

ECONOMY DESPITE ALAN GREENSPAN

What Connects the Dots?

by Lyndon H. LaRouche, Jr.

January 21, 2006

Both the U.S. economy, and also the world's economy, are now in the grip of the very advanced stage of what is, physically, not a mere economic depression, but a general physical breakdown-crisis of global society. Under any attempted continuation of the current, self-destructive trends in economic and related policies under U.S. President George W. Bush, Jr., the situation of the U.S.A. would become worse than merely precarious, that within a very short time to come.

In this light, there is no competent conduct of political business currently before the institutions of Federal, state, and local government which does not approach every leading issue of national and global policy from the standpoint of the immediate need to face the reality of a currently onrushing global economic breakdown-crisis of the existing world monetary-financial system as a whole. Failure to adopt an appropriate new global economic and monetary-financial system akin to President Franklin Roosevelt's intention for the Bretton Woods fixed-exchange-rate system, would represent reckless disregard for the continued existence of civilization.

In fact, there is no presently leading issue facing any and every part of the world, such as the spread of the continuing asymmetric warfare in Southwest Asia, and no other issue of U.S. national security or internal general welfare, whose solution does not depend on actions which must be premised on adopting a general, FDR-style, global economic and monetary reform as the entire platform on which solutions to any leading issue of policy must be addressed.

The pivotal issue on which all those strategic and related matters of policy-reform hang, is the battle of the giants, the titanic struggle, begun in 1763-1776, between the Anglo-

Dutch Liberal system and the legacy of the American System of political-economy. The issue now takes the form of a global struggle whose outcome will determine whether or not this planet will be organized on behalf of a cooperative search for promotion of the general welfare among the members of a system of perfectly sovereign nation-state republics, as Franklin Roosevelt had intended at the time of his death. Or, a new, global form of a Roman world-empire, in which that latter global system is maintained, as the Roman Empire of the Caesars was, by a system of permanent warfare, akin to that which the Bush-Cheney Administration has directed its adopted mission since no later than the time current Vice-President Cheney was U.S. Secretary of Defense under President George H.W. Bush I, the policy announced by a would-be imperial President George W. Bush II in his January 2002 "State of the Union" address.

The forces currently associated with President George W. Bush, Jr. and Britain's Prime Minister Tony Blair, could not actually win the kind of war which they are presently engaged in extending into Iran; but, their efforts to do that, unless prevented, would end civilization as we have known it, globally, in a new dark age whose effects would be extended for generations to come.

In this presently actual global strategic situation, the most crucial among the reforms needed, to avert a now looming threat of a collapse of not only the U.S. economy, but also the world's as a whole, is a type of reform in the international monetary system which could not be competently launched by any nation other than a U.S.A. which were operating under not only a return to pre-1971 monetary-financial policies, but under physical-economic, social, and regulatory policies which would be fiercely contrary to the tastes of the current



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The recent revival of a more or less global return to a nuclear-power policy, points in the direction of the necessary shift, LaRouche writes, but such improvements are only a beginning. "Much deeper and more general forms of changes in policies of governments and public opinion, are urgently needed, if we are to actually reverse the present lurches toward the looming nearby precipice of global despair." Shown here, the Byron nuclear power plant in Illinois.

U.S. Bush Administration. Without radical reversal of trends which have been in progress for about forty years, especially the most recent thirty-five years, the world as a whole, led by our presently collapsing U.S. economy, would be plunged, for reason of precisely that 1968-2005 policy-trend, into what has been defined as of the type of a "new dark age" experienced as the mid-Fourteenth-Century European New Dark Age. This time, this would be, surely, on a global scale.

If you prefer continuation of the trend of policies under President G.W. Bush, Jr.'s Administration, you are choosing the worst disaster our republic has experienced since its founding.

This threat of a new dark age could be averted, and a genuine physical-economy recovery set into motion. The new economic policy announced in the recent Harvard University address by U.S. Representative Nancy Pelosi, points in that general direction. The recent revival of a more or less global return to a nuclear-power policy, points sharply in that direction. Without these and other, kindred changes, there would be no hope for civilization globally during the decades ahead.

However, those improvements are only a beginning, a good beginning; but, a much deeper and more general form of changes in policies of governments and public opinion, is urgently needed, if we are to actually reverse the present lurches toward the looming nearby precipice of global despair.

For these and related purposes, we require a radical change in the way policy-shapers and public opinion think about shaping economic policies of nations. Improvement would not be sufficient; what would appear to most economists, and others, as very radical, more sophisticated ways

of defining and measuring economic performance, must be learned, and adopted now.

The Available Alternative to Disaster

Well-defined alternatives are available. As U.S. Representative Pelosi's recent Harvard University address indicates, some, if only some among these better alternatives, are widely understood among traditional industrial management, and among some others. Unfortunately, some essential parts of this happier perspective are not yet understood.

The most important of those concepts which have yet to be understood, is the role of technology in generating real physical improvement in both physical output and general conditions of life. Today, there is much use of the term "technology," but, largely as a result of a famous cultural paradigm-shift which struck during the late 1960s, there is little actual understanding among today's social strata of top management and the professions, of what the mere term "technology" should mean. That latter, crucial problem, the true practical-economic meaning of "the function of technology," is the focus of my attention in this present report.

For example: Recently, there has been important progress toward the new goals which I have assigned for the role of computer-assisted animations, goals which I had pointed out earlier. I had intended this as a step toward competence in study of the lessons urgently to be adduced, for today, lessons to be taken from physical-historical evidence accumulated during recent decades. However, so far, the unfortunate tendency is to rely too emphatically on only connect-the-dots approaches; the prevalent habits of reliance upon mechanistic approaches to historical-statistical views of anecdotal evi-

dence, die hard.

The catastrophic failure of the increasing, post-World War II reliance on so-called “linear programming” in taught economics, is an example of the problem. The intrinsic incompetence of Professor Norbert Wiener’s radically reductionist notion of so-called “information theory,” and the fantasies of his accomplice John von Neumann’s miserably failed, related, pseudo-scientific schemes in “mathematical economics” and “artificial intelligence,” are typical of this set of related, contemporary intellectual calamities of academic and related professional life.

Animations generated by connecting the dots of physical evidence, as my associates have done lately, in studying county-by-county changes in physical characteristics of the national economy, have been a significant improvement in the quality of policy-discussions occurring, where such reports have been circulated. Unfortunately, the pleasant sensation of this success in what we have done, tends to become a consoling distraction from the fact of what is not yet done.

The problem is, that simply transforming a series of data, or even a combination of series of data, into an animated simulation of lapsed-time photography, has the fault of being of the general form of the pre-school child’s method of connecting dots to generate an image. Flowery rhetoric used to attempt to lend color to mere description of such a construction, tends to shut down the thinking process at exactly the point of discussion of such economic animations at which actually creative thinking must begin. The efficient cause of the apparent movement from one dot to the next, is thereby reduced, implicitly, to a series of straight-line connections; no amount of flowery rhetoric could make such a display a representation of an actually creative process. A simplistic view of the process of dot-connection conceals something of crucial importance: the decisive factor of scientific creativity in the Platonic tradition, which is the key to all scientifically competent economics.

Simple animations have the specific virtue of exposing patterns of negative developments, and therefore also indicate which wrong-headed habits of policy-shaping have contributed to the dismal and rapidly worsening conditions experienced today. However, to project the effects of beneficial, alternative policies, requires a more sophisticated quality of modelling.

Therefore, the failure to recognize what a simplistic, so-called “conventional” classroom view conceals, would cause the attempted presentation to appear to argue in favor of something which never actually happens in a living process, such as a physical-economic process.

For example: As in the use of lapsed-time photography for study of behavior of growing plants, there is a tendency to be so much amused by the effect of a weed’s apparent expression of “his” or “her” intention, that the actual subject of the non-linear action, from within, generating the effect seen from without, is neglected.



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“A weed’s growth is generated by the fact that it is a living process, rather than simply a chemical process. No mathematics of mere chemistry could actually account for the cause of the phenomena which the behavior of the living weed betrays.”

For example: A weed’s growth is generated by the fact that it is a living process, rather than simply a chemical process. No mathematics of mere chemistry could actually account for the cause of the phenomena which the behavior of the living weed betrays. The non-living phase of the chemistry of the weed does define the boundaries within which the animated photographic images steer the dynamical form of the weed’s behavior; but, without taking into account the principle of life which subsumes the chemical behavior, explanations of the phenomena are deplorable sophistries. *Only life produces life; only cognition generates cognitive (i.e., human, creative mental) processes.* It is only the creative powers uniquely specific to the potentials of the human individual mind, which define the difference between human societies and the habits of either rhesus monkeys, or of Solly Zuckerman’s baboons, or of Wolfgang Koehler’s great apes.

Progress is uniquely a product of the work of the creative powers of the individual human mind. No inanimate device, no mere animal life, could willfully create the changes in mass behavior on which economic progress depends absolutely.

The same type of issue of scientific method, arises, in a negative way, in the determination of the exact point of death of persons. At what point is the individual resuscitatable? At what point is the principle of life, and also the principle of cognition unique to human individuals among all species, reconnectable to the biology of the living person at the moment of apparent death? This determination is affected by available, relevant technologies and medical skills; but the fact of the distinction between life and death of that human individual, exists, however the expression of that distinction may be presented in different ways under different technological settings.

To this effect, the important challenge presented by computer animations of economic data, is to isolate the kind of non-linear (e.g., *dynamic*) action which is generating the change of state associated with the motion. The observed motion is the shadow of the reality, not the reality whose mere shadow is projected by its passing.

For all cases, the prerequisite for competent use of statistical animations, is learning to think as Johannes Kepler did, in his use of statistics for his uniquely original discovery of the universal principles of gravitation, and of Fermat's experimental discovery of that principle of "quickest" time which, together with the central discoveries by Kepler, underlie all competent modern thought about physical processes, including national economies.

These issues of scientific method are crucial for the competent practice of modern economic studies. As I refer to this subject in the following body of this report, new global conditions, as implied in the growth of the ratio of consumption of raw materials to production for a growing world population, should compel nations to submit to profound scientific issues of physical-economy which are on the frontiers of current practice, and are largely beyond what is taught and practiced among relevant professionals today. The matter of the needed approach to the use of animations in economic policy-crafting and analysis, is typical of the challenges to be faced on this account.

Like life and cognition, gravity is a universal physical principle, a principle which can not be adduced statistically from a mechanistic type of mathematical-probabilistic construction in Cartesian space. The relevant, appropriate method, is the same method of *dynamics* associated with the application of that form of Classical Greek physical geometry known as *Sphaerics*: the method which is associated with the elementary discoveries of principle by the Pythagoreans, Plato, et al., as by Kepler, Fermat, and Leibniz, in modern times. It is this principle, acting as Kepler shows the discovered principle of universal gravitation to act, which is the cause of the transformation bridging the interval between any two successive points in an actually animated, real-life form of process-image. The simple animation, however useful it may be, is merely the image of the action; *it is not the representation of the causal element of the adumbrated form of the action which has been presented to the senses.*

Thus, to emphasize the crucial illustrative point: *In living processes, such as physical-economic processes, the scientifically significant qualities of connections are never generated in a straight-line, mechanistic-Cartesian mode. These processes are always elementarily dynamic (in Leibniz's sense of the Classical Greek origin of his use of that term, dynamic), not statistically mechanistic ones; and, the movements within them are always caused by what is called a non-linear form of action, a process of transformation, which is, mathematically, expressed as a form of transcendental function.*

In real economies, as opposed to the fantasies of ordinary statistical methods, significant action never follows anything akin to straight-line connections. Here lies the root-cause of the intrinsic incompetence of using accountants' efforts, which may be quite appropriate for financial accounting, but are utterly incompetent in efforts to explain a real-life economic process, as a process. This caution is to be observed not only in defining limits for the use of financial accounting practice, but in warning against the perils of scientific illiteracy expressed by the standpoint of the methods of economics practice commonly taught in universities and relevant other locations today.

For this reason, we should always reference the transformation of a series of physical states in an economic process, to follow, once again, the exemplary way in which Johannes Kepler, uniquely, discovered the universal physical principle of gravitation.

To that end, we must proceed as I indicated in presenting the lessons laid out in the *EIR* Christmas feature, "The Principle of 'Power' " (Dec. 23, 2005). As I shall indicate within the body of this report: think of Archytas' construction of the doubling of the cube, and the significance attributed to that construction by Eratosthenes. Add to this, the implications of Fermat's experimental discovery of the principle of quickest time.

Therefore, we must add the Leibniz-Bernoulli construc-

Kepler's Revolutionary Discoveries

The most crippling error in mathematics, economics, and physical science today, is the hysterical refusal to acknowledge the work of Johannes Kepler, Pierre Fermat, and Gottfried Leibniz—not Newton!—in developing the calculus. This video, accessible to the layman, uses animated graphics to teach Kepler's principles of planetary motion, without resorting to mathematical formalism.

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A LaRouche Youth Movement pedagogical workshop in Washington, D.C., Jan. 10, 2006.

tion of the catenary-cued principle of universal physical least action, and its complement, Leibniz's original (pre-Euler) discovery of natural logarithmic functions.

Look ahead from those precedents, to add Riemann's emphasis on his use of what he defined as his Dirichlet's Principle, in his developing the notion of physical hypergeometries. Adduce the notion of a universal physical principle exemplified by these elementary cases, and apply that notion of a physical principle, so illustrated, to the domain of that physical economy which is the reality for which the financial economy is merely a shadow.

See that the elementary expression of the relevant class of non-linear forms of action, is Leibniz's catenary-cued universal physical principle of least action, as this explicitly *dynamic* notion of generalized mathematical-physical function was developed further through the work of Carl F. Gauss, Bernhard Riemann, and their associated circles in science. All competent representation of the physical characteristics of actual economic-social processes, are expressions of the Gauss-Riemann outgrowths of Leibniz's universal principle of physical least action.

