infrastructure after it has been developed. Morally, for them, life then ends as with a frightful, necrotic-like dream. They have not grasped the necessary further development of infrastructure as an urgent mission of change. Yet, for the sane human individual, life goes on, without end; the mission of the deceased lives on, in the fruitful achievements of the successors. It is that which lives on, in the simultaneity of eternity which must follow death, which is the only motive of the morally healthy mind. It is the quality of the Prometheus hated by the Zeus of Aeschylus' **Prometheus Bound**.

Take the case of Eratosthenes' measuring the circumference of the Earth, a measurement whose memory was to be reborn in the map which Cardinal Nicholas of Cusa's collaborator, Paolo dal Pozzo Toscanelli, crafted, and entrusted to the Christopher Columbus who re-discovered the lands across the Atlantic Ocean. Cusa was the founder of the modern conception of the sovereign nation-state (*Concordantia Catholica*) and modern experimental physical science (e.g., *De Docta Ignorantia*). Cusa, then a leading Cardinal, was the source of the policy of exploration of what he, and all competent scientists of that time knew to be the spheroidal-like planet Earth, across the Atlantic, and into the Indian Ocean, to come around behind the Ottoman Empire, and to ally with the peoples living at the opposite extremity of such voyages. Those who are wise and potent live in perpetuity, in that, from them, which enriches the work of those who have gone before them, and makes eternal the benefits





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cho-sexually inert, virtually already dead. That sense of deadness is what we feel when we are in the presence of persons who have been seemingly burned-out by what Kubie described as “the neurotic distortion of the creative process.”

### Vernadsky and Infrastructure

Since no later than ancient Greece, European civilization has known that the universe, as we know it, is composed of what modern science would term three distinct, but interacting universal phase-spaces. In that tradition, we speak of the *abiotic* (universal non-living processes), the *biotic* (living processes and their products), and the *noëtic* (the creative processes uniquely expressed by the Creator and human individuals).

The subject of the distinction and connection among these three phase-spaces, has been the pivotal feature of my intellectual life since approximately the age of 14, when I, in despair from knowing the lack of truthfulness in my own family, schools, and so forth, adopted the resort of taking up reading of the compared works of the leading English, French, and German philosophers of Europe’s Seventeenth and Eighteenth centuries.<sup>22</sup> It was during those years, that I chose Leibniz, over Hobbes, Descartes, Locke, and Kant. During the years immediately following World War II, it already seemed clear to me from my recognition of some of the deeper, intrinsic philosophical-scientific incompetence of philosophical reductionism, that life represented a

*“The true scientist is not a discoverer of this or that; he, or she, embodies a process of ongoing, successive discoveries.” Here, the late Dr. Robert Moon, veteran of U.S. fusion and fission research, at a Schiller Institute camp for youngsters in 1986. Dr. Moon’s collaboration with LaRouche prompted him to reopen his own earlier studies of the constructive geometry of Mendeleyev’s periodic table.*

which they give to future mankind.

In the development of great projects of basic economic infrastructure, we are launching works to be realized over an immediate future period of not less than one or two generations, and are thereby laying the foundation for a future benefit of mankind which lies many generations beyond that. It is that passion of individuals which is expressed as a mission-orientation in life, which generates great works of infrastructure, and thus makes possible the existence of a future mankind. Without that mission-orientation, decadence looms.

*Without that foresighted passion, what had become urgently needed for mankind, had been undertaken much too late for those deprived of existence of what had to have been built a generation or more before!*

This is not simply a passion for the general idea of doing some good. It is the active principle which makes possible the coming-into-existence of that good which is produced. A series of good deeds does not define a moral person; rather, it is a moral person, committed to creative innovation, and dedicated to love of mankind, which imparts the commitment to generate good results to others, and, also, to himself, or herself. Persons who lack that quality of mission-orientation are already psy-

22. This was governed by the combination of the contents of my family household’s library, including the Harvard Classics and similar reference-work collections and individual texts, and what I could supplement from a respectable assortment of relevant whole works which I was able to withdraw from the Lynn, Massachusetts public library, or study as reference works available in that library’s reading room. In later years, the Boston Public Library at Copley Square became, similarly, one of my favorite haunts. Where are such libraries, at home, or in the public domain, available to adolescents and young adults today?

different universal phase-space than the intrinsically non-living, and that those processes of discovery denied by Kant also defined a phase-space higher than biotic phase-space in general.

