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## II. Every Science Course You've Taken Was a Lie

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July 22, 2006

WHY THE SENATE'S INTELLIGENCE HAS FAILED

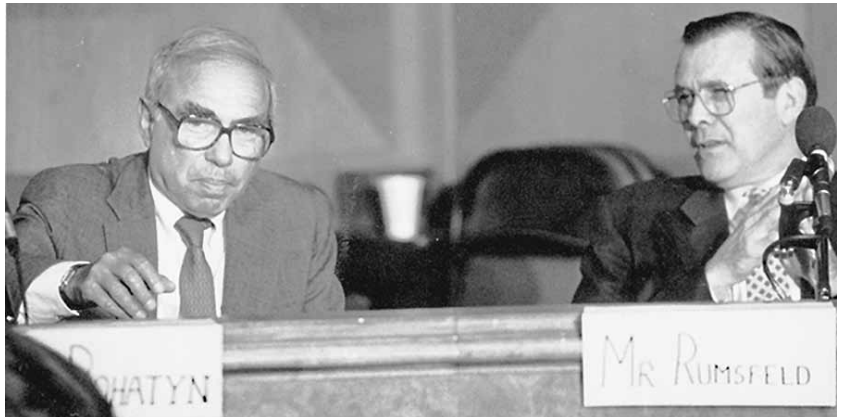
# Re-Animating an Actual Economy

by Lyndon H. LaRouche, Jr.

Many important conclusions must be reached on the basis of the U.S. Senate's wretchedly negligent, even, as some would say, implicitly treasonous expression of cultural decadence, in permitting the Synarchist banker Felix Rohatyn's virtual destruction of the U.S.A.'s national automobile industry, with its associated, strategically crucial machine-tool capacity. While the pattern of sophistry involved in this wicked result is a reflection of the typical cultural flaws of the privileged strata from the so-called "Golden Generation," the Senate's capitulation to a known fascist enemy, its abandonment of the most essential concept of national sovereignty, in favor of the fascist Felix Rohatyn, has gone beyond folly, to, in effect, virtual, if apparently unwitting—or, should I say "witless"—treason.

As I have repeatedly emphasized, publicly, over the years, the victory which President Abraham Lincoln had led, established us as a continental power which could not be conquered by invaders, but only by corruption. Now, that treasonous corruption has ensconced itself, full blown, in the role of the circles of fascist Felix Rohatyn.<sup>1</sup> The notion, on which Rohatyn insists, of subordi-

nating the former sovereignty of the U.S.A. and other nations, to the caprices of what all leading U.S. political figures should have known, by now, as Rohatyn's stated intention to establish a new global, imperial, Venetian-style financier oligarchy. Rohatyn's action is nothing less



EIRNS/Stuart Lewis

*Fascist Felix Rohatyn—shown here with co-thinker Donald Rumsfeld—is working to subordinate the sovereignty of the U.S.A. to a new global, imperial, Venetian-style financier oligarchy.*

than an act of betrayal of the sovereignty of the U.S.A.

That immoral form of intellectual performance on this account, in that chamber, was aggravated greatly by the February 2006 capitulation to the tradition of Nazi "Crown Jurist" Carl Schmitt, in the matter of the confirmation of Judge Samuel Alito. This same incompetence was carried to an extreme in the Senate's panicked endorsement of an utterly foolish Israeli attack on Lebanon, not only a potentially suicidal action by the current misleaders of Israel, but an attack which could be the

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which H.G. Wells' "Dr. Moreau," might have crafted from what had been originally a rat.

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1. It might be said of Rohatyn, that even his rat-like appearance is an expression of Satan's touch of irony, in Rohatyn's likeness to a creature

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**Editor's Note:** This is a reprint of Lyndon LaRouche's article, first published in *EIR* Vol. 33, No. 4, Aug. 4, 2006, pages 4-23.

“Balkan War-like” spark for the early emergence of world war, this time as a virtual World War III. This now threatens to become a new world war in a new, asymmetric mode, with implications even more menacing for future civilization than the two preceding instances.

As it should be correctly adduced from the coincidence of the Israeli invasion of Lebanon with the strategic mode of terrorist actions against India’s Mumbai, and also with the G-8 meeting, this action by Israel was not motivated by Israel itself, nor even by the relevant pack of criminal lunatics presently controlling the U.S. government. The force behind this mounting surge toward a new, third world war,

is the alliance of the Anglo-Dutch financier and French Synarchist interests, an alliance which is merely typified in a prominent way by the same French backers of 1922-1945 fascism in Europe, as this cabal is typified by Felix Rohatyn today. In that sense, *this current wave of global crisis does not come from any sovereign government in particular, but from a slime-mold-like, international financier cabal which has positioned itself currently in a global position higher than any government.*

In most of these referenced matters before the Senate, the body, in effect, took actions on the matter of the Southwest Asia region as a whole, which went beyond merely reckless disregard of the available counsel of certain qualified elements of official and private intelligence institutions of the U.S.A., including disregard of excellent senior ranks of our military professionals. Obviously, *it was the pressure of other considerations, including campaign contributions from right-wing financier and related international circles tied to George P. Shultz, Felix Rohatyn, et al., not the interests of the U.S.A., which dominated the relevant failed performances within an implicitly DLC-bought-and-paid-for majority of the Democratic members,<sup>2</sup> as well as similar funding of the moral culpability of most Republicans.*

As God punishes all great sins of folly, sooner or later, I can assure the errant Congressional Democrats in



*The “treasonous rape of the U.S. industrial economy” must be reversed, so that 21st-Century technologies, like this maglev train in Shanghai, China, can be developed.*

the case, that the contempt for what they have both done, and also failed to do, is already resonating among the ranks of the population, and will become thunderous between now and November. Leading Democrats should be reminded, that “confession may be good for the soul”; in any case, nothing less than acts of redemption would be of much value for their careers now—hopefully long before the election toward which they, like legendary lemmings, are currently marching, to a presently threatened humiliating defeat in November.

I have summarized that case during the now publicized proceedings of this preceding Thursday.<sup>3</sup> But, it is with that set of leading developments in view, that we must proceed to rescue this republic, and implicitly civilization, from the awful betrayal heaped on the U.S., a betrayal expressed most recently in the instances of the treasonous rape of the U.S. industrial economy, *to which the Senate has implicitly consented*, and the travesty of U.S. strategic and related diplomatic policy in Southwest Asia and beyond.

The crucial factor, which must be understood, as causing this moral degeneration which is to be seen in the indicated pathologies in the policies of a majority among the Democratic fraction of the U.S. Congress, is to be recognized in the clinically distinct “Baby Boomer” qualities of the modern Sophistry which permeates all of the leading factors in the Senate Demo-

2. DLC: Democratic Leadership Council, a controlling factor in the Democratic Party which functions as a representative of right-wing groups, including financier and other interests such as those behind the attempted 1999 impeachment of U.S. President Bill Clinton.

3. I.e., July 20, 2006 webcast, “Rohatyn as Satan,” *EIR*, June 20, 2006. [https://larouche.org/2006/webcasts/3330july\\_20\\_webcast.html](https://larouche.org/2006/webcasts/3330july_20_webcast.html).

crats' refusal, since Spring 2005, to block the Rohatyn-led, ongoing rape of the auto industry. We must therefore see the need to defend the nation against the implicitly treasonous policies of Felix Rohatyn, et al. in this light. This decadence within the Senate fraction, began, thus, slyly, as an avalanche does, during May 2005, and later accelerated to emerge in the form we have seen since mid-February of this present year.

The root of this manifest perversity in the ranks of the Congressional body, and more broadly in society, is clearly a pathological pattern of the virtually "brain-washed" condition of the generation of what we should recognize today as the upper twenty percentile of both family income-brackets in the fifty-to-sixty-five age-range, and also those social strata of the same generation which represent relatively lower income brackets, but which have come to share the ideological propensities of the 1968ers of Europe and the Americas. This decadence among those strata, can be best compared, clinically and historically, with the degeneracy of the "Baby Boomers" of Pericles' Athens, who led their own culture to self-destruction through a Peloponnesian War, a war-policy echoed, as the same disease echoes itself, by the policy which led into the presumed 2000 and 2004 elections of President George W. Bush, Jr., and the war policies, and related virtual treason of the period since the shock of September 11, 2001.

Thus, the foolish President George W. Bush, Jr.'s new war in a disintegrating Iraq, has become for our nation what the crimes against humanity, which Athens perpetrated against the people of Melos, meant for the so-called "Democratic Party of Athens." Thus, Pericles' Athens doomed itself with the same quality of degeneration into Sophistry which has been recently illustrated afresh within the U.S. Congress, the DLC-corrupted Democratic Party fraction in the Senate most emphatically.

Only when we recognize the Baby Boomer tendencies seen in the recent months' downshift in morality of the Democratic Party leadership, as a reflection of the disease of Baby-Boomerism traced to the satanic influ-

ences of such agencies of modern Sophistry as Sidney Hook's Congress for Cultural Freedom and the related American Family Foundation and Committee on the Present Danger, were it possible for us to save the nation as from any epidemic or pandemic disease. We must thus diagnose and treat the present cultural disease of certain leading institutions. We must employ understanding of the nature of the deep corruption which led to this, today's presently evident degeneration of the leading policy-directing stratum of our institutions.

On that account, the reading of the following matter, which is on the subject of the required method for forecasting the ultimate consequences of our continuing such follies, must be guided by careful study, especially among those who wish to be qualified to make the urgently needed, remedial corrections in current U.S. strategic outlook and policy.



William D. Nordhaus homepage

*William D. Nordhaus's paper on "Geography and Economics" contains some useful features, but fails to grasp the importance of Kepler's original discoveries of the planetary orbits for economic forecasting.*

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## 1. Why Most Forecasters Are Fakers

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In the course of my dealings with the implications of these Baby-Boomer atrocities, a copy of a technical paper, on economic matters, was recently forwarded to my attention.<sup>4</sup> In my response, here, to the kernel of the argument in that paper, I am obliged to emphasize a matter of principle which is also of crucial significance for understanding the most frequent, principled cause of failure of even some otherwise mature and skilled intelligence officers in matters of strategic intelligence. That exposition has direct bearing on the nature of the challenge represented by a series of implicitly mass-suicidal policy-actions by the majority in the U.S. Senate, as in other relevant locations. The treatment of that subject which I provide here, is of the highest importance for shaping our imperilled republic's policies today.