To that, in today's global setting, we must, as I have said earlier, add the following qualification. Since the work of Russia's V.I. Vernadsky, in his rigorous definitions of the functional distinctions of Biosphere and Noösphere from the chemistry of non-living processes, we must include the principles of life *per se* and cognition *per se*, as universal, functional phase-space differentiations within the universe considered as a whole. In economic processes, which is to emphasize the

action governed by the mind of living human individuals upon the physical form of the economic process, this three-phase functional distinction is crucial in attempting to adduce the factor of motivation ordering the observable "dots" of statistical analysis.

The relevant types of non-linear forms of causal action linking successive, "observable" points in an economic, or related process, are of the form expressed by such types of transcendental functions. Walking a student through the steps by which Kepler transcended the errors of Copernicus and Brahe, in the discovery of the principle of universal gravitation, introduces the habits of creative thinking which it is indispensable that we must develop further for grasping the practical meaning of the dynamic form of "non-linear" functions as a replacement for intrinsically defective mechanistic methods

of the type commonly employed in statistical economic studies today.

In Review of the Challenge

In recent years, especially the recent twelve months, I have published much bearing on this subject of the required methods of economics practice for today. Since not every present reader has studied those relevant previous publications, a summary of the most crucial points for this present discussion is now in order here.

The needed application of the LaRouche-Riemann method, is merely illustrated by my emphasis on the "Triple Curve" pedagogy and the physical-economic implications of the Riemannian shock-wave function. For most among today's relevant professional and other observers, the implications of my relevant, original discoveries in this field, still hang, unharvested, on their intellectual vines [Figure 1 and Figure 2]. Correcting the crucial omission of that needed method, is something which must be done now, if we are to devise an effective U.S. policy for recovery from what is already a rapidly accelerating systemic breakdown-crisis of the U.S. and world economies. I emphasize the argument made in my January 27, 2006 *EIR* report, "How To Capitalize a Recovery."

Applying those reflections, as criticism, to recently popular professional fads in mathematical economics, there are no actually linear solutions for the general goals implicitly posed by the work of the late Professor Wassily Leontief. For that same reason, his rivals among what he, and I, respectively,

FIGURE 1

LaRouche's Typical Collapse Function

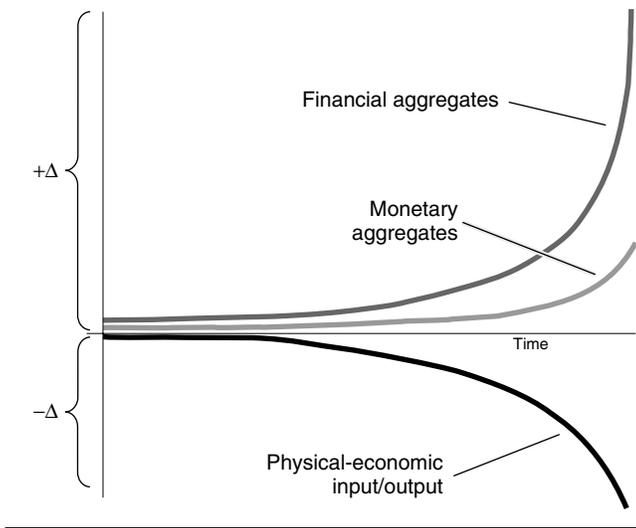
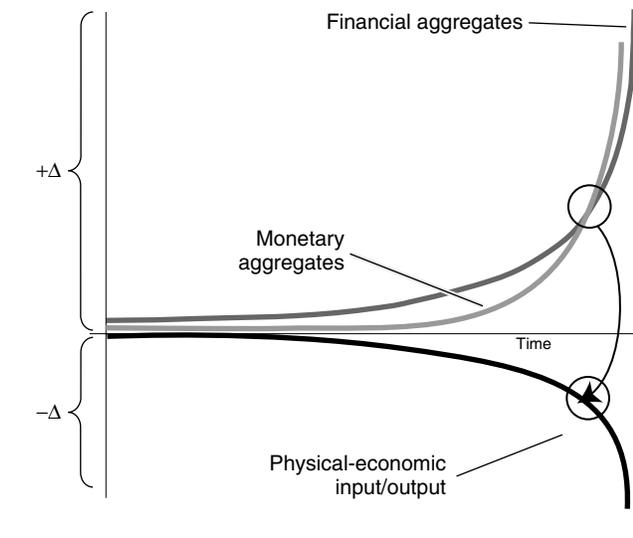


FIGURE 2

The Collapse Reaches a Critical Point Of Instability



LaRouche's "Triple Curve" heuristic diagram, in its 1995 (left) and 1999 versions. In Figure 2, the rate of growth of monetary aggregates passes that of financial aggregates, leading to hyperinflation. Under President George W. Bush's disastrous misleadership, the rate of collapse has been greatly accelerated in a way which corresponds to Figure 2.

rightly derided, during the 1950s, as "the ivory tower" faction of econometrics of Koopmans et al., were, like the latter's present-day successors, the present-day hedge-fund forecasters, even at their relatively least worst, have been usually worse than wrong, most of the time. The sometimes subtle, but often explicit influence of the axiomatic-like assumptions of ivory-tower fanatics such as the circles of Koopmans, Norbert Wiener, and John von Neumann, as integral features of both most contemporary academic instruction and practice in modern financial management by both governments and private enterprises, has been among the principal contributing, willful factors, of virtual "brain damage," in misleading the economies of Europe and the Americas into the ruinous condition of threatened imminent general collapse in which we find the world of today.

The roots of the sheer lunacy of today's rampant hedge-fund bubbles, are already found in the establishment of the still-lingering global hegemony of the Anglo-Dutch Liberal, empiricist system of financial accounting, a system whose imperial overreach was established during the course of the Eighteenth Century. The difference between then and now, is between the dangerously neurotic system of accounting belief and practice prevalent into the mid-1960s, and the frankly psychotic, and often criminal, "ivory tower" states of mind dominant in international financial and related practice since the 1971-1972 launching of the present, "post-industrial" form of floating-exchange-rate monetary system.

Thus, in the U.S.A. in particular, we have shifted, in a

series of radical reforms made during and since 1971-1981, such that, whereas the U.S. economy, with all its troubles, was still operating at a net gain over the course of the ups-and-downs during 1945-1965 interval, in physical terms, per capita and per square kilometer, since 1971-1972 the physical economy of the U.S.A. has been collapsing at a generally accelerating rate, throughout the 1981-2005 interval to date. Under President George W. Bush, Jr.'s disastrous misleadership, the rate of collapse has been greatly accelerated in a way which corresponds to the second-phase, post-1999, version of my "Triple Curve" illustration [Figure 2].

To summarize the 1981-2005 pattern for the U.S.A. itself, consider the following. I repeat that which I have often said before, inasmuch as those references are needed for clarity in addressing the special issue of scientific method emphasized in this present report.

The Pattern of Decline to Date

The first significant, post-1971 effort to reawaken the already crippled U.S. economy, came in the form of President Ronald Reagan's March 23, 1983 attempt to secure Soviet agreement to what Reagan named "A Strategic Defense Initiative (SDI)."

Had the Soviet government agreed to negotiate such a proposal, the net result would have been a return to the kind of science-driver program associated with the Kennedy manned Moon-landing mobilization. All of the leading forces of continental Western Europe were readied to cooperate in such an

escape from the Bertrand Russell-Kissingerian trap of thermonuclear “revenge weapons,” had the Soviet government been willing to explore this alternative.

It has turned out, subsequently, that the Soviet rejection of President Reagan’s proffer doomed the Soviet system to what the former Soviet bloc nations of Europe have suffered up to the present time; the support which Andropov’s rejection received from the wave of hatred unleashed against the SDI from within the U.S. influential ranks of both the “Bush babies” of the Reagan Administration and the Democratic Party, virtually eliminated any hope of escape from the downward turn of the post-1971/1981 U.S. and western European economies.

As I have reported many times since then, during the first half of 1983, I had warned that the Soviet refusal of President Reagan’s offer ensured a collapse of the Soviet system “within about five years.” The Soviet-led Comecon system collapsed, in fact, over the course of 1989. In the meantime, the other, more pedestrian, Reagan Administration economic policies of the 1980s, led into the 1929-like stock-market collapse of October 1987. The attempt to postpone the effects of that 1987 collapse, by incoming Federal Reserve Chairman Alan Greenspan’s policy of John-Law-style financial-derivatives “bubbles,” postponed the entry into the actual financial collapse-phase until the Spring-Summer 2000 plunge of the “IT” bubble, with the entry into the presently onrushing collapse-phase of the hedge-fund-driven mortgage-based-securities “bubble.” The two pedagogical models of “Triple Curves” provide a conceptual overview of the two successive phases of the long-wave 1971-2005 process to date.

Presently, the most deadly of the added features in the development of these financial-speculative bubbles, has been what is known, inside the U.S.A. itself, as the doctrine of “shareholder value,” as that modern Sophist’s doctrine is associated with the public utterances of U.S. Supreme Court Associate Justice Antonin Scalia. From the standpoint of its implications for the science of physical economy, Scalia’s argument is, functionally, clinically, as much as morally insane in and of itself, as cruelly immoral action against the people of the U.S.A. in its effects. It is not an original doctrine; in theology, Scalia’s stated doctrine, including his virtually schizophrenic, Queenly Alice-in-Wonderland doctrine of “text,” dates, philosophically, to the notorious irrationalisms of the medieval William of Ockham, and, more recently, a radically extreme form of the empiricist theology of Venice’s Paolo Sarpi. In modern political contexts, those assumptions, as he describes them, are explicitly pro-fascist in their implications.

This crucial fact about the characteristics of post-1971 trends in international monetary and economic policies, brings us to the presently explosively crucial scientific issue posed now as the crisis brought about by the recent nearly thirty-five years under the floating-exchange-rate IMF system.

1. What Is ‘The Rate of Profit’?

As I have emphasized in my “How To Capitalize a Recovery.”¹ there are, in fact, two significant notions of a rate of profit. One translates into monetary policy today, as a rate of return on investment in money; the second, the rate of *physical* return on an investment of *physical* capital, as this latter is distinct from the circulation of money as such. In both cases, economic value is not defined mathematically by a fixed value, such as that of monetary gold, or a price of petroleum, as such; it is defined by what is often described as the variable rate of “return on investment.” *However, the effect of ignoring the qualitative discrepancy between the two notions of “return on investment,” monetary versus physical, has repeatedly confronted the modern trans-Atlantic form of European economy and its global extension, in the form of crises.*

Put the fact of this qualitative discrepancy in the form of the following question: *What should be understood by “return on investment”?* Should we signify “return” as measured in simple monetary terms; or, should we measure the *physical-economic gains*, per capita and per square kilometer, for the society’s development of its *physical-productive powers as a whole society?* To solve that riddle, the origins of certain presently commonplace, wrong assumptions, shared between professional and public opinion, must be carefully examined, as we shall do now.

This division, which is best labelled the fundamental difference of principle, between the standpoint of Anglo-Dutch empiricism and the opposing standpoint of the American followers of Gottfried Leibniz, such as Benjamin Franklin and Alexander Hamilton, is expressed in economics and law as the continuing opposition, in the principles of economic policy, of the U.S. constitutional tradition of Benjamin Franklin and his followers, to the opposing tradition of Anglo-Dutch Liberalism.

This division is between what became the only globally significant strategic factor in shaping the leading controversies respecting the principles of national and world economy from the 1763-1789 formation of what was to become the U.S.A. to the present day. All the crises inhering in the currently prevalent principal conflicts in so-called “economics” ideology, are rooted in the irreconcilable differences of moral and scientific principle which, categorically, separate the American System of political-economy of Franklin, Alexander Hamilton, Frederick List, Henry C. Carey, Abraham Lincoln, Franklin D. Roosevelt, et al., from the caricature of what had been then the already wretched British doctrine which has been promoted lately as the virtually economic-suicidal perversity of performance by the current U.S. Bush Administration.

1. Lyndon H. LaRouche, Jr. “How To Capitalize a Recovery,” *EIR*, Jan. 27, 2006.

For example:

The Anglo-Dutch Liberal dogma for economics, which, unfortunately, all presently conventional British, Marxist, and popular opinion has derived from the empiricist doctrine of Venice's Paolo Sarpi, insists that the principle of political-economy is premised on *a systemically irrational doctrine: that the mass behavior of society must be controlled by what are, in fact, certain irrational motives of the isolable individual, as by a simple hedonistic principle, such as "individual greed."* In that Liberal or kindred view, this factor, as expressed by such terms as "individual greed," represents a general, axiomatic principle of conflict which is alleged, by them, to be inherent in the relationships among persons. This is taught as being a conflict embedded in what is a universal principle, a principle governing both the behavior of the isolated individual toward nature, and what is assumed to be the inevitable, "jungle-like" conflict among all persons.