These notions assumed what might be described as a crystallized form in my 1948-1953 encounters with the work of the radical reductionists Norbert Wiener and John von Neumann, an encounter which impelled me to respond by seeking out, and making relevant discoveries, including some uniquely original ones, in the domain of a science of physical economy. In the course of this, I had my first, initially shadowy encounters with the work of Russia's V.I. Vernadsky; but, it was much later, during the post-1989 years, that I was able to examine his method for defining the Noösphere in a more precise way.<sup>23</sup> Broadly, the conceptions expressed in his 1938 paper, pointed out the way in which to approach the task of integrating the region of central and north Asia into the tasks of building a Eurasian infrastructure adequate for the long term (two and more generations duration, in this case), for the initial development of a great new social and economic potential for that Eurasian inner space, now coming within reach of mankind.<sup>24</sup> The rigor of Vernadsky's argument<sup>25</sup> also permitted me to state the case for infrastructure generally with qualitatively better precision than before. From that 1938 writing itself, the Vernadsky one meets there was a rigorously hard creative thinker of a type rarely encountered today, not one to brush away fleeting warnings on the presumption they were not socially acceptable facts in the academic commonplaces of his time.

There are two sets of pivotal implications of Vernadsky's work which are of crucial relevance for the specific policy of infrastructure-building which is required for the U.S. national, and world-wide situations presented, today, by the presently accelerating onrush of the rotten-ripe general collapse of the world's present, floating-exchange-rate, monetary-financial system. The first set, references the revolutionary significance of Vernadsky's 1938 summary of his case for understanding the economic significance of infrastructure.<sup>26</sup> The second focuses upon the unique quali-

ties of the human mind which must be more clearly defined for comprehending the way in which Vernadsky's contributions are to be focussed for world economic policy-making under today's global conditions.

The first set of implications is adduced, in first approximation, by comparing the long-term, planetary relationship between the biotic and abiotic phases of our planet's "history," as viewed from the standpoint of the special form of physical chemistry developed by Vernadsky: biogeochemistry. The study of the accumulation of fossils added from outside the abiotic functions of the planet, demonstrates the superior, long-term powers of life over the abiotic processes. Then, we compare the functional relationship of the cumulative impact of the sovereign noëtic powers of the individual human mind, upon the combined abiotic-biotic domain; the human mind's superior, noëtic powers are in the process of assimilating the planet under its control.

These accumulations reflect the increasing power of the biotic over the abiotic phase, and of the noëtic over both; these increases are correlated with the relative mass of the biotic and noëtic fossils. *This combination of growing accumulations of such fossils, and of the increased rate of action to the same effect, defines the appropriate functional notion of basic economic infrastructure.*

This role of the noëtic processes, so situated, and examined in the way those views of Vernadsky's work so implies, focuses our attention upon the implications of Carl Gauss' attack on the folly of Euler, Lagrange, et al., and implicitly also the intellectual sterility of I. Kant, in Gauss' 1799 **The Fundamental Theorem of Algebra**. By contrasting Gauss to the "Hamlets" of mathematics, such as Euler and Lagrange, we gain an intimation of the way in which the world must define the function of development of basic economic infrastructure for present crisis conditions.

Consider the following points in that light.

When we, as Vernadsky did, make an experimental distinction between the abiotic and biotic domains, as functionally defined phase-spaces, we mean that we can not derive living processes from the principles adduced for non-living processes as a category. This signifies, experimentally, that the action of living processes, not only produces those characteristics of living processes not found in the abiotic domain, but, also, that the principle of life can impose its "will," its

23. V.I. Vernadsky (1863-1945).

24. Cf. LaRouche, **The Economics of the Noösphere**, *op. cit.*

25. *Ibid.*

26. *Ibid.*

specific phase-spatial characteristics, on the non-living (abiotic) domain. The transformation of the composition of the planet Earth by the accumulation of fossils produced only by living processes, is superseded by the effects of willful (i.e., “voluntary”) human noëtic action.<sup>27</sup>

The phases of that described relationship between increase of mankind’s potential relative population-density and the role of the development of basic economic infrastructure, may be summarized as follows.