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4. William D. Nordhaus, "Geography and Macroeconomics: New Data and New Findings," Yale University, Dec. 2, 2005. <https://www.pnas.org/content/pnas/103/10/3510.full.pdf>. My thanks to the person who recently forwarded a copy of this report for my attention.

The William Nordhaus paper to which I have referred, was forwarded to me because it is focussed upon an area of economic research, which appeared to have some superficial similarities to my own longstanding program for use of computer animations as a tool of economic analysis. The material contained in the referenced paper which I criticize, is not useless; it has peripheral value, but lacks any insight into the essential characteristics of real-life macroeconomic functions as such, and therefore tends to mislead the author and readers of his report, leading attention away from identifying what should have been his adopted objectives.

This problem which I now address here on that account, treats a matter which is comparable to frequent errors in the practice of strategic intelligence, not only as in the miserably failed, recent performance of the U.S. Senate, but, even among what are otherwise respectable, valuable bodies of professional intelligence specialists.

Nonetheless, despite the fact that the author of that paper fails in his stated primary objective, it is in the urgent public interest that I diagnose the source of his difficulties on this point as follows:

My own original, principal discoveries in the field of Gottfried Leibniz's founding of a science of physical economy, were developed, chiefly, during the interval 1948-1953, in reaction against the terrible fraud at the base of Professor Norbert Wiener's stated notion of "information theory." Technically, Wiener's incompetent claims on that account echoed the same collection of failed Leibniz-hating mathematicians, including D'Alembert, de Moivre, Euler, and Lagrange, whom Carl F. Gauss had roundly refuted in his own 1799 doctoral dissertation. The outcome of Gauss's argument on this account, was the development of the essential principles of physical hypergeometries by Gauss's follower Bernhard Riemann, beginning Riemann's 1854 [habilitation dissertation](#).

As I have frequently reported over recent decades, during the late 1950s I attacked the then accumulated conceptual failures of Tjalling Koopmans, et al., by posing a method which I termed, on the basis of Riemann's argument, as "dynamic economic" conceptions, conceptions which I proposed might be applied to digital computer systems as a partial remedy for the follies inherent in the use of linear programming for economic analysis.<sup>5</sup> This adopted method has been inte-

gral, and key to my exceptionally successful work, over the interval 1958 to date, in the field of long-range economic forecasting.

A much needed, historically situated, model presentation of the relevant deep principle of physical science, is currently in preparation, and is intended to provide some much needed remedial education of professional economists, and others, in the presently indispensable, reformed approaches to analysis and programming of crucial matters of economy.<sup>6</sup>

Since those past times, my approach has been based on the evidence that *successful economic behavior of nations and societies generally, is defined by a universal physical principle, a principle specific to human cognition, which is intrinsic to the human individual and his species, but lacking in all lower forms of animal life*. For this reason, the customary attempt of economists and accountants, to treat economy as virtually a branch of animal ecology, as done by, in the worse case, the "post-industrial ideologues," is intrinsically professional incompetence.

For related reasons, all efforts to interpret long-term characteristics of national or world economy by the methods of statistical mechanics, converge on the extremes of quackery, as, for example, on the lunacy of both former Federal Reserve Chairman Alan Greenspan, and upon the mathematical schemes, of Myron Scholes, et al. Scholes was, largely, responsible for crafting the policy which caused the 1998 collapse of LTCM, and, therefore, was indirectly a contributing factor, in that manner and degree, for the, related, criminal disgrace which Enron inflicted, unjustly, upon its victims, and, justly, upon itself. In general, for such reasons, most of the economic forecasts recently uttered by the Federal government, or by private specialists, are either deliberately false, or simply utterly incompetent.

The needed approach to ending the prevalent incompetence of the most widely-publicized economic forecasts today, depends upon a view of the meaning of business cycles which is contrary to every axiomatic assumption those erring folk presently consider their own.

In light of the actual interdependency between economic policies and processes, on the one side, and long-

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dynamic economic modelling," by *Dynecom*.

6. This presentation, now in preparation, is a correct demonstration of Johannes Kepler's often misunderstood discovery of universal gravitation.

5. According to the style of those times, I identified my method of "dy-

term grand strategy of nations, on the other, incompetencies in methods of economic forecasting, are the foundation for blunders which may become even fatal for the nations which adopt them, as is the general case in the leading institutions of the U.S.A., and the nations of western and central Europe presently.

## Understanding Business Cycles

Since all competent modern *physical mathematics* is based on the pioneering achievements of Johannes Kepler, the argument to be made, in explanation of the intrinsic incompetence of statistical mechanics for economics, will employ the image of a planetary orbit, as defined by Kepler's uniquely original discoveries, to define a forecastable quality of true long-term cycles in an economy. That lesson, from Kepler, for economics today, is the best source of remedy for the failures intrinsic to the consistently failed methods which have been employed by economics statisticians generally during the recent decades.

So, for pedagogical purposes here, what are usually regarded as long-term business cycles, may be compared, broadly, with that scientific method for defining orbital cycles which was discovered by Kepler. On this account, we may compare intended and actual results of an economic process, over the long term, to the case of the difference between an estimated and an actual astronomical, orbital cycle.

To illustrate the point, consider the following.

On this account, the post-World War II economic cycle experienced by the U.S.A. has undergone three distinct phases of a cyclical type since the death of President Franklin Roosevelt, up to the present time.

First, 1945-1965, from the death of FDR through the beginning of the follies of the U.S. war in Indo-China.

Second, the transition period, 1965-1971, of preliminary wrecking of the Bretton Woods monetary system, chiefly by the 1964-1967 actions of the United Kingdom's first Harold Wilson government. This deliberate British sabotage of the functioning of the Bretton Woods system's conformity to the existing rules, coincides with the subsequent wrecking-role of the so-called "68ers," against that Bretton Woods system.

The third phase has proceeded with the wrecking of the economies of the Americas, Europe, and Africa, under the influence of the

post-1971 devolution which occurred under the floating-exchange-rate form of the IMF/World Bank system.

This third phase had three sub-phases: *first*, 1971-1981, the wrecking of the U.S. economy by "deregulation"; *secondly*, the wrecking which occurred under President Ronald Reagan's economic policies, especially his Administration's post-1983 economic policies; and, *thirdly*, the post-1987 phase of sheer lunacy, as typified by the financial-derivatives swindles under Federal Reserve Chairman Alan "Bubbles" Greenspan. The most recent sub-phase of Greenspan's folly, under President G.W. Bush, Jr., is that which a student of ancient Roman history might wish to dub "Neronic."

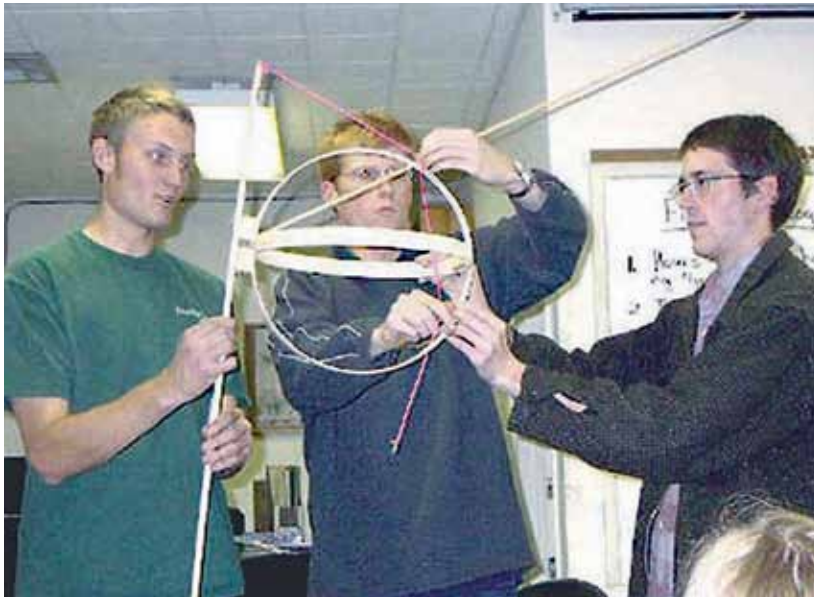
The remedy for the intrinsic incompetence presently taught as economics in universities and related professional circles, is twofold:

*First*, recognize the *specificity* of economic cycles] in society, as absolutely distinct from the subject of the domain of animal ecology. From the standpoint of economic science, the current doctrines of the U.S. government respecting matters bearing upon national and world economy, are as clinically insane as Bush Administration strategic policies and practices generally.

*Second*, discontinue the popular academic and related attempts to forecast (and analyze) from the standpoint of *statistical mechanics*, whereas only dynamic methods associated with the work of such followers of Kepler as Leibniz, Gauss, Riemann, et al., are competent. All current forecasts which I have encountered on the world screen, are hopelessly, systematically incompetent by virtue of the method of argument employed to craft them.

Currently, I am working with a selection of talented young adults of exceptional promise for their future contributions to relevant scientific accomplishments. My included purpose in the immediate project, on animations, is to demonstrate to intelligent professionals, and to others, the proper methods of approach in use of computerized animations of county-by-county data, that over periods of two or three generations, in showing the determining factors in cause of catastrophe or recovery in the U.S. economy (in particular) today.

This work is premised, at its first stages, on the way



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Members of the LaRouche Youth Movement have built a pedagogical device to demonstrate Archytas' solution to the Delian paradox, which creates a cone, a torus, and a cylinder in order to find the geometric mean between two magnitudes, and typifies the work of pre-Euclidean, physical, constructive geometry.

in which Johannes Kepler defined cycles within the Solar System, and the way in which Kepler thus defined the need for developing both the infinitesimal calculus uniquely developed by Gottfried Leibniz, and the successive development of elliptical and higher (hypergeometric) functions by Gauss, Abel, Riemann, et al.