This typically Venetian (e.g., neo-Ockhamite) doctrine, of a society controlled by an irrational impulse for conflict of the individual with society, was introduced to an English-language tradition in modern Europe through a student, Thomas Hobbes, of Paolo Sarpi's personal lackey, Galileo Galilei. Slightly different versions of this same dogma were codified by Bernard Mandeville; John Locke; David Hume; the Physiocrats Quesnay and Turgot; by the plagiarist of Quesnay and Turgot, Lord Shelburne's lackey, Adam Smith; and, by Jeremy Bentham's founding of the doctrine of utilitarianism, as in his 1787 *In Defense of Usury* and his 1789 opus, *An Introduction to the Principles of Morals and Legislation*. This became the standard doctrine of the British East India Company's Haileybury school, and was the effect of the Haileybury school's influence on Lord Palmerston's Young Europe asset, Karl Marx.²

2. Karl Marx was recruited to the Young Germany branch of the "Young Europe" organization of British Lord Palmerston's Giuseppe Mazzini, beginning thus a career which brought Marx, as a protégé of the "Young Europe" organization, under the supervision of the British Foreign Office's Urquhart, at a time when Urquhart was based in the British Museum as the general secretary managing the correspondence of the Young Europe organization throughout Europe, and, probably, also, the Young America branch which was to provide the seedling organization for what became London's Confederate States of America conspiracy. Urquhart played a crucial role in shaping the mind of Karl Marx from that point on. It was Mazzini, who was the convenor of the London meeting at which the so-called "First International" was founded, at which Marx was appointed, publicly, by Mazzini, as the secretary of that latter organization. Marx's 1850s howler, his paper purporting to expose Lord Palmerston as a Russian spy, indicates that Marx either did not know, or had not wished to know that it was Palmerston who actually owned him. Meanwhile, Marx was heavily indoctrinated in the British Foreign Office's certification of the silly fool Adam Smith, and the Quesnay from whom Smith plagiarized so liberally, as the virtual founder of "the only scientific" doctrine of political economy. It was in this context, that St. Ives (d'Alveydre) founded the anarcho-syndicalist branch of the Martinist Freemasonry, the Synarchist conspiracy, which, among other of its ironical outgrowths, created the leading fascist dictatorships of the 1922-1945 interval.

It is of crucial importance, on account of the grave practical issues under consideration in this present report, that this absolute opposition of the American to the Anglo-Dutch Liberal system, be understood in the fashion I argue those distinctions in this presently ongoing account of the issues. It is of special importance to recognize, that on the issues posed by the presently onrushing world crisis, the Marxist legacy in economics as an academic theory, must be understood, in retrospect, as, not outside the bounds of the British dogma, but as a rival branch of that same dogma. The issues of economic crisis which threaten the world today, reflect the common principles of folly which have been the onrushing cause of the present crisis of the Anglo-Dutch system and the preceding collapse of the Soviet economic system.

The historical-political significance of that opposition to the Anglo-Dutch Liberal system, of what U.S. Treasury Secretary Alexander Hamilton and other U.S. patriots defined as the American System of political-economy, is the most crucial, practical political-philosophical issue confronting the world as a whole at the present moment of an onrushing global existential crisis of global civilization. In fact, it is, functionally, the only significant formal issue of the world at this moment of accelerating crisis.

As I have pointed out repeatedly over more than a half-century to date, on certain crucial issues of economy, the views expressed by Marx in his four-volume *Capital* have functional verisimilitude for many of the common topics of modern economy, although critics of Marx and of most Marxist doctrinaires, such as critic Rosa Luxemburg on the subject of imperialism, were relatively competent, even brilliantly so, where the prevalent views of leading Marxists were wrong. However, none of this would have been relevant had the world at large, including most of the leading avowed socialists, not been dupes of the doctrine of that British system of which Marx himself was an exponent. The American System of political-economy, the only significant system grounded in relevant principles of Leibnizian physical science, was little known to Twentieth Century life prior to President Franklin Roosevelt's Administration, but, since the Harry Truman Presidency, virtually unknown to academic, popular, and official opinion on economics.

The crucial scientific incompetence of Karl Marx's work as an economist *per se*, lies in the bounds of the issue of what he terms "theories of surplus value." He refuses to locate physical-economic growth per capita and per square kilometer in the application of individual discovery of universal physical and related principles to general practice. His adoption of the Anglo-Dutch Liberal version of Venetian dogma on this account, has the same ontological implications as a fallacy of composition, as the doctrine of "imaginary numbers" of d'Alembert, Euler, Lagrange, et al. For him the physical efficiency of the actual creative powers of the individual mind do not exist. Therefore, he fails, utterly, to account for the physical source of the marginal gain in productivity of

labor from which physical economic growth per capita and per square kilometer is derived. Thus, he falls into the same utterly irrational superstitions which are characteristic of the Anglo-Dutch Liberal system generally.

Now, the world has entered a phase in which the British system—the Anglo-Dutch Liberal system of the recent three centuries—is due to become extinct, and its Marxist relics with it. What might be seen as the Alan Greenspan era of wild-eyed bubbling in financial derivatives has carried the previous Liberal system to the point of its virtual global extinction as a species, like the age of dinosaurs before it. A recovery of the real economy were possible, if the American System of political-economy of Leibniz, Franklin, Hamilton, Franklin Roosevelt, et al., were adopted for this purpose. However, now, largely to the credit of Alan Greenspan, the Liberal system, with its Marxian sub-species, has reached the threshold of its imminent, self-inflicted extinction as a form of organized human life. Atlas—the Atlas of Heinrich Heine’s poem!—has, indeed, shrugged, or is about to do so.

To understand this problem and its remedies, we must shift to a fresh approach, an approach consistent with the anti-Liberal American System of political-economy, but with certain crucially important new features added.

For example:

In any serious consideration of the need to prevent a rather immediate general physical collapse of the U.S. economy, the most important concept which must be put across first, if we are to find agreement on means to save the U.S.A. itself from this crisis, is the notion of the fundamental difference between the British notion of “return on investment,” as a matter of individual greed, and the American System’s underlying constitutional principle of a beneficial, physical return on a physical investment for the present and future society as a whole. This difference, can not be competently understood, except from that vantage-point in viewing modern trans-Atlantic history. As I shall show in this report, that specific issue is the dividing line between the imminent fall of global civilization, in the presently onrushing global economic crisis of today, and the escape to safety from the imminent threat of a planetary new dark age.

The issue on which I place the greatest emphasis in this report, is not simply an axiomatic difference in the elementary definition of economics as such. It is also, inseparably, a fundamental difference respecting both the nature of mankind, and the most elementary principles of physical-scientific work.

I proceed accordingly.

Science and Culture

The philosophical principle underlying the American System of political-economy, is to be traced principally, and explicitly so, from its origins within the Classical Greek humanist culture of Solon of Athens and Plato. In this philosophy, the fundamental law of human nature is *not* that of irratio-

nal conflict and greed. Rather, our constitutional law is derived from the Classical Greek concept of *agapē*, as presented through the mouth of Socrates in Plato’s *Republic*, and as affirmed as the Christian principle of natural law, most notably, in the Greek spoken and written by the Apostles John and Paul. This became known in modern European civilization as the *commonwealth* principle of Louis XI’s reform in France and Henry VII’s reform in England; it is expressed as the anti-Locke principle of “the pursuit of happiness” uttered by Gottfried Leibniz. This was copied explicitly from Leibniz by the U.S. 1776 Declaration of Independence, and restated in the highest rank of importance for law in the “general welfare clause” of the Preamble of the U.S. Federal Constitution.

The study of the history of European civilization from this vantage-point, is pivoted on the role of the best produced from Classical Greece’s development in laying the foundations for all leading efforts, since that time, to establish a form of society consistent with the spiritual, as much as the physical requirements of a civilized life. The defense of this commitment against the contrary role of the influence of the wicked Delphi cult of Apollo and its spread of Sophistry in bringing about the self-destruction of a corrupted Athens, is the crucial historical, conceptual benchmark from which the crafting of all competent studies of the history of European civilization, to the present day, have been premised, until now.

Such a study of the history of the process of evolution of European civilization begins with the choice of a benchmark of reference defined as approximately the Seventh Century B.C. onward, through, approximately, the deaths of the leading scientists Eratosthenes and Archimedes. This is a period which began during a time when Egypt, menaced by the evil of Babylon and its allies, relied significantly on maritime allies such as the Ionians, for the eastern Mediterranean, and the Etruscan branch of what had been the Hittite culture, for the western Mediterranean.³

Taking that interval of ancient Greek history as a benchmark, we should study the greater span of history, by looking backward and forward from that point of general historical reference. The question of interpretation of evidence, actual or merely putative, from earlier periods of such a cultural series, must emphasize material evidence of a type which has crucial bearing on distinctively human behavior, such as the

3. The evidence is that the leading cultures of the world emerged as trans-oceanic maritime cultures, appearing thus to post-Flood Mediterranean culture. Although Egypt is noted as a culture based on Nile riparian development, the study of Egyptian geometry, such as that of the Great Pyramids and the impact of Egyptian *Sphaerics* in the founding of the Classical Greek geometry and astronomy of Thales and the Pythagoreans, coincides with other evidence, and shows that major riparian cultures of that time, such as a Dravidian maritime language-group’s initial development of Mesopotamia, as rivalled by that of the earlier development of the Nile, need only be contrasted with the corruption of Classical Greek geometry by Euclid et al., reifying the Classical geometry of the Pythagoreans by replacing the sphere with the flat surface as the primary root of a doctrine of mathematics.



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The Romans' murder of Archimedes was a key inflection-point in the rise of the Roman Empire, bringing on a long dark age in European history, relative to the Greece of Thales, Solon, Socrates, and Plato.

evidence that the leading edge of culture from earlier periods, expresses dependency upon the impact and related influence of ancient maritime cultures, including material evidence uniquely relevant for the study of transoceanic maritime cultures. The methods used rightly emphasize the model of Kepler's uniquely original discovery of the principle of universal gravitation.

With the self-destruction of Athens by Sophists such as the Democratic Party, which conducted the judicial murder of Socrates, the worst outcome was avoided through the influence of Plato and his Platonic Academy of Athens, up through the deaths of the great representative thinker Eratosthenes and the murder, by the Romans, of his correspondent Archimedes of Syracuse. The rise of the Roman Empire, the emergence of Byzantium as successor to Rome in the western Mediterranean, and the medieval abomination of the partnership of Venetian financier-oligarchs and crusading Norman chivalry, represent a long dark age in European history, relative to the Greece of the tradition of Thales, Solon of Athens, Socrates, and Plato.

Thus, the rise of modern European civilization was based, almost entirely, on resurrection of the legacy of the Platonic Academy and such among its predecessors as Solon and the Pythagoreans, a resurrection pivoted on the great ecumenical Council of Florence, and the intellectual influence of Cardinal Nicholas of Cusa and his associates of that great Renaissance. Cusa's *Concordantia Catholica*, defined the principle of the

modern sovereign nation-state republic, while his *De Docta Ignorantia* gave birth to all valid currents of modern European experimental physical science.

In response to the Venetian financier oligarchy's role in abandoning Constantinople to the Ottoman conquest, Cusa organized his associates around the project of great navigational explorations, traversing oceans to the west and east. It was through the direct influence of Cusa's writings of this plan, that Christopher Columbus was recruited to the project of trans-Atlantic exploration, as essential features of this were provided to Columbus, as Cusa's writings were supplemented through Columbus's correspondence with Cusa's collaborator in this project, Toscanelli.

However, the succession of the Fall of Constantinople and the launching of the Spanish Inquisition by the monstrous Torquemada, unleashed waves of religious warfare within Europe which persisted until Cardinal Mazarin's intervention to bring about the 1648 Peace of Westphalia on which civilized forms

of political life have depended since.

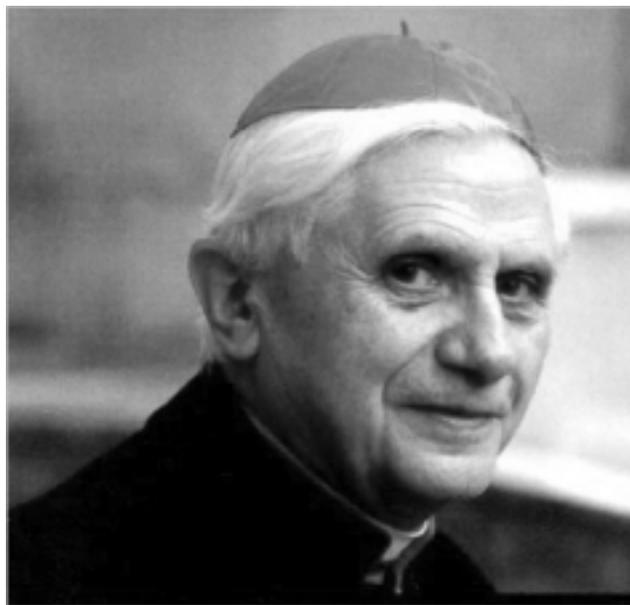
In this process, from 1453 through 1648, much of the progress gained by the Renaissance was lost. Although the city of Venice lost its formal imperial power over the course of the Seventeenth Century, a powerful offshoot of the Venetian financier-oligarchy rose around the Dutch and later British India Companies. It was during this period, which began with the defeat of the Spanish Armada, that the way across the Atlantic was open to colonization by the Dutch, English, and French maritime cultures. The closely related establishment of the Massachusetts Plymouth and Commonwealth settlements, and the later settlement by William Penn, established actual governments, which, in their internal affairs, were only loosely tied to the English monarch, but not the Parliament, until that February 1763 Treaty of Paris which established the British East India Company as an empire-in-fact.

Nonetheless, the concept of the commonwealth, which was spread into Massachusetts, Pennsylvania, and Virginia, was a concept, traced in the U.S.A.'s English tradition, to the present day, through Sir Thomas More, to England's Henry VII, and, thus, from France's Louis XI. France under Louis XI, and England liberated from Richard III by Richmond, were expressions of the revival of the Christian expression of the Classical Greek tradition of Solon, Socrates, and Plato. It was on these premises that our War of Independence was fought on behalf of the commonwealth principle affirmed in the Preamble of our Federal Constitution, against the British

East India Company's imperial tyranny. That process, coming into focus in the same 1789 during which Lord Shelburne's London launched the French Revolution with the latter's subsequent Jacobin Terror and Napoleonic tyranny, defines the presently extended historical roots of the systemic difference between the American System of political-economy, and the characteristic systemic weaknesses among the parliamentary systems of Europe still today.

The commonwealth principle, on which the politics and economic practice of the young U.S.A. were premised, is to be recognized as the echo of the role of the figure of Socrates within Plato's *Republic*. It has been the principles of science and culture generally, which the Fifteenth-Century Renaissance adduced from the warnings given by the example of the ruinous Peloponnesian War, which defines the U.S. republic as in the footsteps of Socrates and Plato, whereas the British system established under leaders such as Lord Shelburne's crew, represents the contrary image, the image of a most notorious figure of Plato's reflections on the Peloponnesian War, the Thrasymachus on which the Nazi Crown Jurist, Carl Schmidt, and his sometime protégé Professor Leo Strauss, premised what became the tyrannical world-outlook of the so-called Federalist Society.