In the first approximation, mankind acts to improve the biosphere in itself. In this phase of the action, we ignore anything done by man which does not replicate what nature itself would have wished to have done, but was unable to accomplish without man’s assistance. Man thus seeks to discover how the Biosphere tends to produce itself, and we, discovering this, help the Biosphere to walk where it would fail, or limp along poorly without our intervention. So, it is said, “We make the deserts bloom,” treating the planet as a whole as the best traditions of agriculture worked to optimize the biosphere, rather than plunder it. Typically, we seek to increase the conversion of solar radiation into upgraded qualities and extent of biomass.

In that way, we make the planet more habitable, and able to support a higher quality and quantity of human

population, even in that relatively most obvious way. Did we not do that, mankind’s potential population, and quality of individual life would never have risen above the condition of a baboon. Those deranged ideologues who denounce man’s every intervention into “natural nature,” should inform us what they propose to do, by “Auschwitz” or kindred methods, with a present human population in the amount of more than six billions presently living persons, exceeding what were possible in a sub-human state of culture.

In the second approximation, we introduce “artificial” elements into the biosphere, such as mass transit (e.g., sailing ships), power generation, communication, sanitation and health care, housing, urban infrastructure, and so on. We must class these as basic economic infrastructure, because that is the way in which they function to support a generality of human life. By increasing the relative power (e.g., “energy flux-density”), in both quality of level and amount, we transform mankind’s relationship to the universe, as measurable in potential relative population-density. We increase man’s power to exist, per capita, in the universe, and to produce new qualities of effects in service of that intention.

At this same level of second approximation, we move masses of water, by what might be fairly understood as “artificial means,” from one part of the territory to another. We do the same in other respects.

Mass transit changes the environment (and the meaning of geography) as this bears on human activity as such. Mass communication is a kindred case. These changes in infrastructure bridge the relationship between the functions of the biosphere and human, noëtic-driven activity.

In the third approximation, we are dealing with maintaining a process of noëtic self-improvement of the characteristics of specifically human behavior. The introduction of that consideration into our discussion of infrastructure, obliges us to turn our attention now to the matter of the fact that a competent science of physical economy is characteristically Riemannian. This brings us to the role of the concept of *power*, as Plato, for example, defined *power* as a notion not to be confused with Aristotle’s notion of “energy.”

This returns our attention to the implications, for the definition of human nature, of Gauss’ 1799 **The Fundamental Theorem of Algebra**.

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27. From the standpoint of science, the most stunningly impressive lesson to be learned from the 1917-1991 experience of the Soviet Union, is the tragic role of the social-democratic “anti-voluntaristic” dogma which, ironically, Soviet founder V.I. Lenin violated in the extreme: by foreseeing that all of the social-democratic tradition, like all of the Liberal and other political currents opposing the Czarist rule, were self-foredoomed to fail in a manner and degree which is to be seen, retrospectively, as consistent with Kubie’s observations on “the neurotic distortion of the creative process.” Thus, in the domain of the Soviet science-driver programs driven by military and related kinds of existential-strategic imperatives, the anti-voluntarist dogmas of the social-democrats and Bolshevik bureaucracy were, in net effect, bypassed. In other aspects of the economy, where that mission-orientation was resisted, the Soviet literature from the 1954-1991 interval, documents a frightening persistence of neurotic (anti-voluntarist) disaster. We experience a parallel case in the post-Kennedy shift of U.S. policy into a “post-industrial” orientation. The accumulated, disastrous effects of the combination of “post-industrial” and radical “free trade” ideologies, especially the Mont Pelerin Society’s extreme right-wing “free trade” fanaticism, have had more radically deadly effects on the economies of the Americas and western Europe, since approximately 1971-72, than what “anti-voluntarist” currents did to wreck the Soviet economy. Thus, the situation of basic economic infrastructure in the U.S. today is, relatively, vastly worse than when Franklin Roosevelt entered office in March 1933.