The crucial topics treated under that approach, include the functionally determined relationship between the general basic economic infrastructure of whole economies, and the productivity of agriculture, manufacturing, and rates of tangible (physical) growth in the so-called private sector of an economy taken as a unified whole. However, the crucially underlying objective of these studies, is to discover the principal factors which are determining, or might determine either net growth, decline, or stagnation in the rate of the performance of the economic phase-space considered, or a national or larger economy as a whole. The latter task, the uncovering of the principal determining factor, is the functional requirement essentially lacking in the approach to defining animations in the exemplary case represented by Nordhaus's report.

*The most suitable pedagogical approach to this crucial feature of the study, is that modelled on the most essential distinctions of Kepler's referenced discovery: the discovery of the principle of the "infinitesimal."* This is

the distinction which is apparently beyond the comprehension of today's commonly encountered academic classroom and related productions respecting the principles of physical scientific and related investigations.

### Kepler and *Sphaerics*

*Knowledge is always essentially subjective*, because it exists among mortal beings only as human knowledge; *its primary existence lies consequently only within the human individual, and that individual's functional relationship to the history of the society within which he, or she lives.* Knowledge, in the proper sense of the word, does not exist among lower forms of life. Knowledge is an "attribute" of that principle of the human individual which sets our species absolutely apart from both inanimate objects, and also all lower forms of life. In V.I. Vernadsky's science of Biogeochemistry, this marks

the principle which separates the human individual from the animal.

Therefore: subjectively, what has proven itself to be my uniquely successful approach to long-range economic forecasting, dates in its origin with me, in my immediate and persisting, principled rejection of the standard secondary education in classroom geometry at my first encounter with that subject. My adolescent acquaintance with structures had shown me that the function of geometry in society's practice, is physical: only what is functionally a physical geometry, not a formal Euclidean geometry, could be a valid one.

Historically, my standpoint on the subject of geometry, from that moment in secondary education onward, was, already, implicitly an anti-Euclidean geometry, a view of mine which ultimately converged upon what is to be recognized among the Pythagoreans and Plato as *Sphaerics*. *Sphaerics* was known to those ancient Greeks as a method transmitted to them from the practice of Egyptian astronomy, which distinguished the geometry of the motion of development (i.e., *physical action*) as distinct from what convention today recognizes as simple classroom versions of so-called Euclidean geometry. So-called *a priori* definitions, axioms, and postulates are to be excluded from competent European science; all concepts, including concepts of the form of one's own behavior in this prac-

tice, are to be discovered by experimental methods associated, among ancient Greeks, with the tradition of Thales, the Pythagoreans, and Plato. In other words, while we are permitted to take notice of the implied assumptions intrinsic to the practical approach we employ, we can not treat those assumptions as *a priori* principles, but only as being, themselves, subjects of critical experimental treatment.

This is the standpoint from which to consider the rudiments of the method employed by Kepler. This is the standpoint plausibly attributed to the work in astronomy of Thales of Miletus, and is the standpoint of the Aristarchus of Samos who proved the orbiting of the Earth around the Sun by appropriate experimental methods. Kepler's treatment of the relative positions and motions of Solar bodies considered by him, can be traced from the starting-point referenced by Aristarchus' approach. Also, as Kepler himself emphasized, his own scientific method was derived from the founding of modern physical science as an experimental body of scientific work, by Nicholas of Cusa, and as Cusa's initiatives were complemented by the work of such followers of Cusa, and predecessors of Kepler, as Luca Pacioli and Leonardo da Vinci.

That much said, it is sufficient for the purposes of the present report, to focus on a narrow, but crucial feature of Kepler's discoveries: the implications of the observed Mars orbit in terms of reference to the cyclical alignment of relations among the positions of the Sun, Earth, and Mars.

To reduce the matter to essentials, we may say: The generation of an elliptical orbit of Mars was recognized by Kepler's measurements to be the result of what Gottfried Leibniz was to make his unique discovery: his definition of the differential of the infinitesimal calculus. Simply said: the notion of the infinitesimal which Kepler presented to "future mathematicians," was a reflection of the observed consistency of the fact, that the area subtended by the sweep of the orbit of Mars, relative to the Sun, varied in an ordering of "equal areas swept, during equal times." In other words: *the elliptical orbit did not determine the motion of Mars; rather, the relevant, perfectly infinitesimal principle of physical action, generated the elliptical orbit of this specific characteristic, the characteristic of equal areas swept*



*Predecessors of Kepler include Leonardo da Vinci's geometry teacher Fra Luca Pacioli, shown here, with his polyhedra, in a painting by Jacopo de' Barbari (ca. 1495).*

*within equal times.*<sup>7</sup>

Notably, precisely that view of the matter by Kepler, prompted him to assign to future mathematicians the development of both an *explicitly infinitesimal* (physical) calculus and of a corollary theory of physical-elliptical functions.<sup>8</sup> The former challenge was solved by the uniquely original discovery of a calculus of the infinitesimal by Gottfried Leibniz, a quality of the calculus which is rejected in the failed attempt to understand gravitation by Isaac Newton and his followers. The second challenge, of discovering the relevant physical

7. As Leibniz and his collaborator Jean Bernouilli were to show, all curvature of action is to be seen as premised upon the physical geometry of a universal physical principle of least action/least time, as this is expressed both in the catenary form, and the corresponding natural-logarithmic ordering discovered by Leibniz. The development of a notion of the *Pentagramma mirificum* by Napier, reflected the attempt to develop a logarithmic system of a form suitable for processing of astronomical data. Gauss's recognition of Napier's discovery of the *Pentagramma mirificum* opened new, richer dimensions of insight into the deeper implications of Leibniz's principle.

8. As this is treated below, a form of action considered "infinitesimal," does not represent an hypothetical creature of "infinitesimal size," but rather *the action upon a process at every possible, tiniest interval, by an efficient universal principle*. It was fanatical empiricist Leonhard Euler's failure—or stubborn, ideologically motivated refusal—to recognize the ontological implications of Gottfried Leibniz's infinitesimal for the calculus. This same blunder by Euler, typifies all generally crafted and employed attempts at economic forecasting, worldwide, today.

principle underlying regular elliptical action, was mastered in essentials by Carl F. Gauss and his followers, most notably by the Bernhard Riemann who followed Gauss in going beyond elliptical functions into higher physical hypergeometries associated with an ontological insight into, the matter of the human species' qualitative progress.

The actual rudimentary development of the mathematics of a competent mode in modern physical science, was derived entirely from the combined effect of these implications of Kepler's discovery with what Gauss was to expose as the implications of what was actually Napier's definition of the *Pentagramma mirificum* and Fermat's experimental demonstration of the existence of physically relative time, the concept of "quickest time" as opposed to primitive superstitious belief in simple (e.g., Euclidean) time.<sup>9</sup> These are the elementary considerations, as treated, most notably, by Leibniz, Gauss, and Riemann, required for the defining of a competent modern science of physical economy.

However, in any competent science of economy, there is another crucial aspect to Kepler's uniquely original discovery of universal gravitation; this is what William Nordhaus's treatment overlooks completely. Kepler's discovery of the principled, ontological character of the planetary orbit, provides students the model of reference for study of economic cycles.

### ***Sphaerics* as Such**

As I have already stressed, above, it is essential, in exploring the subject matter outlined above, to recognize a qualitative distinction between commonplace, vulgar notions of geometry, such as Euclidean geometry, and what the Pythagoreans, Plato, et al. recognized

9. Once again, Fermat's experimental demonstration of "quickest time," by showing the physical relativity of time, led Eighteenth-Century science under the patronage of France's Jean-Baptiste Colbert, into Huyghens' hypotheses respecting an isochronic principle, and to the replacement of Huyghens' cycloid by the Leibniz-Bernouilli catenary/natural-logarithmic function of a universal physical principle of least action, as the basis for the physical definition of relative time.

as *Sphaerics*. In the relevant Classical Greek science, *Sphaerics* is a reflection of the method of the science of astronomy developed in ancient Egypt, and transmitted to Classical Greek culture. This is absolutely distinguished from a formal geometry. It were better said that *Sphaerics* is a *physical science of astronomy* as also applied by the Pythagoreans, Plato, et al., to human life on Earth.



*Johannes Kepler's discovery of the principled, ontological character of the planetary orbit, provides students the model of reference for study of economic cycles.*

*Sphaerics* is therefore associated, originally, with what we, today, would usually prefer to term "astrophysics" rather than "astronomy." Since this pertains to the universe within which life on Earth is bounded, the concept of *Sphaerics* connotes *universality*: implying that physical action on Earth is bounded by principles, such as gravitation, which are, primarily, efficiently universal. Many obvious, elementary blunders in discussions of Greek and modern science alike, are the result of failing to recognize the relevant functional distinctions between mere geometry and the character of *Sphaerics* as occupied with the role of universal physical principles of action in a universal physical space-time as such. The failure to take this distinction into account, is the characteristic ontological folly of modern forms of philosophical reduction-

ism, such as empiricism, positivism, and existentialism.<sup>10</sup>

This problem arises in the practice of economic forecasting, as the attempt to craft forecasts on the basis of assuming trends located ontologically in the application of Cartesian methods of statistical mechanics, in the misguided attempt to adduce what are treated as current trends. Competent forecasting takes a directly opposite, dynamic approach to that of the Cartesians; it considers the process as a whole, as Kepler treats astronomical cycles. It does this to locate the long-ranging principle which determines the physical-geometrical pathway which is controlling the outcome of movements in the small.

10. What is called "science" in such circles of belief, is naive ideology first, and the interpretation of some aspects of successful experimental practice, as a poor second.