The great principle upon which all that is the best in our American System and its tradition is premised, is the same principle of *agapē* which has been presented afresh as the



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Pope Benedict XVI has presented afresh the principle of agapē in his first Encyclical, "Deus Caritas Est" ("God Is Love"). This is the great principle upon which all that is best in the American System is premised.

theme of the first Encyclical proclaimed by a new Pope, Benedict XVI, *Deus Caritas Est* ("God Is Love"). This is the principle, set forth by Plato as the Socratic foundation of his *Republic*. It is the principle emphasized, as *agapē*, by the Christian Apostles John and Paul, as in *I Corinthians* 13, and in, implicitly, the whole constitutional law of the U.S. Federal Republic, as affirmed as reigning over all features of that Constitution, from its position in the Preamble as the supreme principle of natural law of our republic.

That principle can be competently understood only when we situate it, relative to the legacy of the Classical Greece of Solon, Socrates, and Plato, as the great Christian Apostles John and Paul recognized the import of Plato's *Timaeus*. The latter work, when read in the context of the historical perspective, since ancient Greece, which I have outlined, has a special relevance for our attention here.

Usually, in classrooms and under kindred auspices, the most celebrated feature of the *Timaeus*, is the included emphasis on the subject of the fundamental ontological implications of the five regular solids. The point to be emphasized for our purposes here, is the customary mystification of Plato's work on that specific topic, by those who attempt to interpret the significance of the solids from the vantage-point of Aristotle and Euclid. The point which I make here, in this specific location, is that the commonplace blunder among scholars on this matter of the Platonic Solids, is of absolutely crucial importance for understanding the implications of my own discoveries within the body of a science of physical economy. [See **Figures 3 and 4.**]

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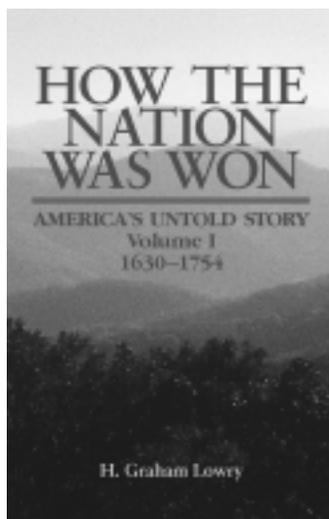
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Once we read Plato's argument there from the standpoint of the Pythagorean view of a physical geometry based solely upon the application of the Egyptian astrophysical principle of *Sphaerics*, instead of contorting geometry, as Euclid does, by adopting the Babylonian cult of flat-Earth geometry as the starting point for his reification of the preceding Classical Greek geometry of *Sphaerics* (by the arbitrary, and falsifying introduction of definitions, axioms, and postulates), there is room for none of the usual nonsense one meets in supposedly learned discussions of Plato's treatment of the so-called Platonic Solids.

Implicitly, what I have just underscored, was the actual approach which can be traced with confidence from Nicholas of Cusa's *De Docta Ignorantia*, and the work of such explicit followers of Cusa as Luca Pacioli, Leonardo da Vinci, and Kepler, and, hence Fermat, Leibniz, Gauss, and Riemann, with notable emphasis on the way in which Riemann features what he terms "Dirichlet's Principle" in respect to the subject of physical hypergeometries.

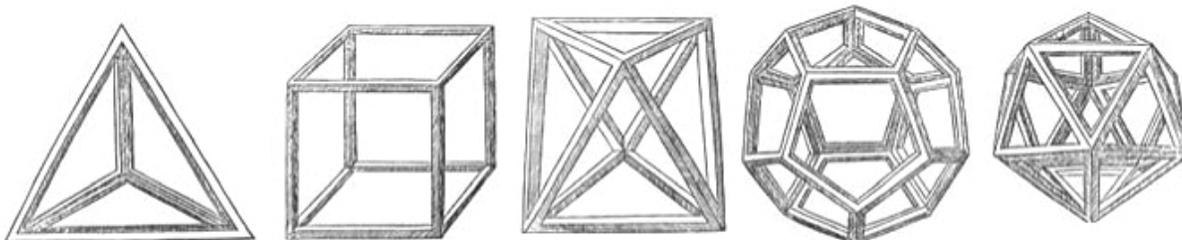
Although the typical reader of this writing may not be inclined to take up the latter feature of Riemann's work, the implications of what I have just said, must be taken into account, as being of presently crucial practical importance for organizing a now desperately needed resurrection of an almost deceased U.S. economy.

Culture and Morals

The principle of the general welfare, also known as *agapē*, was also known in American English as Cotton Mather's and Benjamin Franklin's natural-law principle of statecraft generally, and of economy in particular, as the commitment of the moral individual "to do good." During the early decades of the Eighteenth Century, this pivotal principle of the U.S. system of constitutional law was counterposed in an exemplary way as a conflict between Cotton Mather's commitment "to do good," and the British system of John Locke. This policy of Mather, Franklin, and Leibniz, was opposed to not only the dogma of John Locke, but also the dogma of Mandeville. Mandeville argued explicitly that the public good was, as the Mont Pelerin Society Sophist Milton Friedman was to avow the defense of illegal drug trafficking, in a famous April 1980 broadcast interview with Phil Donahue. Locke and Mandeville typify the natural product of license allowed for the pursuit of private vices, as Adam Smith had argued in his 1759 *Theory of the Moral Sentiments*.

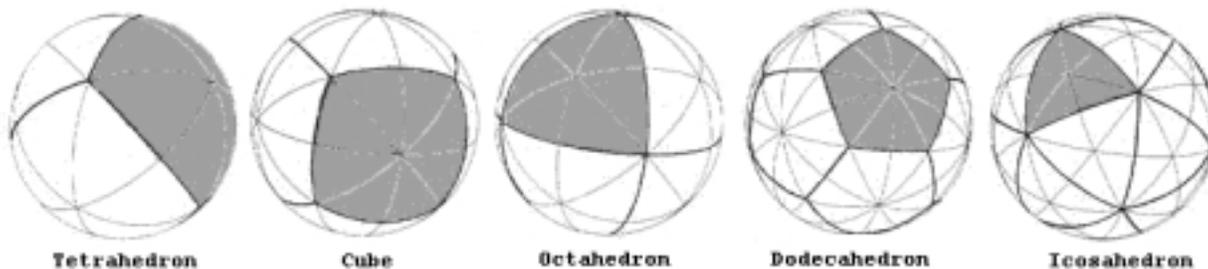
Thus, the general premise of the social theory of Paolo Sarpi's new Venetian school of philosophy, on which Anglo-Dutch Liberal belief and practice is based, is that individual man is essentially a vicious and predatory beast to other individuals and society alike. However, these followers of the empiricism of Sarpi and his lackey Galileo, argue, as Adam

FIGURE 3



The Platonic solids, drawn here by Leonardo da Vinci, are the only regular solids that can be constructed within a sphere. Plato's work on this topic is customarily mystified, by those who attempt to interpret the significance of the solids from the vantage-point of Aristotle and Euclid.

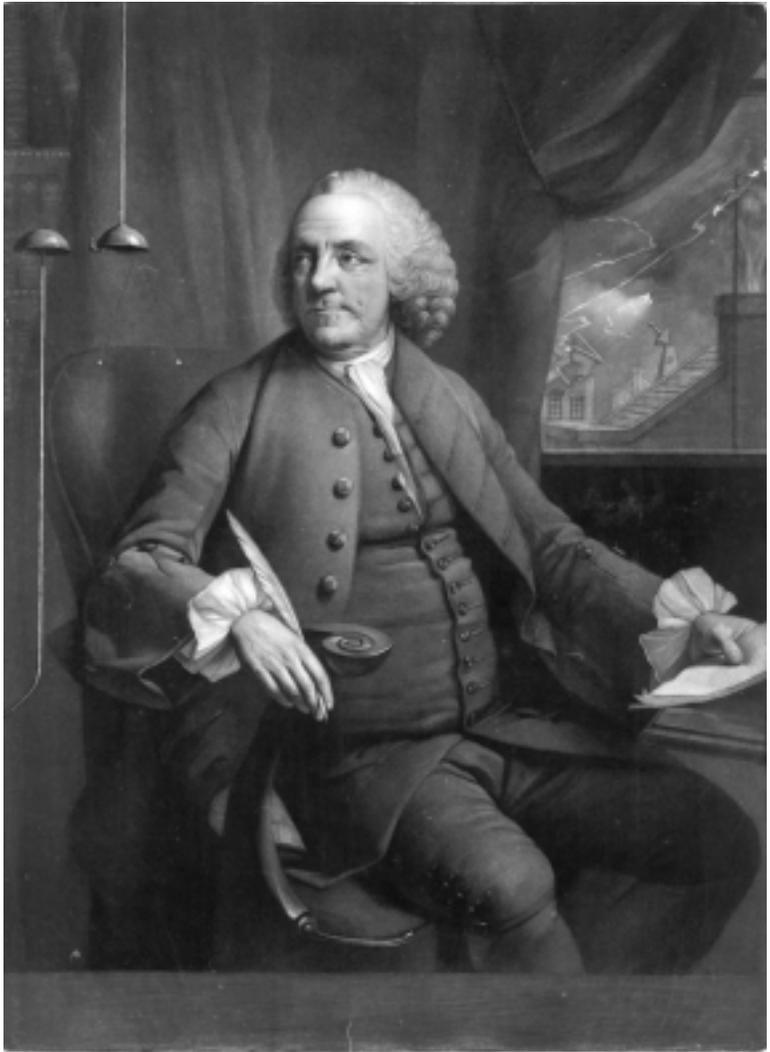
FIGURE 4



The Platonic solids on a sphere. Approaching them from the standpoint of the astrophysical principle of *Sphaerics*, leaves room for "none of the usual nonsense one meets in supposedly learned discussions" of Plato's treatment of the solids.



Cotton Mather (left) and Benjamin Franklin developed the natural-law principle of statecraft generally, and of economy in particular, as the commitment of the moral individual “to do good.” This was in fundamental opposition to the British system of John Locke.



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Smith copied Mandeville in 1759 and later; they argued for the purely ideological rationalization, that the universe is constructed to such effect that what they define as the inherently immoral beast, the human individual, is acting in a way intended to give us the best possible ultimate result for society, through certain mysterious agencies, operating as if from under the floorboards of the universe, agencies of which, they insist, the acting human individual could have no rational comprehension.

Thus, in the argument of the Anglo-Dutch Liberal tradition, we have two diametrically opposed conceptions of the fundamental principles of statecraft in general, and the economy in particular. Both of these derived conceptions are rooted in a pathological notion of the nature of man. I now quote here, once again, the relevant piece of shameless sophistry from Smith’s *Theory of the Moral Sentiments* which I have cited on relevant other occasions, as follows:

“ . . . The administration of the great system of the universe . . . the care of the universal happiness of all rational and

sensible beings, is the business of God and not of man. To man is allotted a much humbler department, but one much more suitable to the weakness of his powers, and to the narrowness of his comprehension; the care of his own happiness, of that of his family, his friends, his country. . . . But though we are . . . endowed with a very strong desire of those ends, it has been intrusted to the slow and uncertain determinations of our reason to find out the proper means of bringing them about. Hunger, thirst, the passion which unites the two sexes, the love of pleasure, and the dread of pain, *prompt us to apply those means for their own sakes, and without any consideration of their tendency to those beneficent ends which the great Director of nature intended to produce by them.*”⁴

In those lines from Smith’s 1759 publication, we have *two inconsistent, directly contrary kinds of alleged principles*

4. Lyndon H. LaRouche, Jr. and David P. Goldman, *The Ugly Truth About Milton Friedman* (New York: New Benjamin Franklin, 1980), p. 107. Emphasis added.



Adam Smith's 1776 *The Wealth of Nations* was principally a diatribe against the U.S. Declaration of Independence.

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combined, as if this were a single functional principle! On the one hand, we have a purely hedonistic, irrational set of impulses which allegedly govern human behavior; but, the result of that behavior is, according to Smith, totally unrelated to what he asserts to be the intended result of his witless hedonistic groping.

Adam Smith wrote those lines as a follower and imitator of the so-called "moral philosophy" of David Hume, who was admittedly no paragon of clinical sanity, but Smith carried these same notions forward in time to the period, beginning 1763, he had become a personal lackey of one of the most evil men of that century, the Lord Shelburne who had emerged as the leading political force within the British East India Company's international political operations, to become the actual architect of the French Revolution of July 14, 1789, of the terrorist reign of the British Foreign Office's "secret committees" agents Danton and Marat, of the Jacobin Terror. Bentham became the head of the Foreign Office's "secret committee" for these operations, and the coordinator of the work of the Haileybury school which laid down the foundations of British imperial doctrines of political-economy which are continued in the form of modern adaptations to the present day. In this way, Shelburne was a key figure behind the launching of that Martinist Freemasonic cult, in France, which orchestrated the French Revolution, the career of Napoleon Bonaparte, and, subsequently, the banker-controlled Synarchist movement which gave the world the Mussolini, Hitler, Franco, and kindred fascist regimes of the 1922-1945 interval.

According to his family records, Smith was assigned by Shelburne personally, from 1763, to design the disruption of the progressive economies of Britain's North American colonies. Smith's 1776 *The Wealth of Nations* was principally a diatribe against the U.S. Declaration of Independence. The content of that book reflected extensive apparent plagia-

rism of the work which Smith had studied during his extensive spying in France during the 1763-1776 interval, the work of the Physiocrats Dr. François Quesnay and A.R.J. Turgot, most notably Turgot's *Reflections on the Formation and Distribution of Wealth*.⁵

Look closely at the implications of the emphasized excerpt from Smith's 1759 publication, which I have just quoted above: ". . . prompt us to apply those means for their own sakes, and without any consideration of their tendency to those beneficent ends which the great Director of nature intended to produce by them."