Physical geometry rejects all notions of “straight line” or kindred, simplistically conceived pathways of action. First, we must determine the physical geometry of the process within which the relevant action is situated, as Riemannian physical geometry crafts a choice of what is termed a tensor. The physical geometry of the setting, determines the primary character of the relations of action within that (anti-mechanical) *physically dynamic* setting. Kepler’s definition of universal gravitation, is the beginning of this modern approach to physical science in general.

For example: It is relatively simple, and also very useful for the student, to recognize that the elementary ontological and methodological distinctions of Riemannian physical geometry are already implicit in the methods of practice employed for *Sphaerics* by the relevant ancient Pythagoreans, Plato, et al. The point, the line, the surface, and the solid, as portrayed in reductionist geometry, do not exist in *Sphaerics*. Rather the ontological distinction of, and efficient connection between point and line, line and surface, and surface and solid, occur for comprehension in the form of physical action; this connection is most famously, and efficiently recognized in the challenge of doubling a cube solely by construction, as, famously, by Archytas, and treated with informed retrospection by Eratosthenes, after the work of Apollonius. The ontological connections among qualities of objects in physical space-time are made by universal physical principles recognized by the Greek term *dynamis*, or Leibniz’s modernized use of *dynamis*, *dynamics*, in showing the principled incompetence of the work of René Descartes.

Thus, for example, in *Sphaerics*, or its modern expression, statistical mechanics does not exist as a scientific category; only *dynamics* does. This distinction is to be greatly emphasized in comparing living with ostensibly non-living chemical action, and in contrasting specifically human behavior to that of all lower forms, such as animal life.<sup>11</sup>

11. Actually, non-living processes are also dynamic. However, as the founder of the modern science of the Biosphere and Noosphere, V.I. Vernadsky, emphasized, the chemistry of action of living processes differs, in the sense of dynamics employed by Leibniz, from the chemistry of the same substances within the non-living domain. However, more important than the difference, is the way in which living and non-living

The crucial distinctions to be recognized are expressed in terms of what are called universal physical principles, such as the universal principle of gravitation, which was discovered, uniquely, by Kepler. The construction of the doubling of the cube, as discovered by the Pythagorean Archytas, is typical of the way in which such efficiently existing universal principles of action are defined. It was the debate respecting the algebraic roots of the doubling of the cube, from Cardano through the empiricists D’Alembert, de Moivre, Euler, and Lagrange, on the one side, and Carl F. Gauss, et al.



*Pythagoras (lower left, in Raphael’s “School of Athens,” detail) founded the science of Sphaerics, a physical science of astronomy, “absolutely distinguished from a formal geometry.”*

on the opposing side, which has been the seminal issue of mathematical method in modern mathematical physics and geometry since that time.<sup>12</sup> It is that issue, as applied to the exemplary case of Kepler’s discovery of universal gravitation, which leads us into review of the appropriate methods for measuring comparative physical-economic productivity of economies considered as functional wholes.

### **Kepler: The Orbit as Phase-Space**

In relative first approximation, the prehistoric/historic steps toward discovery of empirically verifiable

chemistries interface, while remaining distinct in Vernadsky’s sense of the distinction.

12. Specifically, it is cubic and biquadratic residues which are Gauss’s concerns in this early work of his.

definitions of universal physical principles, are most efficiently typified, in European civilization, as in the Vedic calendars dated to Central Asia of 6,000-4,000 B.C.<sup>13</sup> We must treat such cycles as phase spaces, and proceed from that, to exploring the higher phase-space of the phase-spaces by which the particular cycles are subsumed, in turn. This method is to be applied to astronomy in the large, and microphysics in the very, very small. Throughout, the principles rooted in the ancient Egyptian-Greek practice of Sphaerics, must prevail. The system of physical hypergeometries defined, as to principle, by Bernhard Riemann, has been shown, in retrospect, as by Albert Einstein, to encompass both the world view expressed in the work of Kepler and discoveries situated, not in so-called quantum mechanics, but in the actually original discoveries of Max Planck.<sup>14</sup>

The same issue of method has a limited, but nonetheless crucial, virtually axiomatic importance for economic forecasting.

Mass human behavior, as over the lifespan of the rise and fall of specific cultures, is determined by influences which assume the implied character of axiomatic assumptions. In fair approximation, the span of the existence of such a phase in culture has a beginning and an end. This is a pattern connecting the start and collapse of a cultural phase-space. To understand any corresponding interval of the history of human existence, as a phase-space, we must proceed from identifying the beginning and end of the relevant phase of existence of the cultural phase in a form which corresponds to a cycle, using cycle in roughly the sense of an astronomical cycle.

When we adduce the determining principles of such a phase-spatial historical cycle, we are confronted with principles which do not merely act from the onset to close of that cycle, but which determine the implicit outcome of the actions taken in between those book-ends of local history.

For example: Gauss's discovery of the Keplerian orbits of the asteroids Ceres and Pallas,<sup>15</sup> illustrates the

method for statistical treatment of some limited samples of current evidence for determining the "orbital pathway" of a cyclical process in its entirety. Gauss's approach to discovering the orbits of these two asteroids illustrates the special quality of method required for adducing the character of the entire cycle of a current economic process from limited samples of current physical-economic data.

Take the case of the systemic difference in culture between the U.S.A. as defined by the 1776-1789 American Revolution, and the cultures of western and central Europe. We understand history, including economic cycles, efficiently, only to the degree that we see the developments within the bounds of a phase-spatial kind of cycle, as shaped by a continuing principle common to the entire span of that culture's existence in that form of its functional phase-space.

By identifying the characteristics of the cycle within which a set of local actions is located, we are enabled to foresee the outcome of any relevant sample of the cycle which that sample implies. On that basis, we are enabled to foresee what the outcome will be, within a fairly estimated range of times: unless a principled change in the characteristics of the system were introduced. We foresee the probable outcome of the cycle by locating the relevant interval of current historical development as an interval of the cycle conceived as a whole.

Thus, for example, in my mid-1956, short-term forecast for events of early 1957, I was focussed on a cycle whose origin was approximately "post-Korean War" changes in policy launched in 1954. Thus, for example, in my 1958-1959 forecast of a probable series of late-1960s monetary crises of the Bretton Woods system, as leading toward a likely crash of that system at approximately the close of the 1970s—unless relevant changes were introduced, as potential discontinuities, in the post-1954 cycle—I was focussed, at the close of the 1950s, on the cyclical characteristics of what became the 1954-1972 cycle as a whole.<sup>16</sup>

13. Cf. Bâl Gangâdhar Tilak: *Orion, Arctic Home in the Vedas*.

14. As reported by Einstein, during the interval of World War I, Max Planck and his work came under fanatical, mob attack by the German-speaking followers of the radical positivist ideologue Ernst Mach. The outcome of this Machian witch-hunt, from which Einstein distanced himself publicly, was the Russell-Bohr faction's success in perverting the subsequently broadcast "official interpretation" of Planck's actual discovery. Implicitly, the central issue of the Einstein-Born correspondence is the effect of this corrupt attack on Planck in producing Born's change of heart, away from the thinking of Einstein.

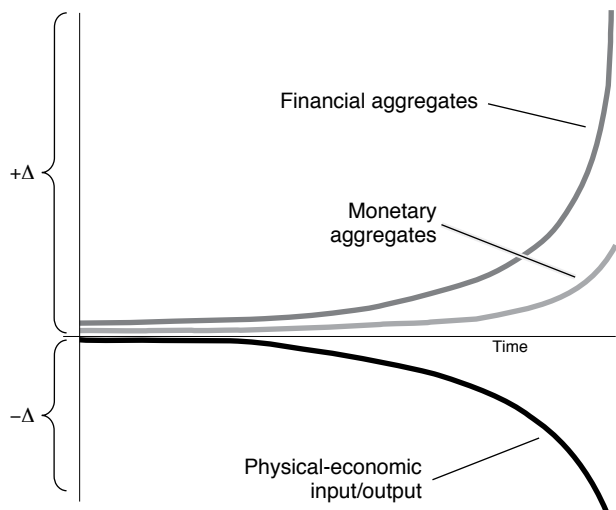
15. Carl F. Gauss, *Werke* 1981, VI, VII passim. See Jonathan Tennenbaum and Bruce M. Director, "How Gauss Determined the Orbit of

Ceres," *Fidelio*, Summer 1998. [https://archive.schillerinstitute.com/fid\\_97-01/982\\_Gauss\\_Ceres.html](https://archive.schillerinstitute.com/fid_97-01/982_Gauss_Ceres.html)

16. Had the crucial economic reforms by President John F. Kennedy not been ruined, step by step, in the aftermath of his assassination, the Kennedy reforms would have aggregated to become a virtual return to the characteristics of the FDR reforms. The post-Kennedy Indo-China war, and the radical changes in physical-economic, social, and monetary policies under, successively, President Nixon and the Trilateral Commission, and John J. McCloy's role in orchestrating the changes of governments in 1960s post-Konrad Adenauer Germany, are typical of the measures which virtually obliterated the Kennedy initiatives in the direction of a revival of the FDR legacy, albeit that would have been in

FIGURE 1

**LaRouche's Typical Collapse Function**



That cycle of 1954-1972, was a different cycle than that of the 1972-1987 interval, and the ensuing 1987-2006 cycle is a different cycle, for forecasting purposes, than either of the preceding two. So, my forecast, in 1992, of an onrushing “great mudslide” culminated in the interim crisis of 1992-1995, and my 1995-1996 forecast (**Figure 1**) and my 2000 forecast (**Figure 2**), were followed by my “shock-wave” forecast.

All of my forecasts, all of which have been successful according to my pre-specified conditions, have been successful in a way which no other known forecasting during the relevant, recent nearly five decades can match.

This issue is one of my method, rather than the contrary, failed, customary modes in current statistical forecasting.

For example, since the relevant policies of a society are products of the human will, no competent flat “yes, or no,” could be competent forecasting. The human will can change the currently prevalent assumptions of practice, even radically. Accurate forecasting is conditional upon the continued operation of the relevant, currently axiomatic-like policies which underlie the continued existence of the relevant present cycle. Without the stated, or clearly implied specification of those conditions associated with a forecast, no competent forecast—nor competent analytical assessment of apparent current trends—can be presented.

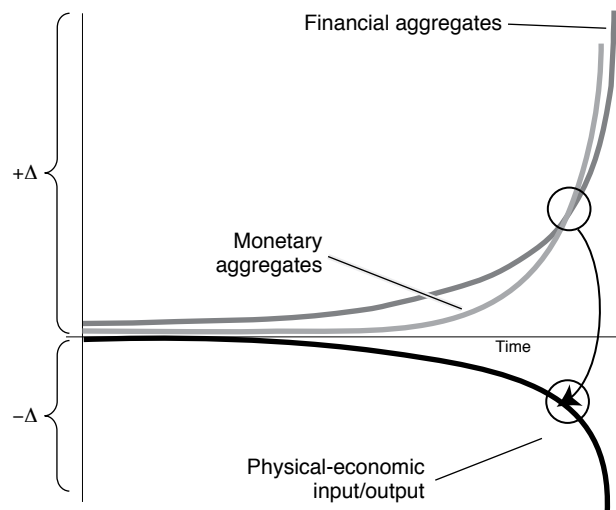
More on this subject, at an appropriate later point in the following chapter of this account.

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a Kennedy, rather than Roosevelt mode.

FIGURE 2

**The Collapse Reaches a Critical Point of Instability**



Here lies the key to insight into the reasons for the utter incompetence of all of the currently popular methods of statistical economic forecasting, respecting trends within current economic phase-space. The attempted use of merely statistically-mechanistic percussive evidence of action to date in the small, to project the larger span of reality in a mechanistic-statistical way, is intrinsically pathetic, more or less as pathetic as the silliness of the work of LTCM’s Morton Scholes.<sup>17</sup> Yet, even still today, virtually every “hedge fund” operation is based on assumptions which express the same genetic quality of incompetence as that of LTCM’s Scholes, such as the assumptions which may be regarded as the fruit, i.e., *rotten*, of the life’s work of former Federal Reserve Chairman (and Ayn Rand fanatic) Alan Greenspan.

The root of my essentially unique successes in forecasting during the 1956-2006 interval to date, lies in a matter of scientific method, a method which is essentially that associated with the ancient Pythagoreans, Plato, and his followers, and the modern advances on that developed under the impetus supplied by Nicholas of Cusa and his followers through Kepler, Leibniz, and beyond, through Gauss and Riemann.

For example. In brief. Kepler had, in a sense, “predicted” the existence of the asteroids. Kepler’s study of

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17. This is to say that Morton Scholes’ shame of August-September 1998 is only a superficial reflection of his greater folly. The naughty clowns of the Nobel Prize committee who made the award to the silly Scholes, are the notable offenders in that case, in the sense Jonathan Swift portrayed the sages of Laputa.

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## 2. Money and Physical Economy

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In treating the available statistical and related data of a case such as the U.S.A. over the 1945-2006 interval to date, we have two leading points of real-life history's modern systemic conflicts to sort out, at the start.

The Paris Peace Treaty of February 1763, established the Anglo-Dutch Liberal interest, and influence, of the British East India Company as an empire in fact. This development defined the division of modern European economy, and its presently global outgrowth, between two emerging leading types, the Anglo-Dutch-Liberal system, constituting a virtual empire or, vampire, the later British Empire, versus what emerged around the leadership of Benjamin Franklin as the American System of political-economy. With the defeat of Napoleon Bonaparte, the *neo-Venetian*, Anglo-Dutch Liberal financier interests absorbed the financier elements arranged around what Napoleon had created as the Banque de France, creating a hegemonic kind of slime-mold-like organization of sundry, Anglo-Dutch-French financier interests as the dominant financier interest of Europe: a virtual *ultramontane* empire of the type earlier associated with the partnership of the Venetian financier oligarchy with Norman chivalry. That slime-mold-like form of empire exists today; current world history is dominated by the present implications of that *neo-Venetian* financier empire's slime-mold-like existence.

Since 1776-1789, the principal alternative and rival of that Anglo-Dutch Liberal-centered imperial financier interest, has been the constitutional form of economy defined by the combined impact of the U.S. Declaration of Independence and Federal Constitution: the so-called "Hamiltonian system" implicit in the fundamental law of the U.S. Federal Republic: the Preamble of the Federal Constitution. The continued effort to corrupt and subjugate the U.S.A. to Anglo-Dutch Liberal forms of imperial financier power, and even, as now, to destroy the U.S. internal economy and the Federal Constitution, has been the pivotal feature of modern global history since the rapid succession of developments of 1763-1789.

From the beginning of the American System of political-economy, in 1763 colonial North America, the Americans themselves were divided, in respect of fundamental principle of government and economy, between two leading factions: the patriots and the Tories, the latter typified by the British East India Company's lackeys gathered under the banner of the "Essex Junto," a predatory pack of relative traitors typified by the ene-

Solar harmonics prescribed the previous existence of a planetary orbit between those of Mars and Jupiter. On the basis of those harmonics, Kepler insisted that a planet which had necessarily existed in that orbit, within the harmonics of the Solar System as a whole, would have been destroyed by the harmonic characteristics of that orbit itself. Gauss's discovery and treatment of the asteroids Ceres, Pallas, etc., had confirmed the nature of the asteroid orbits as a whole, as a product of such an harmonic self-destruction of the missing planet.

A more complex set of considerations is presented, apparently, by the implications of Gauss's solution for the asteroid orbits.

On this account, the most notable consequence of Johannes Kepler's discovery of the orbital principle of "equal areas in equal times," is that the orbit, so determined, returns, in one sense or another, to its *relative* origin, albeit in a transformed state. Since these transformations are so ordered, history is defined thus as a cycle of successive cycles, all subsumed under a long-ranging direction of changes in state of the system as a whole. This typifies the most elementary real-life notion of a cycle. Astronomical cycles, considered in the sense of Gauss's discovery of the orbits of the asteroids Ceres and Pallas, should be employed by economists to impart a sensed image of the meaning of "cycle." *The difference between astronomical and human cycles, is that those creative powers of the human will, which enable the discovery and employment of newly discovered universal physical principles, can change the ordering within the relevant phase-space of the universe as a whole.*

Economic forecasts following the lines of my own successes in this field, represent an appropriate adaptation of that method to social processes, as distinct from merely inanimate or animal processes.

The 1945-2006 sequence of principal and subsidiary economic "cycles," which I outlined, earlier in this chapter, under the subheading of "Understanding Business Cycles," is to be treated as the lesson that Gauss's discovery of the asteroid system illustrates.

In my method, as illustrated by my reported long-range forecasts, and also my first forecast, my 1956 forecast of the February 1957 recession, the principles underlying all competent long-range economic forecasting are based primarily on physical-economic, rather than monetary principles, but take into account the role of the *political-monetary process* as the superimposed, political subjective factor shaping the human behavior responsible for choosing, by intent or default, the cyclical character of the corresponding physical process.

mies of Benjamin Franklin among the British loyalists of Boston and Essex County, Massachusetts, and the British agent Aaron Burr's New York City Bank of Manhattan. That conflict, between our patriots and the opposing rascals, has persisted as the leading internal enemy of our constitutional system of economy within the so-called "Eastern Establishment," to the present day.<sup>18</sup>

On this account, the U.S. economy, for example, presents us with two mutually incongruent systems. On the one side, especially since 1971-1972, the dominant policy-shaping decisions and related actions within both the U.S.A. and the trans-Atlantic community as a whole, have been dominated by, early on, a radical version of the actually imperial Anglo-Dutch Liberal monetarist system. In an earlier phase of this process, this had been modified as that Liberal system's Napoleonic form; this change continued during most of the periods of globally extended European history since the 1815 subjugation of the Napoleonic Banque de France-centered French



*The American System of political-economy emerged around the leadership of Benjamin Franklin, in deadly opposition to the Anglo-Dutch Liberal system.*

system to its customary Anglo-Dutch master. On the other, opposing, patriotic side, especially as we take the full sweep of the history of the U.S. republic into focus, we have an aspect of real economy, largely external to the liberal monetarist systems, which is rooted implicitly in the American System of political-economy as defined by the U.S.A.'s first Treasury Secretary, Alexander Hamilton.

*The principal functional difference in quality between those two presently interacting systems, is that, under the U.S. Federal Constitution, money and the regulation of its circulation are a creation*

*of the constitutional authority of the U.S. government; whereas, in the customary modern European systems since February 1763, especially under Anglo-Dutch Liberal tyranny, government is a captive vassal of the private financier interests represented by a so-called "independent central banking system," such as the supranational, imperial tyranny of the European Central Bank of the present moment.*

18. Especially notable are the work of Anton Chaitkin and the late H. Graham Lowry in defining the characteristic issues of the continuing life-death struggle between the patriots' American System of political-economy and the American System's leading global adversary, the Anglo-Dutch Liberal system. Cf. Anton Chaitkin, *Treason in America: From Aaron Burr to Averell Harriman*, 2nd edition, Executive Intelligence Review, New York, N.Y. 1998; and H. Graham Lowry, *How the Nation Was Won: America's Untold Story, Vol. I, 1630-1754*. Executive Intelligence Review, Washington, D.C., 1987. The writing and production of Volume 2 of Lowry's book was prevented by agents of the notorious Nestor Sanchez of "death squads" notoriety, et al., e.g., Fernando Quijano, who had seized temporary control of my philosophical organization under the special, Federal government-directed arrangements, in mid-1990.

These publications have been supplemented by important strategic studies of the defense of the U.S. against its Europe-based strategic adversaries during the 1920-1945 interval, and of the perversion accomplished under the President Harry Truman who did much to console the domestic and foreign enemies of FDR for their earlier defeat at FDR's hands.