In that 1759 piece, as in his later *The Wealth of Nations*, sophist Smith demands unquestioning faith in the authority of a rule, such as "free trade," for which he not only fails to supply any scientific evidence; he insists that it is impossible for any of the believers in his dogma to know whether that rule is scientific or not. It is a matter of blind faith, as he insists in the 1759 location; it is the same in his explicit discussion of political-economy, in 1776 and later. More notably, all of the arguments of the empiricist writers on political-economy which I have identified above, including Locke's presentation of his notion of "property," are premised on the same kind of dubious assertion which Smith makes in that passage from his 1759 text.

Quesnay's kindred argument is of special contemporary importance on this account, because of Karl Marx's implied adoption of the same hollow assertion, in his praise of Physiocrat Quesnay's *Tableau Économique*. In all of the cases of the empiricists to whose work I have made reference here, the same mode of argument made by Smith's 1759 work, serves as the formal-logical sophistry on which the entire edifice of each of those author's system depends.

The significance of Quesnay's *Tableau*, is that whereas it provides an instructive map of the schematic organization of the physical economy of that time, as Marx recognized that fact, it accompanies that description of the matter by a wildly lunatic explanation, a piece of which is, practically, and otherwise, utterly immoral lunacy, a lunacy on which the entire "free trade" dogma of the Anglo-Dutch Liberal system is premised to the present day.

In the case of Quesnay, he insists, as does Mandeville, that the entire physical edifice of a national economy depends upon a fairy-tale quality of childish belief in magic. He insists that what modern usage would identify as the profit of the estate, is the result of the magical power of the title awarded to the relevant aristocrat, as the proprietor of the estate. According to Quesnay, the farmers and other artisans employed on the estate are no more than human cattle, entitled to no more share of the wealth produced there than a milk-cow, who must be given just enough of the product to continue to function as a milk-cow. Yet, at the same time, no matter how

5. A.R.Y. Turgot, *Réflexions sur la formation et la distribution des richesses* (1766).



USDA/Bill Tarpenning

“According to Quesnay, the farmers and other artisans employed on the estate are no more than human cattle, entitled to no more share of the wealth produced there than a milk-cow, who must be given just enough of the product to continue to function as a milk-cow.” This remains to this day the essential principle of imperial and oligarchical societies.

much the landlord of the case is merely an indolent parasite, it is to him that Quesnay awards the title *of the creator of the net product of the estate*. Whence this profit? As for John Locke, the generation of the profit is attributed to nothing more than an act of sympathetic magic, the mere existence of a virtual mere piece of paper, a title to ownership of the estate, or ownership of the hereditary slave, *nothing more than mere title to property!*

This argument for *laissez-faire*, by Quesnay, and also Turgot, becomes plagiarist Adam Smith’s “free trade.” Owners of garbage cans take note; Adam Smith is a plagiarist who steals trash.

Engels As an Enemy of Science

The same genre of argument pops up again, this time out of the mouth of Britain’s Frederick Engels. Engels insists that the source of mankind’s gain in physical wealth, relative to the higher apes, is the evolution of the “opposable thumb.” Engels complements that piece of his nonsense by locating the profit of production in the “horny hand of labor,” perhaps hinting at Engels’ own reputation, like that of the G.W.F. Hegel whom Engels admired, for a “horny hand” with the ladies. The same argument appears as a feature of the socialist movement’s social doctrine, especially among those proud, avowed “proletarians” who evaded the fact, that it is the participation of farmer and industrial labor in harvesting the fruits of a fundamental scientific progress in the Pythagorean tradition, which is the efficient source of those scientific revolutions on which the increase of the human population to more

than six billions has been made possible.

The essential, and impassioned hatred of actual science, as expressed so by Britain’s Frederick Engels, is the same expressed by the Olympian Zeus of Aeschylus’ *Prometheus Bound* and by the typical, “brainwashed,” anti-science Luddite of the Americas’ and Europe’s contemporary, so-called “68er” generation. Zeus’ objection is to the existence of the distinction between man and ape. The topic is the torture of Prometheus, this time not at Guantanamo, on the account of the charge that Prometheus had given people the knowledge of the use of fire, to say nothing of the nuclear power radiated from the Sun. From most ancient known times, through the Emperor Diocletian, and the suppression of the quality of the education proffered to the children of freed slaves in the post-Lincoln U.S.A., the essential principle of imperial and related tyrannies by the few, is the assignment of the subjugated many to a cow-like condition of life, by

the denial of the ordinary individual’s knowledgeable access to the experience of reenacting the discovery of universal physical principles.

The putative great socialist, Engels, admires the working men and women of Karl Marx’s tale, but actually only, like objects in a museum-collection, as mere cattle, or house pets. Thus, like the Olympian Zeus, or the Emperor Diocletian later, or MIT’s Professors Noam Chomsky and Marvin Minsky, Engels denies the ordinary folk any actually uniquely human quality which might distinguish them from apes!⁶

Contrary to Engels, the issue of all economics practice as science, is the principled difference between man and ape. That difference is typified by the human act of discovery of a universal physical, or comparable artistic principle, by means of which, humanity’s physical power in and over the universe, is increased in a qualitative way.

So, mankind, in whom ape-like qualities would not permit a planetary human population of more than some relatively few millions of living individuals, now represents over six billions.

This power which sets the human individual apart from, and above the apes, is, literally, power as the ancient Pytha-

6. Chomsky and Minsky were associated with an “artificial intelligence” project conducted at MIT’s Rochester Laboratory for Electronics (RLE). The project combined the proposals of two acolytes of Britain’s Bertrand Russell, Norbert Wiener and John von Neumann, who insisted that human intelligence, including creativity, could be reduced to a mechanistic schema. Those conceits are fully in accord with Engels’ views on the nature of man.

goreans and Plato define it, by the Greek term *dynamis*, which Leibniz revived for modern scientific use as the term *dynamic*, a term which he presented as a means for conceptual insight into the intrinsic scientific incompetence of the mechanistic methods of Descartes and Newton. This is the significance of the central point of the contributions by me, and my young adult associates, to the Christmas 2005 edition of the political intelligence weekly *Executive Intelligence Review*.

As I shall emphasize in the course of this present chapter of this report, and in comparable locations, the nature of a universal physical principle, such as the principle of the use of fire, or Kepler's discovery of universal gravitation, or the mastery of nuclear fission and thermonuclear fusion, has the apparent ontological form of an *infinitesimal*. I mean this as I stress the common incompetence of the empiricists Descartes, Newton, and that among such of their mechanistically inclined followers as d'Alembert, de Moivre, Euler, and Lagrange, who denied hysterically the existence of Leibniz's infinitesimals. Whereas, the greatest achievements in modern science since Kepler and Fermat, have been those associated with a view opposite to their own, the view by Leibniz, and the circles of collaborators of Carl F. Gauss, Bernhard Riemann, and, later, such as Albert Einstein.

If we look back to the pre-Aristotelean, pre-Euclidean Greek science which was associated with the roster of the contributions by such as Thales, the Pythagoreans, and of that circle of Plato's associates which excluded Demosthenes and his student Aristotle, virtually all of the valid principles and related materials contained within the famous set of *Euclid's Elements*, had been developed prior to any significant work by Aristotle or others. All of the most relevant content of Euclid's *Elements* had been developed by a better method, by the circles of the Pythagoreans and Plato, before either Aristotle or the Euclidean came visibly on to the scene. As is shown most plainly by the ironies of the concluding sections reporting some of the outcome of *Sphaerics*, in *Euclid's Elements*, the special significance of the relevant content of the *Elements*, is what has been done to reify this material from the vantage point of what is fairly best-described as blind faith in a "flat Earth" universe, as the famous mathematician and teacher of young Carl F. Gauss, Abraham Kästner had pointed out in Kästner's own definition of the anti-Euclidean geometry on which much of the development of mathematics by Gauss himself was based.

The crucial issue of scientific principle here, is the implication of the Egyptian method of *Sphaerics*, as opposed to the Babylonian cult of what Euclid's set of definitions and axioms define, systemically, as representing the geometry of an axiomatically flat-Earth universe.

That is to emphasize, as Kästner did, that where Egyptian astrophysics and related science starts from the spherical character of the observation of the physical universe in which we live, the Babylonian legacy starts from the working, aprioristic assumption that the universe is primarily an outgrowth

of the flat area implicit in the set of definitions and subsumed axioms of Euclidean elementary plane geometry. The idea of a solid Euclidean geometry is essentially an extension of the axiomatics of a Euclidean plane geometry. Notably, these "flat Earth" definitions of the universe, do not provide for the existence of an efficiently physical universe, but treat the real world as merely a kind of abstract real-estate-development scheme.

Take the case of Kepler's discovery of gravitation. At no part of the orbit does the functional equivalent of a straight line exist. Unlike the circle, the elliptical orbit of the planets never experiences "straightness," even in the most infinitesimal of infinitesimal intervals. The same point was emphasized by the Nicholas of Cusa, who had emphasized the Earth's orbit of the Sun before the Sixteenth Century; Cusa emphasized, first in one of his sermons, that Archimedes' attempt to approximate π was brilliant, but, nonetheless, ontologically incompetent. [See **Figure 5**.] The argument by Cusa became a crucial feature, in his *De Docta Ignorantia* and beyond, of his founding of the entire sweep of modern experimental physical science.

As the later leading figure of the Platonic Academy, Eratosthenes emphasized, the most crucial case to be referenced on this account, is the proof, by construction, originally by Plato's friend and collaborator, the Pythagorean Archytas, of the exact doubling of the cube, without use of arithmetic, by methods of construction based upon the principles of *Sphaerics*. The replication of that discovery of Archytas, by modern students, is the most convenient pedagogical approach, still today, for grounding students in the essential methods and principles of a constructive physical geometry, and in the rudiments of science in general, the science of physical economy in particular.

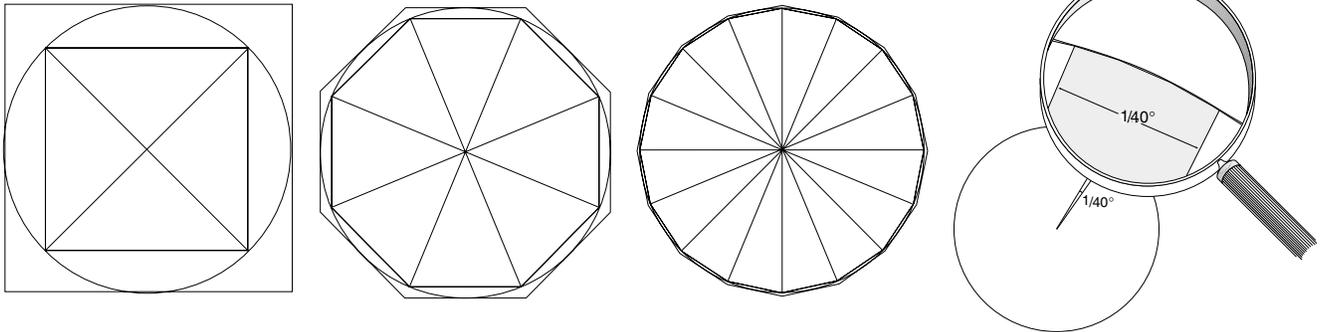
The Historical Setting of Gauss's 1799 Paper

The modern significance of Archytas' original accomplishment, is made clearer by relevant study of the implications of Carl F. Gauss's 1799 publication of his doctoral dissertation exposing the frauds of d'Alembert, Euler, Lagrange, et al. on the matter of the Fundamental Theorem of Algebra.⁷

The most crucial discoveries of late Eighteenth- and Nineteenth-Century physical science, were set into motion by a leading mathematician of the Eighteenth Century, Abraham Kästner, who pointed out the crucial fallacy of all taught derivatives of Euclidean geometry. Kästner is the founder of a *modern anti-Euclidean physical geometry*. He recognized the fraudulent feature at the center of both what is called Euclidean geometry, and also so-called "non-Euclidean geometries," the fraudulent nature, from the outset, of a Euclidean notion of definitions, axioms, and postulates.

7. Published as *Demonstratio Nova Theorematis Omnem Functionem Algebraicam Rationalem Integram*. . . (Helmstadii: 1799). In C.F. Gauss, *Werke* III, pp. 1-31. Sundry translations.

FIGURE 5

Quadrature of the Circle

Fidelio

Nicholas of Cusa showed that Archimedes' attempt at "quadrature of the circle"—to approximate the value of pi—was ontologically incompetent. The first three drawings show the process of estimating the area of a square approximately equal to that of a given circle, as the average area of two regular polygons. In the last drawing, although the inscribed polygon of 2^{16} may seem to closely approximate a circle in area, it actually contains a devastating paradox. There are slightly more than 182 angles of the inscribed polygon within each degree of circular arc.

The influence of Kästner, one of the two principal teachers of young Carl F. Gauss, was of crucial importance for Gauss's own contributions to the development of an anti-Euclidean, physical geometry. Behind what might seem to some to be the paradoxical quality of Gauss's discussions of the subject of the non-Euclidean geometries of Lobatschewsky and Janos Bolyai with both Janos and his father, Farkas Bolyai, was Gauss's own understanding of not a non-Euclidean, but an anti-Euclidean physical geometry, a fact which was reflected in a crucial way in the argument which Gauss made against the Berlin Newtonians associated with Euler, in Gauss's own 1799 doctoral dissertation.

During the period beginning with Napoleon's occupations in Germany, Gauss was singled out for an especially vicious attack from Napoleonic and related quarters. The attack on Lagrange in Gauss's 1799 dissertation, and Napoleon's sponsorship of Lagrange, must be considered relevant, as the intervention on Gauss's behalf, by the circles of Lazare Carnot and Carnot's École Polytechnique associate Alexander von Humboldt, is relevant in the rescue of Gauss from a very nasty predicament at that time.