The significance of the radical changes in U.S. monetary policy, of 1971-1972, and their sequelae over the course of the 1970s, combined with the willful wrecking of the U.S. economy under the Trilateral Commission reforms of 1977-1981, have created a somewhat complicated picture confronting us, since then, to the present day. Without some historical insight into the causes for changes within the post-1945 U.S.A. and world systems, no competent identification of relevant recent cyclical patterns could be made.

The U.S. Civil War, for example, was the result of the launching of the effort to destroy the U.S.A. as a republic by the combined monarchies of Britain and Lord Palmerston-created Napoleon III's France. The deadly conflict between the forces led by U.S. President Franklin

Roosevelt, and the opposing, anti-American System faction served by Roosevelt's post-mortal enemy, President Harry Truman, is also an important illustration of the conflict. The role of Felix Rohatyn, as among the leading agents of Anglo-Dutch/French Synarchist financier interests, working, in the name of "free trade," the "WTO," and "Globalization," to actually destroy the U.S. republic today, is an expression of that same conflict.

It must be emphasized here, that this configuration of two opposing systems has persisted to the present day, and has been the principal feature of conflict both within the territory of the U.S.A. itself, and between our patriots and the Anglo-Dutch Liberal faction and its French Synarchist partners, such as fascist fellow-traveller Felix Rohatyn, to the present day.

The consequence of this history of modern civilization, has been, that, since the 1713 treaty of Utrecht, and since the accession of George I as the first modern British monarch, and since the triumph of what became the British empire, with the February 1763 Treaty of Paris, the globally extended European system has been usually dominated by the Anglo-Dutch Liberal system of political-economy. The general effect of habituation to that state of doctrinal affairs and related practice, has been the delusion that the doctrine of the British East India Company's Haileybury school in economics, has been regarded as the basis for defining the educated notion of political-economy.

Thus, as Karl Marx, a recruit to the Young Europe organization of Lord Palmerston's agent Giuseppe Mazzini, was trained under the guidance of British intelligence's controller of the Mazzini organization, the British Library's veteran spy William Urquhart. Thus, since this decades-long brainwashing of British dupe Karl Marx, by the followers of Lord Shelburne's lackey, Jeremy Bentham, the absurd superstition, the notion of Bernard Mandeville, François Quesnay, Jacques Turgot, and Lord Shelburne's lackeys Adam Smith and Jeremy Bentham, the notion of some mysterious principle of primary economic value as intrinsic to economy, has dominated the sundry schools of taught economy, left, right, and center. The effects of that induced delusion have pervaded most of the universities and popular opinion of the world, to the time



FDR Library

*President Franklin Roosevelt, Vice President-Elect Harry Truman, and Vice President Henry Wallace. President Franklin Roosevelt's post-mortal enemy Harry Truman "did much to console the domestic and foreign enemies of FDR for their earlier defeat at FDR's hands."*

of the present day's wild-eyed monetarists.<sup>19</sup> This has been a leading ideological factor in the ruin of many nations ever since.

### **The System of National Economy**

Despite the consequently widespread delusion among relevant academics and others, there is no intrinsic value to money as such. The authority to impose a notion of value on a particular kind of money, or monetary asset, is a political power, either of governments, or of an implicitly imperial power over governments.

19. The modern system of empiricism, on which the mathematical form of the Anglo-Dutch Liberal system of political-economy was premised, is the product of the leading role of the New Venetian Party of Paolo Sarpi. Throughout, that system was based on the principle of gambling, rather than production; Sarpi's personal lackey, the hoaxster Galileo Galilei, pioneered in developing the system of gambling which underlies the design of the Liberal political-economic system generally, and the methods of Mandeville, Quesnay, Adam Smith, and Jeremy Bentham in particular.

Implicitly, as Mandeville argues in his frankly pro-Satanic *The Fable of the Bees*, and as Mandeville is echoed by François Quesnay's doctrine of the magical power of paper titles of property; and as Adam Smith's doctrine of "free trade" plagiarized both Mandeville and Quesnay; and the Turgot, from whom Smith plagiarized much of the content of his *The Wealth of Nations*—this view expresses the implied world-view of Donald Trump, which is that the respective fates of rich and poor are in the hands of virtual little green men under the floorboards of the universe, who cheat in favor of the one, and against the other.

The value of money, including coinage, is, otherwise, fictitious, not “scientific.” In modern society, any sane attribution respecting the value of money is essentially a matter of currently operating, or merely fantastic political fictions.

Such is the distinction which competent science makes between real economy (e.g., physical economy) and political-economy. A clear understanding of this distinction, and of its practical implications, is absolutely crucial for understanding and overcoming the catastrophic, global crisis which menaces each and every nation of the planet today.

Thus, from the standpoint of today’s crisis, we are faced with two principal species of political-economic systems, the Anglo-Dutch Liberal system, which is a system of an implicitly imperial type, and the American System of political-economy, as associated with the memories of U.S. Treasury Secretary Alexander Hamilton, Frederick List, and Mathew and Henry C. Carey.

However, behind the American System is, predominantly, the influence of the founder of *the science of physical economy*, Gottfried Leibniz, in which Hamilton, for example, was educated, and which has been the essential point of reference for my outlook since my adolescence.

These two, conflicting systems, the American System of political-economy, and the reigning Anglo-Dutch-Synarchist element of European political opposition to the American System, have distinct cyclical characteristics, but the interaction between the two also has its own cyclical characteristics. *This array is best treated analytically as a set of relations of sundry nested, and mutually conflicting cyclical phase-spaces, each of which has cyclical characteristics of its own, but interacts, dynamically, to define a commonly subsuming cyclical characteristic.* The phases of the U.S. economy over the 1945-2006 interval, as I have indicated above, are to be examined as products of the characteristic features of such interacting, compound cycles.

The additional complicating factor is, of course, the fact that the will of efficient government, in particular, can change the characteristic of action within the process, as President Franklin Roosevelt did, and thus supersede an existing cyclical pattern, that for better, or for worse. However, if the will, like that exerted by President Franklin Roosevelt, to make such remedial changes, is lacking, the U.S.A. today were already virtually finished as a nation.

Without the Franklin Roosevelt reforms, there would

have never been a recovery from the deep depths of the Hoover depression. Roosevelt’s reforms left us with a system of regulation, on which the U.S.A. depended for its recovery from the depression, and also for the ability of the U.S.A. to supply the critical margin in the defeat of the Nazi attempt at world empire. This system of regulation implicitly recognized the fact that there is no asymptotic determination of a true value of money in the “floating-kidney”-like system of a so-called “free market.”

Roosevelt’s reforms were essentially products of both the central scientific principle of the U.S. 1776 Declaration of Independence, and Leibniz’s principle of “the pursuit of happiness,” as this is amplified by the entirety of that Preamble of the Federal Constitution which, contrary to certain morally corrupted, but influential circles in law today, expresses the fundamental principle of natural law underlying the properly assessed intention of the Constitution as a whole.

Unfortunately, both the intentions of those two features of our constitutional law, and their implication for competent practice of law, have been chiefly lost among the educated strata in relevant positions of power and influence today. Hence, the pervasive incompetence of those aspects of our nation’s current law-making respecting substantive matters of political-economy.

European systems of economy are best described scientifically as what they are not; although the American System of political-economy was of great influence in Europe, throughout the Americas, and in Japan, Thailand, and China, after the 1861-1876 developments within the U.S.A., the European systems are not expressions of the principles of the American System of political-economy. In fact, the trends of the post-1865 echoing of the American System, were not only lessened, but have been reversed at an accelerating rate, since 1971-1972. It is feasible, and necessary, to view European systems from the standpoint of the American System; the reverse would always be, as now, an inevitable source of threatened national tragedies. Therefore, to treat the leading global issues of today, we must begin from emphasis on the subject of the American System of national-economy, as such. After that, it is feasible, as also necessary, to view other economies of the planet from the vantage-point of the lessons of the American System as it is embedded in the intention of the original crafting of our Federal Constitution.

From the beginning, the American System of political economy has been protectionist, and this in specific opposition to the post-1763 practice of Anglo-Dutch

Liberalism. It was only during peaks of U.S. weakness, that more or less treasonous elements within the U.S.A., elements allied with the rising British Empire, were able to impose free-trade policies on the U.S. In every healthy period of the U.S. economy, our policies were of the American System form of protectionism. In every period that our republic veered away from American System modes in protectionism, our economy, and our people generally suffered greatly, as since 1971, from the inherent evils of a global “free trade” system.

So, today, especially since 1971-1972, and, more emphatically, since the Trilateral Commission rampages during the Carter and Reagan Administrations, there has been an accelerating rate of decline in the physical economy as a whole, and an accompanying ruin of the conditions of life of the lower eighty percentile of our family-income brackets, while a shrinking few within the upper twenty percentile have become the richly undeserving, filthy rich.

To the extent our citizens have tolerated what have usually been the prevalent trends in policy of our Presidency and Congress during the period from 1972 to the present, the U.S. has been moving at an accelerating rate toward the stinking state of looming national bankruptcy to which the current Bush Administration’s lunacies are now bringing us, and the world at large, today. Any different views of the trends in our economy is the fruit of stupidity, or is simply the usual Sophist’s political lies.

### The Principle of Physical Capital

As Gottfried Leibniz demonstrated, the methods of René Descartes were intrinsically incompetent in physical science, and otherwise. Leibniz contrasted the incompetent, failed system of physical science of Descartes, and therefore also Baruch Spinoza’s system of thought, to the method which Leibniz had inherited (actually) from the principles and practice of *Sphaerics*, and from Cusa, Leonardo da Vinci, Johannes Kepler, Pierre de Fermat, and Blaise Pascal, and from Leibniz’s own collaboration with Christiaan Huyghens and others. The universe is not statistical and mechanical, as the empiricists such as Descartes, D’Alembert, and Leonhard Euler had imagined, but as Leibniz showed, *dynamic*.

This *dynamic* quality of organization, which later assumed its most advanced form of expression, as to principles, in the development of physical hypergeometries by Bernhard Riemann, is characteristic of all three presently known experimental domains: the prebiotic phase-spaces, the Biosphere, and the Noösphere.