Without changing the views which he had implicitly set forth in his 1799 doctoral dissertation,⁸ Gauss adhered to the same commitment to an anti-Euclidean geometry throughout his mature development; but, nonetheless, he carefully minimized the risk of making himself once again the personal target of the circles of his reductionist adversaries of 1797-1799. So, the deeper significance of this successive work of Kästner and Gauss was not to be made fully clear to modern science until work done by Bernhard Riemann, beginning

with Riemann's 1854 habilitation dissertation, and continued through Riemann's work on Abelian functions and physical hypergeometries.⁹

Looking back to Gauss's 1799 dissertation from the vantage-point of the later work of Riemann, we encounter the crucial importance of that 1799 paper for the science of physical economy.

I restate here certain aspects of the same issues which I have addressed in earlier various published locations, most notably in my "Vernadsky and Dirichlet's Principle," and, in collaboration with some associates, "The Principle of 'Power.'"¹⁰ In this instance, I underscore the references to that material which have crucial implications for the understanding of those principles of the science of physical economy which have crucial importance for dealing with the global economic crisis now at hand.

The needed understanding demands looking at modern economy back from its origin in the founding of both the modern nation-state and modern experimental physical science, which occurred as a set of developments centered in Golden Renaissance Italy, to the methods which that Renaissance adopted as resurrections of scientific work of Pythagoreans such as Archytas and of Archytas' friend and collaborator Plato.¹¹

9. As noted in the 2005 Christmas edition, "The Principle of 'Power,'" of *EIR*. Albert Einstein's recognition of the revolutionary validity for modern science of the combined work of Kepler and Riemann, is relevant here.

10. *EIR*, June 3, 2005; Dec. 23, 2005.

11. The development of the modern European form of sovereign nation-state economy dates from the European developments during the Italy-centered Fifteenth Century, as exemplified by the establishment of the commonwealth forms of state under France's Louis XI and England's Henry VII. Excepting

8. E.g., Gauss to Farkas Bolyai, March 6, 1832; to C.L. Gerling, Feb. 4, 1844.

Modern physical science, which is, in fact, a characteristic outgrowth of the birth of the modern nation-state, was born, chiefly in Fifteenth-Century Renaissance Italy, with outstanding contributions by Filippo Brunelleschi, such as his application of the catenary principle to the construction of the cupola of the Cathedral of Florence, but in a more comprehensive way, by Cardinal Nicholas of Cusa's *De Docta Ignorantia*, and later work by himself and such publicly avowed followers as Luca Pacioli, Leonardo da Vinci, and Johannes Kepler; but, also, in practice, by John Napier¹² and William Gilbert.

These and related developments represented a comprehensive revival, under emerging modern political conditions, of the ancient Greek science established by such pre-Aristotelean, pre-Euclidean figures as Thales, the Pythagoreans, Plato, and their respective followers and collaborators. If we trace the developments associated with the approximately two generations of Gauss's contributions to science to their origins, we must locate the combined development during the unfolding of about a hundred years of combined Classical artistic and physical scientific development since the impact of the legacy of Johann Sebastian Bach, and the Abraham Kästner of Leipzig whose promotion of the legacy of both Leibniz and Bach was not only a central feature of the German Classical revival of the late Eighteenth Century, and of the support for the cause of the independence of the U.S.A., but a crucial figure in the preparation of European science of that time for (as Napiers') the role of Kästner's young pupil Carl F. Gauss.

To grasp the significance of that approximate century of Classical artistic composition and physical science, from the aftermath of 1763 through the death of Riemann, we must view these developments against a certain specific historical backdrop. To comprehend the history of European science and Classical artistic composition as a whole, the influence of Aristotle, Euclid, et al., had already, back then, represented the onset of a turn, backwards, to the same standpoint of philosophical reductionism from which modern empiricism, Kantianism, and the radical positivist outcrops of their influence are derived.

The ebbs and flows within about seven centuries of modern European civilization as a whole, must be measured

the fact that all forms, and phases of development of society are subsumed by the specific characteristics of human society, the notion that modern economy can be traced back to ancient or medieval forms exists only in the incompetence of childish intellectual fantasies. Even European imperialism, which dates from relevant systems based in ancient Mesopotamia, is the superimposition of an ancient disease upon the modern form of society established, in principle, during the European Fifteenth-Century Renaissance.

12. Napier, the pioneer in developing logarithms, is notable for his remarkable echoing of Pythagorean-Platonic *Sphaerics* in his design of what Gauss rediscovered as Napier's design of the *Pentagramma Mirificum*. See Gauss, *Werke*, "III. Pentagramma Mirificum," pp. 481-490, and VIII, pp. 101-117. Riemann, "III. Vorlesungen über die hypergeometrische Reihe," pp. 69-93, *Riemanns Gesammelte Mathematische Werke* (New York: Dover Publications reprint edition, 1953), *Nachträge*, pp. 69-93.

against developments in modern physical science from Cusa through the work of Bernhard Riemann, and they represent, essentially, the rebirth of ancient scientific knowledge as a kind of awakening from a decades-long little dark age in science since the death of Leibniz. It was not until the work of Riemann, that modern science recaptured fully the essential principles of the method of scientific thought associated with those followers of the Egyptian astrophysical science of *Sphaerics* typified by Thales, the Pythagoreans, and Plato. During the entire sweep of those modern centuries, the ebbs and flows in science and in Classical artistic activity have been closely correlated phenomena. An adequate understanding of the principle of a science of physical-economy brings these functional connections into the required quality of focus.

With respect to that Eighteenth-Century little dark age, the progress of modern science since Cusa, Pacioli, and Leonardo is associated, most notably, with two periods since that time: the Seventeenth-Century publications of Kepler, Fermat, Huyghens, Leibniz, and Jean Bernoulli, and the work of the Monge-Carnot phase of France's École Polytechnique, and that of the circles of Germany's Alexander von Humboldt, typified by Gauss, Dirichlet, and Riemann. In between the death of Leibniz and the middle to late Eighteenth-Century Classical renaissance associated with the names of Kästner, Lessing, Moses Mendelssohn, and the period of the early École Polytechnique: the "Voltairean" Eighteenth-Century empiricist "Enlightenment," was, thus, as I have just said, relatively, a "little dark age" of mystification of science by the empiricist reductionists.

The Crucial Issue Posed by That Paper

Now, that said, look backwards toward the close of the Eighteenth-Century, to Carl Gauss's 1799 publication of his doctoral dissertation. In this setting, the figure of Alexander von Humboldt, as being representative of both the Monge-Carnot École Polytechnique of which he, von Humboldt, was an active member and close personal associate of Carnot, bridges a following interval of slightly more than a half-century of the greatest period of epistemological florescence in modern physical science since the late Seventeenth Century. It was also the closest approximation of a recapturing of the vitality of outlook we should associate with the period of the collaboration among the Pythagoreans, the circles of Socrates, and Plato.¹³

13. The decay of the French science of the École Polytechnique dates from rising dictator Napoleon Bonaparte's sponsorship of Euler's protégé Lagrange as an empiricist counterfoil to the Leibnizians of the Monge-Carnot École Polytechnique. The implications of that adoption of Lagrange's doctrinal influence were to be seen more clearly with the role of the Duke of Wellington, the British occupation agent, in bringing the decadent Bourbon Restoration monarchy into power in Paris. Under this arrangement, the representatives of the Lagrange current, Laplace and Cauchy, took over the École, expelled Gaspard Monge and Lazare Carnot, and began a corrosive campaign of intellectual corruption which, by the middle of the 1820s, left the École a

The crucial significance of Gauss's doctoral dissertation for the science of physical economy today, is to be considered in that light. The point of most immediate relevance at this point in this report, is the implicit connection of Gauss to the work of Archytas and his friend Plato, as centered on the related challenges of the construction of the doubling of the cube by Archytas, and Plato's treatment, especially in his *Timaeus* dialogue, of what have become known in modern usage as "The Platonic Solids."

The indicated connection between the work of the ancient Pythagoreans, Plato, et al., and Gauss's 1799 doctoral dissertation, is found in the famous "Great Theorem" of Pierre de Fermat, that it is impossible to determine so-called "rational roots" for equations of greater than the second degree, a statement which is traced from the attempted treatment of cubic roots by modern mathematicians, such as the Sixteenth-Century Giralamo Cardano et al. Hence, the significance of the famous treatments of the subjects of cubic and biquadratic functions by Carl Gauss.

The significance of Fermat's marginal note, known as his "Great Theorem," is essentially ontological, rather than, as some ivory-tower mathematicians have presumed, merely formal. It is implicitly crucial in respects which have absolutely crucial significance for the practical comprehension of modern physical science, especially, for our subject in this report, the application of that science to the crucial issues of policy-shaping for modern economy. On this account, that so-called "Great Theorem" must be seen as cohering pervasively with the way Fermat's mind functioned in his definition of the "quickest pathway" of refraction-reflection, a definition which led into the development of the discovery of the epistemologically crucial, Leibniz-Bernoulli, catenary-cued principle of universal physical least action.

This matter became the subject of a famous collaboration, on the subject of cubic roots, between the empiricist ideologues d'Alembert and de Moivre, during which de Moivre exclaimed his opinion that some of the estimated roots of the algebraic representation of a cube must be "imaginary." This

shattered, corrupted wreck of its former self. At that point, Alexander von Humboldt and his École protégé Dirichlet, retired to Prussia, and the Germany of von Humboldt, Gauss, Dirichlet, and Riemann assumed what had been France's earlier position, since 1648, of world leadership in physical science for the remainder of that century. With the mid-Nineteenth-Century intervention of London into Germany's science, as typified by the role of Lord Kelvin, Clausius, Grassmann, and Helmholtz, there was a significant decay in German science akin to what Laplace and Cauchy had done to corrupt France's École Polytechnique.



EIRNS/Dan Sturman

A geometric construction corresponding to Gauss's Fundamental Theorem of Algebra (right), created by the LaRouche Youth Movement in Philadelphia.



view was adopted by the circles of the Leibniz-hating Voltaire of that time, as the pivot of a comprehensive libel directed against Leibniz by the Leonhard Euler then based in Berlin. D'Alembert, Euler, and Euler's protégé Lagrange became the leading advocates of the view that some among the cubic roots, and implicitly also roots of biquadratic functions, were purely imaginary, which is to say, with only formal, but not ontological significance.

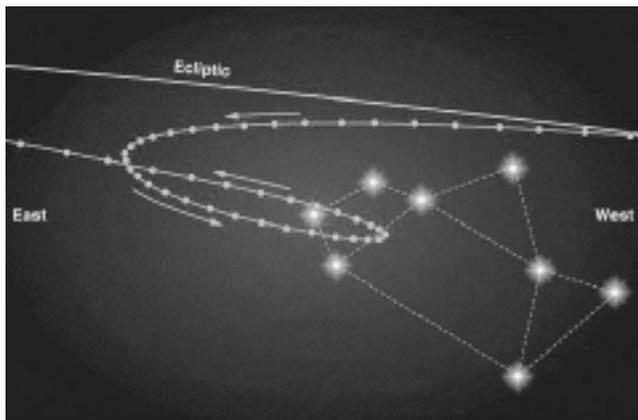
Since Plato's contemporary, and collaborator, the Pythagorean Archytas, had shown, by construction, what the nature of all of the roots of the generation of a cube must be, this conclusion by de Moivre, d'Alembert, Euler, Lagrange, et al., must have been absurd in fact. The clarification of that fact was the subject of Gauss's 1799 doctoral dissertation.

The argument which Gauss presents in his 31-page 1799 dissertation, is conclusive, and thoroughly so. The argument, and its authority, has been addressed in sufficient detail by various authorities over time, as by some among my immediate associates. Since that material is readily available, from such assorted relevant sources, I limit my treatment of that argument to a most crucial, but rarely acknowledged point: as now follows.

This limitation goes with the nature of the subject-matter of this report on economy. Indeed, it goes to the core of any competent conception of a science of physical economy, as the able reader will now soon begin to recognize.

What is a universal physical principle always expressed experimentally, and therefore mathematically, as an infinitesimal, in the sense of Leibniz's catenary-cued universal principle of physical least action? What is this that is bounded only by formal mathematical zero, and is nonetheless a physically efficient experimental presence? Why is the argument made by d'Alembert, de Moivre, Euler, Lagrange, et al., that the infinitesimal is "imaginary," not merely wrong, but intrinsically silly? The best answer to that question is to be found by asking a relevant question: Where does Leibniz's concep-

FIGURE 6



The puzzle of the “retrograde,” or looping, orbit of Mars puzzled astronomers for centuries, and was finally solved by Johannes Kepler.

tion of the infinitesimal originate, and why is that essential ontological conception absent from Newton’s counterfeit claim to have produced a “calculus” comparable to the original discovery made previously by Leibniz?

The calculus which was developed originally by Leibniz, and no one else, was a by-product of Johannes Kepler’s uniquely original discovery of universal gravitation. At the center of Kepler’s conceptually vast approach to the experimental methods he developed for his purpose, there was one central mathematical problem with two aspects. One was the notion of the infinitesimal, as the Leibniz calculus defines it in a more refined way by his universal principle of physical least action; the other was the notion of a deeper meaning underlying the notion of experimentally defined physical functions of an elliptical form.

In both aspects of the problem posed to future mathematicians by Kepler, the elliptical function which described the relationship of the orbiting of Mars and Earth with respect both to one another and to the Sun, showed that these elliptical functions could not be explained in terms of a simple elliptical cut of a cone. The often cited, “looping” of the image of a Mars viewed from Earth, is a convenient pedagogical event for the purpose of conveying a sense of the issue to the novice. [See **Figure 6.**] Since, in the first instance, the interval of action within the planetary orbit was both efficient, and yet infinitesimal, Kepler proposed that future mathematicians develop a calculus for representation of the inner dynamic of the generation of the elliptical orbit. The second instance, the elliptical form of the functions implied by the planetary system, the attempt to explain an elliptical orbit formally as a section cut through a cone, must be put aside.

In the meantime, Fermat’s resolution of the apparent discrepancy between reflection and refraction, through the discovery of an ontological, rather than merely formal resolu-

tion, produced Fermat’s principle of pathway of quickest action. Fermat’s solution prompted the Paris collaboration of Christiaan Huyghens and Leibniz on, among other subjects, this matter of the pathway of quickest time. This approach evoked the discovery of the calculus by Leibniz, and the subsequent Leibniz-Bernoulli development of the catenary-cued natural-logarithmic principle of universal physical least action.

The history of European science, especially along the track into Greece from Egyptian astronomy (as opposed to Babylonian), presented the human mind with the formal evidence of lawfulness of trajectories in the apparently spheroidal depths of the observed universe as a whole. This approach, known to ancient Greek civilization as the science of *Sphaerics*, presents us with objects which are universal, rather than objects confined by sensible boundaries to some part of observed space-time. These objects are efficient in every infinitesimal interval of the space in which they appear, and yet can not be contained within any of that subsumed physical space-time. Therefore, the universe defined by universal physical principles, is, as Einstein put the point, *finite but not bounded*.

Since the life’s work of Bernhard Riemann, we are far better equipped to conceptualize the implications of what I have just, once again, stated, on this subject. This added convenience bears the name, given by Riemann, of “Dirichlet’s Principle.” The foundations of this statement of principle, whose significance is located primarily within the domain of Riemannian physical hypergeometries, are nonetheless already implicit in the life’s work of Gauss.

As a matter of pedagogy, the implications of what I have just argued are as follows.

There are objects in the domain of the shadows cast upon sense-perception, which are presented in the form of finite objects of sense-perception. There are also infinite objects, notably of the class of experimentally validatable universal physical principles, which are experienced by sense-perception, but which do not appear in the form of finite objects. We can observe the presence of the latter only in terms of apparently anomalous behavior of the former. The latter appear to the mind as experimentally validatable as efficiently universal physical principles. Yet, they are objects, although not presented to us as discrete experiences within the bounds of sense-perception.

In other words, you experience the infinite object, the universal physical principle, as something which you are inside. The action of that which you are inside, then becomes quasi-visible to your cognitive machinery of sense-perception, as an infinitesimal. That infinitesimal is manifest as an effect which may appear in the very, very small; but, nonetheless, you can not catch it as an object held in hand, there; it eludes your attempt to grasp it as a discrete object. Yet, as an effect, it is there in a very efficient way, an experimentally demonstrable way.

However, it never conforms consistently in a way which

suggests objects in “empty” space. There is no division of matter, space, and time of the sort that the ignorant believer in sense-certainty demands. There is only physical space-time. It is the interaction of universal principles which define the apparent signs of existence of the universal. This brings us to *dynamics*.

We have thus identified two classes of objects met in the individual human mind. One are discrete objects, which represent the sense-perceptual form of finite objects in the real universe. The second are universal physical principles, which are not discrete objects, but are distinct objects nonetheless. Formally, in mathematics, we must present both types on a common ground, as objects of the mind. On condition that we recognize the distinctions between the two types, we may correlate the relations among these distinct types by aid of a common mathematical or other language. The simplest way of bringing such matters into discussion is found in the mathematical paradoxes of geometry which confront us in the matter of cubic and biquadratic functions, as these were explored by Gauss. As Riemann has shown, the continuation of that line of investigation leads us into the kind of common language of thought which Riemann associates with the term “Dirichlet’s Principle.”

At this point, it may be said, that this is what figures such as Riemann and Albert Einstein were talking about, and Kepler and Leibniz before them. Therefore, we have *dynamics*. That much said, so far, shift the focus to some relevant historical examples of the political implications of the *dynamics*.

2. The Dynamics of the Present Crisis

Rather than the notion of discrete objects bumping in the empty space of the customary empiricist mind, a notion which was denounced by Leibniz in his attack on the incompetent physics doctrines of Descartes, Leibniz defined a real universe whose ontological existence is manifoldly interactive. In that exposure of Descartes’ fatal methodological incompetence in matters of physical science, Leibniz demonstrated that the correct view of the physical universe is that associated with the use of the Greek term *dynamis*, as by the Pythagoreans and Plato. This exposure by Leibniz, of the systemic incompetence of the mechanistic method common to virtually all modern reductionists, is as relevant now, as then. Since then, a systemically competent physical science has been associated with Leibniz’s translation of Classical Greek as a view of physical processes as *dynamic*, as opposed to follies of a mechanistic method of Descartes and those, related modern statistical methods which are commonplace still today.

The point is, that virtually all popularized economic dogma taught on university campuses, and in kindred places

today, is one or another, more or less crude variety of radically reductionist, mechanistic-statistical method of Cartesian empiricism. All generally accepted financial-accounting method is an expression of a crude form of that mechanistic-statistical method. The present international monetary and related regulatory agencies, base the formal expression of their policy-shaping processes within the bounds of those intrinsically incompetent terms of reference.

Today, the standpoint of the development of the notions of the Biosphere and Noösphere by Vernadsky, provides us the appropriate conceptual framework in which to think about, and discuss the *dynamic* quality which sets the human species, and also its individual member, apart from all other forms of living and other existence in our universe. The needed, dynamical conceptions of physical economy required for mastering the present world existential crisis, are to be found, conveniently placed, in the overview of economic policy-shaping which I present in this chapter of the report.

To present that case, I begin with a selection of a few benchmark developments, which help us to make some telling points about relevant points in past and current history.

To understand the specific urgency of the subject of that controversy for the perilous current political situation of our U.S.A., we must situate the discussion within the bounds of today’s political significance of the controversy of *dynamic* versus *mechanistic* methods in science. We must employ that approach to the apparent theory underlying each and all of the sundry brand-labels of empiricist economic dogma. To that end, we must take into account, in review, of at least the summary features of the centuries-long conflict between the American and British systems of political-economy, as follows.

The significance of British Lord Shelburne’s use of his blunt instruments such as Adam Smith and Jeremy Bentham, is that the French Revolution, the Bonapartist wars, and the 1814-1815 Congress of Vienna, had the cumulative effect of virtually isolating, and undermining the newly founded U.S. republic over a long time. This relative isolation continued until the reversal of that containment through the victory, led by President Abraham Lincoln, against the combined forces of Lord Palmerston’s puppets, such as the Confederacy, France’s Napoleon III, and the temporary Habsburg reign by the tyrant Maximilian in Mexico.

After the U.S. victory against Lord Palmerston’s plots, the power and international influence of the U.S. model grew rapidly, to such effect that the world’s leading economist of that time, the U.S.A.’s Henry C. Carey, exerted great influence in Japan, for a time, in Bismarck’s Germany; in Russia of Czars Alexander II and Alexander III, as reflected in the work of D. I. Mendeleev and Count Sergei Witte; and, otherwise, in sundry places where the American System of political-economy was often copied to great economic advantage.

This spread of the influence of the American “model” throughout the Americas, and in leading parts of continental

Eurasia and Japan, prompted the British Empire to orchestrate what became known as World War I, chiefly in the effort to crush the spread of the influence, throughout the continent of Eurasia, of the hated rival of the British system, the American System of political-economy. This World War I actually began through the alliance of the Prince of Wales, later Edward VII, with the Emperor of Japan, in the 1894-1895 launching of the first Sino-Japanese war, Japan's occupation of Korea, and Japan's British-directed 1905 naval attack on Russia.

The 1933-1945 U.S. Presidency of Franklin D. Roosevelt temporarily consolidated the U.S. economy and the American System as the leading force in the world, until the U.S.A. itself began to be thrown into ruins by the succession of the 1962 missile-crisis, the wave of fascist-international-directed assassination-attacks against France's President Charles de Gaulle, the assassination of President John F. Kennedy, the U.S. Indo-China War, the 1968er phenomena, and the subsequent, willfully destructive economic and social policies launched by such pro-Synarchist elements of the Anglo-Dutch Liberal financial establishment as Pinochet-linked Felix Rohatyn, under the Nixon Administration. The overt "cultural paradigm-shift" of the 1968-1981 interval, transformed the U.S.A. into an increasingly decadent appendage of an international financier power which is presently in control of the floating-exchange-rate system formally established at the 1972 Azores conference.

Nonetheless, despite the long periods of relative misfortune suffered by the U.S. economy in its centuries-long history of rivalry with the London-centered monetary-financier power, the American System of political-economy has always been a vastly superior economic system, relative to all rival designs, most notably to the Anglo-Dutch Liberal design. It has been only to the extent that the U.S.A. has been subjected to the imperial control which the Anglo-Dutch Liberal monetary-financial system has exerted in the field of international loans and trade, that the U.S.A. has been self-corrupted by the Anglo-Dutch Liberal penetration of the U.S. financial system, such that that modern Venetian model of the world monetary-financial system launched by Venice's Paolo Sarpi has been able to regain and maintain intellectual hegemony in the economic ideology of not only Europe but, all too often, inside the U.S.A. itself.

As a result of these and related circumstances, the hegemonic notions, still today, of financial accounting, of monetary and financial systems, and of taught "economic" belief, are adaptations to the radically reductionist dogmas of the Anglo-Dutch Liberalism launched by Paolo Sarpi's New Venetian Party. Locke, Mandeville, Quesnay, Turgot, Adam Smith, and Bentham, can not be competently discussed except when their dogmas are recognized as differing brand-labels of a common Anglo-Dutch Liberal—i.e., neo-Venetian—ideology, an ideology which must be recognized as being essentially a certain type of pagan religion, and, decidedly not an actually Christian one.

We have come, lately, in the wake of the most recent Davos Conference, to the long-overdue retirement of a public figure whom the future will probably regard as one of the most notorious charlatans of our recent history, currently retiring Federal Reserve Chairman Greenspan. We are confronted simultaneously by the spectacle of a European Central Bank which is, arguably, functionally, the probably worst, and most explicitly malicious piece of economic lunacy of modern economy's history of statecraft: a product of the hateful lust for destruction of the German economy on which all Europe depends, as this hate was expressed by the fanaticism expressed by Britain's Thatcher and France's echo of Napoleon III, François Mitterrand.

The present situation is, therefore, that which is portrayed by my pedagogical image of "The Triple Curve." The current rate of nominal monetary emission, is presently determined by the monetary cancer of "financial derivatives." That pedagogical tool, the Triple Curve, was first crafted by me as fulfillment of a commitment which I volunteered in the course of my participation in a 1995 Vatican conference on health and related matters; it was supplied and intended to clarify the relevant issues for the numerous participants there who were, largely, not professionals in such economics matters. The point was to make clear the functional relationship between, on the one side, the trends toward collapse in performance of society's physical capacity, and growing willingness to address the issues of health care and human life policies generally; and, on the other side, current world monetary-financial and economic policy since the radically morbid, and still worsening changes in intention and performance of the world monetary system, the latter changes launched on the initiative of the Administration of U.S. President Richard Nixon during 1971-1972.

The propagation, and continued use of the "Triple Curve" pedagogical tool by me, was prompted by the need to counter the presumption that levels of nominal obligations to pay, have been rising, whereas, at the same time, in fact, the actual physical output as measured per capita and per square kilometer, has been not only falling, but the discrepancy between rising prices and falling physical output, per capita and per square kilometer, has been accelerating over the course of, most clearly, the interval since the U.S.-led collapse of the original Bretton Woods System, and since the relevant 1971-1975 events in monetary reorganization.

Up to the time of the referenced, late 1995 Vatican conference, there had been three sets of developments of most notable, qualitative significance within this process of degeneration of the world's economy as a whole. *The first* were the effects of the August 1971 floating of the U.S. dollar by the Republican Nixon Administration, and the subsequent role of Nixon's George Shultz at the Azores monetary conference, where the original IMF system was replaced by the lunacy of a floating-exchange-rate system. *The second crucial development* was the wrecking of the internal economy of the U.S.A.

by the 1977-1981 U.S. Democratic Carter Administration, under the direction of Zbigniew Brzezinski's lunatic rampages as U.S. National Security Advisor. *The third, and most ruinous development*, has been the post-October 1987 role of Alan Greenspan in his assuming the function of U.S. Federal Reserve Chairman. At each of these three points, there was an acceleration of the previously prevailing functional rate of general monetary inflation, to rates now far beyond the threshold-levels already determined by the combined effects of the 1964-1972 U.S. War in Indo-China and the willful actions of the United Kingdom's disastrous first Harold Wilson government in collapsing that nation's physical economy, and unleashing factors of monetary chaos into the existing Bretton Woods System.

Although today's prevalent, errant opinion, views the 1971-2005 decline of the physical economies of the Americas and Europe as offset by an ostensible surge in growth in India and China, the fact is, that about seventy percent of the populations of the latter nations are gripped by a cruel impoverishment. This poverty reflects the fact that the prices of the exports by those nations are far below the levels needed to pay for the full *national cost* of the production of those nation's exports. The notion that the leading nations of Asia, such as Japan, China, India, Iran, and so forth, now represent the leading global economic and financial powers of the future, is a delusion. Any significant collapse of the levels of physical consumption in the European and North American markets, would have the political-psychological effect of a suggested "thermonuclear implosion" on the internal economies of leading Asian nations.

From the standpoint of the practice of idiocy known as the methods of financial accounting being currently applied by the IMF and others to shaping international monetary, financial, and physical-economic policies, it might appear that China, first, and India, second, are the most successfully rising economic powers in the world today. In physical reality, the opposite view must also be taken into account: They are among the largest of the monstrously vulnerable targets to be hit by any sharp collapse in the trans-Atlantic sector's, and Japan's, financial and physical condition. Reliance on current standards of financial accounting, rather than the methods of Leibnizian physical-economy, is, in that respect, the greatest of all current, catalytic threats to the world as a whole today.