A dynamic organization of physical space-time, in which all three of those phase-spaces are found, is not the sum-total of objects floating in kinetic orderings in empty space, but, rather, physical space itself is a product of the interaction of all processes and their associated events within a physical hypergeometry of (e.g., tensor) space determined by the interaction of all included processes within that domain.<sup>20</sup>

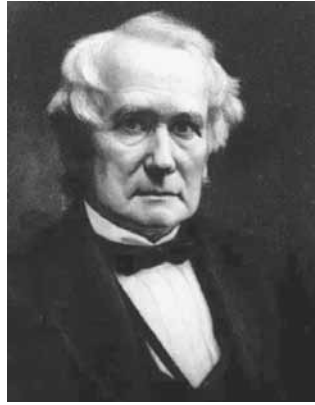
In the history of European civilization, this notion of dynamics is rooted, as I have already emphasized, in the type of practice of *Sphaerics* associated with the work of the Pythagoreans and Plato. The universe so defined for analysis is essentially Kepler’s universe, the universe as Kepler’s development of the notion of *dynamic*s, and as the harmonic organization of the Solar System defined by the principle of universal gravitation, predefines the concept of physical space-time associated with the work of Bernhard Riemann and such of his followers, in the matter of experimental scientific method, as V.I. Vernadsky and Albert Einstein.

Thus, a competent notion of a national or international economy, is, first of all, a notion of a physical economy, rather than a monetary system. The actual economy is, functionally, a combination of the alterable natural physical circumstances of the economy as a whole, with the artificial principles added by the application of the willful discoveries of mankind, or subtracted, forms a system of dynamic interaction. This dynamic interaction, defines the specific quality of economic phase-space of an entire society at any point in the relative development, or degeneration of that economy. The measurements of a national economy are essentially non-monetary, and pertain, primarily, to the physical attributes of a dynamic manifold as a whole.

The essential measurement which that configuration implies is a manifest increase, and rate of increase, in what is, as I have always taught my students, fairly termed *the potential relative population-density of the population of the system as a whole*. This term implies a rate of relative improvement, or decadence, of mankind’s power to exist, per capita and per square kilometer. These rates are to be studied from the vantage-point of the certainty that the initiatives of sovereign indi-

20. The mathematical-physical elaboration of this point, is important, of course; but the conceptual overview of this point is not only indispensable, but primary. The trouble with even acceptable mathematical formulations, lies in the tendency of the reductionist to treat the mathematics as the substance, rather than the shadow it is, of the ontological actuality of the relevant concept.





*The American System of political-economy is associated with the legacies of (l. to r.) Friedrich List, Henry C. Carey, Mathew Carey, and the U.S.A.'s first Treasury Secretary, Alexander Hamilton.*

vidual minds in discovering, or simply promoting universal physical principles, are the form of functional action which determines the potential for rates of growth of mankind's power to exist—per capita and per square kilometer of the total territory, taken into account as forming what might be defined, functionally, as a national economy.

Outstanding considerations include the possible and actual divisions of human efforts between simply maintaining a current level of existence and productivity, and actions which promote increases in the rate of potential relative population-density. Within this framework, we distinguish between wasteful existence and activity, and forms of activity which are either physically productive themselves, or which represent that necessary creation and maintenance of environmental conditions on which the maintenance and improvement of technological-progress-driven increases of per-capita productivity depend. All of these measurements are made in physical terms, not monetary terms. *Economic value is expressed directly only in physical, not monetary terms.*

The typical moral problem we encounter in popular, but viciously incompetent beliefs respecting economy, and economic policies, is simply ordinary petty greed. The typical victim of that popular delusion, mistakes the power to purchase, represented by the current legal or quasi-legal status of money as such, for the aspect of the process of circulation which he or she prefers not to think about: earning money through production of physical values, rather than merely grabbing it. Though who are obsessed with selling themselves, as to the devilish predators of the DLC, may soon find themselves, and all they are, bought, as author Stephen Vincent Benét wrote in his celebrated *The Devil and Daniel*

*Webster.*

*However, this picture of economy as a physical process, must take the authorship of all such progress into account: the creative potential of the individual human mind.*

*Here, the matter of money comes into play.* First, one must recognize the nature of physical-economic value, and, after that, assess the relative value which might be usefully assigned to money.

The creative act which presents mankind with the discovery of any valid conception of a universal physical principle, is an action which occurs only within the sovereign bounds of the individual human mind. Here lies the essential functional distinction, in terms of physical science, between the human being and the lower forms of life. As Vernadsky, notably, has defined the creative powers of the human species (i.e., the *Noösphere*) as expressing a physical principle not found in lower forms of life, *human creativity is not an expression of biology*, as we associate biology with animal life.

Human existence expresses a universal physical principle which is physically efficient, as this is expressed as the increase of the Noösphere relative to both the mass of the planet as a whole, and also the mass of the Biosphere. This is expressed as the specifically creative powers of the individual mind of our species, which we associate with efficient discovery of fundamental (i.e., universal) physical principles. It is through those discoveries that the increase of the potential relative population-density of the human species has been possible. That increase in the potential relative population-density, is the true, physical measure of economic value.

Clearly, the celebrated prophet Moses understood

this, as the modern physical scientist must agree, in reflection on **Genesis** 1:26-31; the sane individual human mind has a quality lacking in all other living creatures. This is the quality expressed by Kepler's *intrinsically non-deductive, non-inductive* discovery of universal gravitation. This power is personal to the living individual, rather than a product of some kinematic or kinematic-like percussive interaction among persons. Anyone who disagrees with that specification, has no conception of what is actual creativity in physical science or Classical artistic composition.

Society requires creative discoveries of that quality not only to increase humanity's power to exist, per capita and per square kilometer. Creativity is needed to overcome the entropic and like effects of attrition.

Hence, the most important consideration in organizing and leading society, is the process of prompting reenactments of discoveries of universal physical and Classical-artistic principles, such as those of J.S. Bach, in the minds of others. Opinions are worth little, especially the opinions of today's Sophists; knowledge, when expressed in terms of discoveries of experimentally validatable, universal physical and comparable principles, is everything. "How you feel" on matters of personal opinion, is of relatively trivial importance; "What you know," preferably contrary to popular opinion today, is precious. The rigor of an anti-Euclidean physical geometry, is typical of the healthy, and useful individual mind.

This means that certain trends of improvement in the conditions of life of the typical community and family household, are of crucial importance respecting the development of the individual and of those features of social relations on which the discovery, propagation, and use of discoveries of universal principles depend. This means that the acts of production of the articles we require for maintenance and improvement of individual life, must be supplemented by creating artificial environments for life and for production of goods, such as basic economic infrastructure.

Thus, there are several conditions of exceptional notability to be considered before taking up the matters of the nature and role of money in an economy. The physical standard of living of the individual and household, are one consideration which must be treated prior to allowing the presence of a financial accountant in any place proximate to the discussion. The other principled consideration is the ration of invested physical capital, for both production and basic economic infrastructure. The functional relationship among these ele-

ments of an economic process treated as a dynamic process, must be defined, firstly, as a matter physical-capital investment.

Money then enters into proper consideration as a matter of what some term, as delightfully as they might please themselves to say, "the allocation function." The required ratios among the indicated physical-economic, as opposed to financial-monetary accounts, are classed under the title of capital functions: physical-capital functions, rather than monetary functions.

This brings us to the way in which the U.S. administrations of 1969-1981 wrecked the U.S. economy.

### **Physical and Financial Capitals**

For reasons too obvious to require exposition here, the ordering of relations among the component features of a dynamic system of physical economy, requires a money-system. The value associated with money lies primarily with the important functions performed by the money-system, not in any of the commonplace, superstitiously imputed notions of an intrinsic value of money itself.

Under the American System of political-economy, money is a willful creation of the sovereign government of the nation-state, an utterance made by the Executive with the consent of the Congress, i.e., the U.S. House of Representatives. It should be the principal concern of that Federal government, as our republic's relevant founders would agree, that the relative physical value associated with this issue of money, and relative to the nominal value of that money, should appreciate over time. It should be recognized, otherwise, that money has no other intrinsic value in itself. We organize interest-payments on loans, not because money has any intrinsic value, but because an orderly money-system is both valuable and necessary, as a system of credit, in modern society. This was the case in the highly successful utterance of scrip by the pre-1688 Commonwealth of Massachusetts. That principle underlies the notion of Federal credit inherent in the Federal Constitution's provisions, still today.

Our objective is that the non-monetary form of physical value of total social product per capita and for the society as a whole, must increase more rapidly than the price of money. Were the price of money to increase the more rapidly, a potential catastrophe were brewing.

The creation of money by the nation-state, which is the only decent and truly sane form of economy, must be steered in such a way that physical productivity and

standard of living of the total population and total territory of the nation, must increase relative to the financial debt created by the issue of money.

In practice, these require a lending rate of between approximately one to two percent, simple interest, per annum, on the primary issue of money as credit by the Federal government. The rate of interest must not exceed the required rate of growth, after relevant provision for reinvestment is taken into account.

In viewing the foregoing broad considerations, we must take the indispensable role of scientific and technological progress into account. This requires a rising physical and cultural standard of living for the population as a whole, otherwise scientific-technological net progress could not be sustained. This increment depends upon increasing the total net physical output per capita at the relevant rates.

In practice, the largest component of national expenditure in a sanely ordered national economy takes us back to pre-Nixon levels of rates of growth of capital-intensive investments in both basic economic infrastructure, per capita and per square kilometer, and rising physical capital-intensity, similarly. In other words, the general trends in U.S. economic policy since 1968 have been clinically insane, especially since the 1977-1981 downshift of the U.S. economy into a post-industrial phase of savage deregulation of essential production and infrastructure.

On this account, it is essential to re-examine the way in which deregulation of the economy transformed the U.S.A., the world's leading economy, into a mass of bankrupt wreckage of both the economy generally, and the Federal and state governments, today.

Since there is no natural price-level for any useful commodity, the idea that "free trade" would contribute to the efficiency of the national, or world economy, is a case of pure masturbation in the extreme. WTO, globalization, and so forth are clinically insane economic-policy practices!

What the Franklin Roosevelt reforms did, on this account, was to develop a combination of governmental economic institutions, typified by Social Security, and regulations of "fair price" levels, which kept the U.S. dollar in check, relative to inflation and deflation, and, at the same time, used the power of regulation and of utterance of Federal emissions of public credit, to favor beneficial shifts in categories of activities, and to disfavor threatened trends which were inflationary or otherwise wasteful diversions from the meeting of needs by either the private, or public sector, or both.

It must never be forgotten that President Franklin Roosevelt's incurrence of a large national debt, involved the costs of saving civilization from an otherwise inevitable Hitler domination of the world as a whole. Also, it must not be forgotten, that had President Truman and his administration not sabotaged the post-war policies of President Roosevelt, the vast 1945 war debt of the U.S. would have been converted into a system of credit for investment in development of the world economy. The Truman policies of 1945, in postponing the peace agreement already negotiated with Japan's head of state, the totally unnecessary and criminal nuclear bombing of Hiroshima and Nagasaki, and the complicity of Truman, et al. with Winston Churchill, et al., in launching a policy of "preventive nuclear attack" on the Soviet Union, was a determining factor in the avoidable aspects of the economic problems of the post-war U.S.A.

Nonetheless, despite Truman's follies, this "fair trade" system of combined forms of private and public regulation, which persisted, with some faults, into the 1950s and slightly beyond, provided a degree of stability in the economy under and after Franklin Roosevelt's Presidency. Significantly, by tough regulation of a fixed-price monetary-reserve system, it was possible to continue to utter long-term development credit until the ruinous combined effects of the United Kingdom's first Harold Wilson government and the lunatic launching of the U.S. 1960s war in Indo-China.

In all of this, the crucial point to be emphasized, is that the primary source of available, needed credit, to bring the world system out of an immediately threatened general breakdown crisis of the system as a whole, is to put the present national banking systems, especially the so-called independent central banking systems, into governmental reorganization-in-bankruptcy, while creating vast, carefully regulated floods of long-term state credit, as by the U.S. government, to the immediate purpose of preventing a presently immediately threatened general collapse of the world monetary-financial system, and also launching a rapid expansion of the rate of physical output of the world economy, per capita, up to levels of virtual current operating breakeven.

In other words, the objectives of economic policy must be physical, rather than monetary-financial, but we must also regulate the monetary-financial systems to the effect of providing long-term security for the utterance of the credit needed to reach needed levels of breakeven and growth. The failure to act to do precisely that, would mean, the relatively immediate plunge of the planet into a prolonged new dark age of all humanity.



EIRNS/Brian McAndrews

*The LYM chorus performs J.S. Bach's motet, "Jesu, meine Freude," at a LaRouche webcast, Jan. 5, 2005. "The most important consideration in organizing and leading society, is the process of prompting reenactments of discoveries of universal physical and Classical-artistic principles, such as those of J.S. Bach, in the minds of others."*

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### 3. The Role of Creativity

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As the Classical tragedian Aeschylus presents this continuing, historic problem of mankind, in his *Prometheus* trilogy, the leading problem of humanity, as we know this problem from the time of historically ancient Greece to the present, is expressed by the Satanic quality of evil embodied in the Olympian Zeus' condemnation of that true friend of mankind known as Prometheus.

Zeus condemned Prometheus for the offense of permitting mortal human beings to know the uses of fire. Such was the early onset of what became the anti-nuclear, back-to-nature movement of today's 68ers. Aeschylus, however, promises that Prometheus and mankind will ultimately be freed from Zeus' order condemning human beings to the status of dumb cattle. That latter mission, that ascent to truly human freedom of the creative powers of the individual mind, is our purpose here.

Throughout known history, we have repeated signs of the eruptions of the true creativity needed for the progress of the human condition, a progress consistent with the referenced passage from *Genesis* 1. Yet, since

the evil represented by the Delphic cult's Lycurgus constitution of Sparta, most of the known history of mankind is dominated by the overlords by what was known in Classical Greek times as the oligarchical principle. Such was the evil of the Roman Empire, Byzantium, the ultramontane system of the Venetian financier-oligarchy and its butchers of the Norman chivalry. Such has been the Anglo-Dutch Liberal form of imperial system, the so-called British imperial system which was outlined as a kind of prophecy, by Lord Shelburne's lackey, Edward Gibbon, of an eternal new Roman Empire of the British financier oligarchy, ruled by a proposed new incarnation of Julian the Apostate. Such is the intention of the form of frankly anti-American type of Europe-sponsored imperialism

known as "globalization" today.

All through these millennia, there have been continued efforts to bring a just, anti-oligarchical order into human affairs. On this account, the Fifteenth-Century Renaissance, centered on the events of the great ecumenical Council of Florence, gave humanity the promise of a system of sovereign governments, as typified by such products of that Renaissance as the commonwealths of France's Louis XI and Henry VII's England. Unfortunately, the Venetian financier oligarchy struck back, with the orchestration of the Fall of Constantinople, and with the subsequent launching of the satanic bestiality of religious warfare unleashed by the frankly satanic figure of Spain's Grand Inquisitor Tomás de Torquemada.<sup>21</sup>

It was one of the leading architects of what became the Thirty Years' War, Venice's Paolo Sarpi, who created that modern form of philosophical-political liberalism, of Sir Francis Bacon, Thomas Hobbes, John

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21. Fyodor Dostoevsky's character, the Grand Inquisitor, represents a valid historical insight into the Torquemada on whom the Martinist Freemason Count Joseph de Maistre tailored the career of Napoléon Bonaparte, and of the Adolf Hitler who walked in Napoléon's footsteps.

Locke, et al., on which a modified version of the satanic principle of the Delphic Olympian Zeus has been predicated. Sarpi did not absolutely ban scientific and technological progress, but he and his accomplices devised a policy, modelled on the ravings of the medieval lunatic William of Ockham, which became known as modern European philosophical liberalism, under which technological progress would be sometimes permitted, but knowledge of the principle of “fire” would be banned from most among the ranks of even the technologically literate strata.

This frankly satanic, Venetian aspect of philosophical liberalism, came into the political foreground with the neo-Cartesianism of Voltaire and the Eighteenth-Century empiricist reductionists around such followers of the Paris-based Venetian Abbe Antonio Conti as D’Alembert, de Moivre, Euler, and Lagrange, and such of their followers as Laplace, the plagiarist Augustin Cauchy, Clausius, Grassmann, Lord Kelvin, Helmholtz, and the radical positivists in the mold of Ernst Mach. Among the most extreme were the hoaxster Bertrand Russell, and such of Russell’s 1920s cronies as the overt Satanist (and theosophist) Aleister Crowley, and H.G. Wells, from which we had the corrupted personalities of Professor Norbert Wiener of the “information theory” hoax and the John von Neumann of the “artificial intelligence” hoax.

The characteristic feature of these empiricists and their positivist followers, is that denial of the existence of knowable expressions of creativity encountered among the so-called Newtonians of the D’Alembert, Euler, Lagrange type. This denial was the argument which was demolished, in fact of scientific principle, in Carl F. Gauss’s 1799 doctoral dissertation. Carl F. Gauss was a young genius who prospered in that momentarily happier cultural environment, and to whom we owe very much today. Echoes of the Olympian Zeus of the *Prometheus* trilogy!

The issue of that quarrel between the followers of Cusa, Leonardo, Kepler, Fermat, Pascal, Leibniz, et al., on the one side, and the Eighteenth-Century empiricists on the other, took the form of the empiricists’ hysterical denial of the ontological actuality of the infinitesimal, as defined by Kepler and Leibniz, for example. In fact, as the case of gravitation illustrates the general principle for such cases, gravity, as big as the universe, expresses its bigness locally as being an infinitesimal expression of its total self. The empiricists, like their more radical followers the positivists, called the infinitesimal of the Leibniz calculus “imaginary,” as a useful mathe-

matical trick considered as having no other ontological significance than useful trickery.

This trick goes to the core of the sleight of hand used by Sarpi, Galileo, and their followers. Their trick, in handling any discovery whose actual origin they wished to deny by sleight of hand, was to use a substitute for the act of physical proof of a discovered universal physical principle, such as universal gravitation, by replacing the act of discovery by a mathematical formula. This formula would be based on the model of the Euclid-Descartes misrepresentation of the ontological-experimental reality of physical space-time. The reality of the physical-experimental discovery, was replaced by the notion of a mathematical formula lodged within a fantastic realm, located in the fanciful, “self-evident” domain of Euclidean space and in time.

The history of that fight between the scientists and the empiricists took an important, if temporary turn for the better during the second half of the Eighteenth Century. This occurred in Germany, through the intersection of the work of a leading mathematician of that century, Abraham Kästner, one of the principal teachers of the young Carl F. Gauss, and the celebrated collaborators Gotthold Lessing and Moses Mendelssohn. During the period of their collaboration, that pair not only shattered, if temporarily, the influence of the Berlin Academy’s empiricists around Leonhard Euler, but played a leading role in the Classical cultural renaissance which produced Goethe, Schiller, and their collaborators, and which was a leading part of the movement which associated itself with the cause of the American struggle, against the British and the Habsburgs, for independence from oligarchical tyrannies.

The French Revolution, and the Napoleonic tyranny, were both organized, with British support, by the circles of Martinist freemasonry led by the Count Joseph de Maistre, who crafted the model which he designed for the personal character played by the real-life Napoleon. This became the Napoleon model later used for designing the public appearances of Adolf Hitler. These developments demoralized the Classical movement in Europe. London’s and Metternich’s 1815 Congress of Vienna, combined in effect with the Duke of Wellington’s installing the Bourbon restoration in Paris. The thought-control laws organized in Germany by the Metternich behind his correspondent G.W.F. Hegel, created a widespread right-wing moral depression which persisted, despite the achievements of Alexander von Humboldt as an organizer of science, until approximately the 1850s.