Searching for Alternatives

Cutting national budgets, production, or physically essential services, as a response to general financial bankruptcy of a nation's, or the world economy, would be, and currently is, a virtually psychotic form of action against both the sovereignty of nations and the lives of their populations. What is needed, for any such contingency, is to maintain full employment in essential production and services, by whatever means are most suitable, and, treat that freezing of the level of physical collapse as a platform, from which to launch net physical

growth of the economy's useful employment of its labor force and output, per capita and per square kilometer.

This goal must emphasize a rapid shift in the composition of the U.S. labor-force, in particular, away from emphasis on unskilled services employment, toward more than comparable margins of increase of science-driven, relatively capital-intensive modes of employment, but also a progressive decrease of the ration of unskilled and semi-skilled employment of the U.S. labor-force as a whole. It must be recognized, at long last, that the increase of the ration of unskilled services employment, when combined with reduced physical capital-intensity, and low "energy-flux-density" modes in infrastructure and production, is, intrinsically, a highly inflationary impulse toward even ultimately hyperinflationary explosions.

It must be recognized that most of the growth in the services ration of employment is poorly disguised unemployment, disguised in the costume of implicitly inflationary, and of relatively useless forms of low-paid employment in make-work activity. In contrast to such current practice in the U.S.A. and elsewhere, we must recall the contrasting achievements under Harry Hopkins' leadership, in using public works programs to move a mass of more than four millions of unemployed which had been reduced almost to uselessness, into a crucially important component of the capital-intensive, science-intensive development of the powerful U.S. labor-force, which produced the world's greatest, most productive economy ever, under the leadership of President Franklin Roosevelt.

That is, in fact, a challenge which both the U.S.A. and western and central Europe will face very soon. In large degree, that is already the situation throughout much of the trans-Atlantic community of nations.

In the case of the U.S.A. itself, such action is the implicitly mandatory Constitutional obligation of the Federal government. Failure of any Federal agency or official to take that course of remedial action to stop the bleeding, and launch new net growth, would demand the immediate action of impeachment for reason of violation of the general welfare provisions of the Preamble of the Federal Constitution. Were the U.S. Supreme Court to rule against such compelling remedy on the intrinsically incompetent, and immoral pretext of "shareholder interest," the Federal Executive and U.S. Congress would be obliged, under the general-welfare principle of natural law, to go as far, promptly, to defend the general welfare, as to take prompt impeachment action to change the composition of the majority of the U.S. Supreme Court.

Although that latter action might be required, on the matter of the relevant authority, the highest-ranking lawful authority in our republic, is not the Supreme Court, but the organic, dynamic, whole implication of that Federal Constitution of the U.S.A., composed of both the U.S. Declaration of Independence and Federal Constitution. The leading expression of that authority, in natural law, is the Preamble of the Federal Constitution. The essence of the lawful existence of

Three Crucial Developments in the Degeneration of the World Economy



Zbigniew Brzezinski was the *éminence grise* of the Carter Administration, whose lunatic rampages further wrecked the U.S. economy.



National Archives/Oliver

President Nixon meets with Cabinet members, including George Shultz (right), on May 4, 1971, prior to the August floating of the dollar. Shultz was then director of the Office of Management and Budget; he replaced John Connally (second from left) as Treasury Secretary a year later.



people.fas.harvard.edu

Federal Reserve Board Chairman Alan Greenspan (left) and an apparently skeptical then-Treasury Secretary Robert Rubin. Greenspan's role has been the most ruinous of all, propelling the U.S. economy toward hyperinflation.

our republic, is *the commonwealth principle*, the principle of the general welfare, *agapē*, established in practice among modern governments by France's Louis XI and England's Henry VII. All of the demographic accomplishments in characteristics of government and economy, are reflections of the influence of changes in European statecraft and economy set into motion by the great ecumenical Council of Florence, a Council which reflected the bitter experience of Europe during, especially, the centuries under Venice-led *ultramontane* rule culminating in the ugly spectacle which was encapsulated by Boccaccio's *Decameron*.

The lesson for today, especially for globally extended European civilization, is a "Let us not go there again" response to the outcome of the medieval Venetian, *ultramontane* system of "globalization." The great threat to civilized life on this planet today, is the struggle by nostalgic neo-Venetian admirers, the veritable Miniver Cheevys of today's international financier cabals, to take the world into a globalized system like that under the feudal, *ultramontane* tyrannies

of Venetian financier oligarchy and Norman chivalry, a continuing Venetian tradition. It is that tradition which, today, has been the continuing threat to globally extended European civilization since the expulsion of the Jews from Spain by the monstrous Tomás de Torquemada. That was the Torquemada whom the Martinist Freemasonry's Count Joseph de Maistre chose as the model for the Count's personally tailored redesign of the imperial personality of his protégé Napoleon Bonaparte, the Napoleon who was the model, based on the murderously anti-Semitic Torquemada, for Adolf Hitler.

In this moment of onrushing threat of early general financial collapse, the obligation of government would be to ensure the continued operation of firms, to forbid those foreclosures or other liquidations which would tend to prevent defense of the general welfare, and to correct the causes of the bankrupt condition by lawful measures of government to launch a vigorous expansion, and technological progress of the physical economy. This expansion would be effected through the launching of an urgently needed, vast development of basic,

modern economic infrastructure, chiefly by government, and an accompanying, and dynamically interlinked expansion of the private sector's predominantly capital-intensive investment in scientifically and technologically progressive institutions.

In the present circumstance, the prompt first actions to be taken by governments, must be to eliminate the existence of so-called "hedge funds" and related expressions of so-called "financial derivatives" from the national and international economy. The practice of bidding to gain temporary control of stockholdings, to use that control to loot the firm for the advantage of the vultures who have seized control thus, and to then take the extracted financial loot as part of the means for the financial "Mongrel Horde's" looting other firms and nations, is a moral crime, and must be treated as a crime against the implicit moral law, the law of the obligation to subordinate other considerations of special interest to the promotion of the general welfare. Confiscation of looters' gains under such a principle of law, is not only lawful, but even mandatory, under such circumstances. Theft, by whatever means that scheme was accomplished, was theft, for which the beneficiaries of the moral crime are fully accountable.

Under the natural moral law of the modern sovereign nation-state republic, the existence of a business entity, especially a corporate form of such entity, is a privilege properly arranged by government. Excepting matters of freedom of speech or related considerations of individual human freedom, the private enterprise must adhere to the useful efforts it makes as its intended contributions to the general welfare, and must enjoy reasonable protection, and aid, as by government, on that account. However, to use a business entity to attack the general welfare of the nation, as in the case of Enron, is a crime which demands restraints, going as far as forfeiture, to deter misuse of the corporate or related form for purposes which are contrary to the general-welfare interest. Intentional abuses of relevant categories are to be treated by sovereigns as offenses, even criminal offenses, against the general welfare of society, just as much as illicit traffic in dangerous drugs.

That Beastly John Locke!

For example: During and following the Fifteenth Century, governments of Portugal and Spain, among others, declared the inhabitants of sub-Saharan Africa to be animals, rather than human, and, under that pretext, hunted down those targeted peoples as they might have hunted down wild cattle. The "old bulls" were often killed as a precautionary measure, and the ranks of relatively older adult women debrided similarly. The living residue of this murderous practice was declared to be "property," and once a captured person had been so classed as "property," his or her descendants were also declared to be ordinary private property, in perpetuity.

Although the British East India Company and its New England accomplices, abandoned continued *direct* participa-

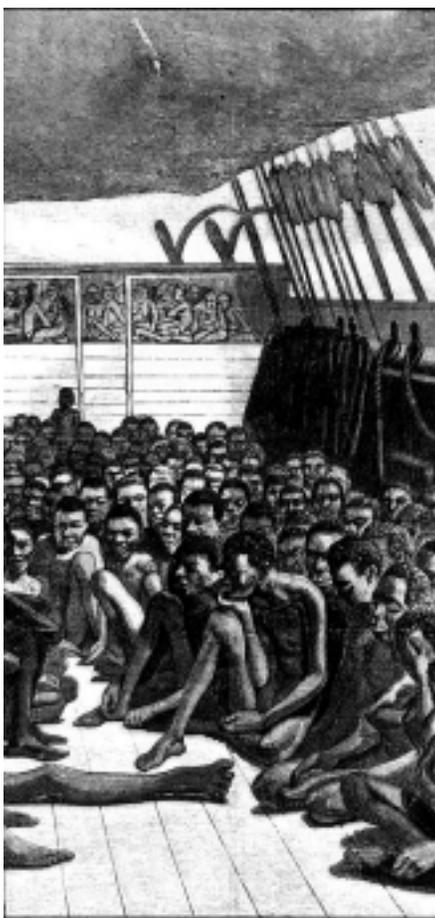
tion in the slave trade on their own account, during the 1790s, the British participation in the slave traffic was continued past the 1790s, indirectly, by the Nineteenth-Century Spanish monarchy, which practiced the slave trade under the protection of Spain's Anglo-Dutch Liberal creditors, the British monarchy.¹⁴ This was defended internationally by London's defense of the alleged, Lockean right, of "property" (e.g., Justice Antonin Scalia's "shareholder value") of its Spanish monarchical assets to traffic in slaves; it was also defended by the pro-slavery faction inside the post-1820 U.S.A., who premised their argument for the perpetual right of the slaveholders on John Locke. Perhaps, what Charles II did to the deceased Oliver Cromwell, might be an action bestowed upon the literary remains of John Locke.

Elements of the spirit of that British arrangement were continued even after the nullification of slavery by the U.S. government's defeat of Britain's Confederates. This was done under what might be properly identified as "The Law of the Olympian Zeus," the Zeus of Aeschylus' *Prometheus Bound*. As Prometheus was tortured, on Zeus's order, for the alleged "crime" of providing human beings with knowledge of the use of fire, so even anti-slavery liberals who had opposed the brutishness of the Confederacy, pursued a Zeus-like, post-1865 policy of opposition to the Frederick Douglass policy. The result was the anti-Douglass policy of opposition to educating the children of former slaves to a level above that of their intended, inferior economic status in life. This suppression of the intellectual development of the descendants of freed slaves was often promoted under the cover of the sophistry of suggesting that resisting modern education was "protecting their African culture."

To this day, in the U.S.A., there are those who promote a regressive level of intellectual-cultural development for the majority of persons of ascertainable African descent. They insist on promoting qualities of general employment and career opportunities which are qualitatively below that intended for "middle-class whites." The argument is that the culture of poverty must be "defended" against the intentions of humanists in the Frederick Douglass tradition.

Hence the signal significance of *Brown v. Board of Education*. The reform was written into law, but the practice usually falls far below the level of the presumed intention for both education and for social status in life generally. More and more, since the election of President Richard Nixon, under current policies of actual practice, there has been a regression in the personal conditions of life in entire communities, and in the majority of those displaced from improving positions within the process of formerly progressive agro-industrial development. Formerly improved regions of our cities, for example, are being "Africanized" by the collateral effects of "post-industrial" policies in progress since the "68er"-associ-

14. The shift of the British India Company and its Yankee partners out of the slave-carrying trade, was into the much more profitable opium trade.



John Locke defended slavery, as the sacred right to "property." The pro-slavery faction inside the post-1820 United States premised its argument for the perpetual right of slaveholders on Locke's writings. Shown here, a slave ship in 1860, illustrated in Harper's Weekly.

Library of Congress

ated cultural-paradigm downshift in U.S. economic and intellectual life.

To be precise, compare the situation of the U.S. poor of African descent with the policy of peonage which the Spanish imperialists prescribed for the indigenous population of Mexico. The Spanish presumed, somewhat reluctantly, that the indigenous population of Mexico was, unlike Africans, actually human, but greatly inferior to the "noble Spanish" predator in level of mental and moral capacity.

These two categories, the descendants of African slaves, and those of Hispanic-language origins, are the principal political-social minorities in our U.S.A. today. This feature of the population is to be matched with the increasing decline in the functional literacy of most among the lower eighty percentile of the population, an effect accomplished, chiefly, as a reflection of the shift from a producer economy, to a "services economy."

Meanwhile, the effects of the shift from a producer, to a "services" economy, have included a loss of scientific and comparable practical economic literacy among the leading social strata of our society today. With the winnowing of the ranks of the stratum of the population which emerged as the veterans of adult population from the period of World War

II, we have now reached the point of cultural decadence, at which there is a loss of scientific, economic, and other cultural literacy among the "Baby Boomer" and "Tweener" populations, and a corresponding lack of elementary economic literacy among the current managements of leading business and other organizations.

This cultural catastrophe among virtually all levels of our present U.S. and European populations, is correlated with the so-called "outsourcing" of production from Europe and North America, into the largely culturally deprived populations of the relatively poorer, and even poorest populations of the world. Production itself has been re-oriented, technologically, to adapt to the relatively poorest quality of cultural development of the relevant labor-force.

Locke's and kindred rationalizations for such interpretations of the alleged "natural right of property," return our attention here to the pervasive topic of the preceding chapter: the essential difference between man and beast.

To the degree we permit some people to be enslaved, we degrade them to the status of animals, not that of actual human beings. To the degree we lower

the standard of economic and cultural life of some of our population, we degrade all of our population. To the degree we destroy the level of knowledge and competence of some of our population, we degrade our population as a whole. To the degree we cheapen labor employed in industries, we destroy the physical productivity of all industry. You do not make a nation richer, by offering apparent advantages to some, at the expense of the welfare of the nation as a whole.

Contrary to some sloppy sophistries afoot, there is no equivalence of the oppressive poverty of a free population, to holding a person in slavery, as property, as the relevant faction of Habsburg Spain did, and as did the British, Dutch, French, and pro-Confederacy elements inside the U.S.A. The slave is denied his or her right to be considered human; whereas, the citizen victimized by outrageous exploitation, retains the right to be human, although he or she may be virtually denied both the right and the needed impassioned desire to exercise the distinctive human quality of informed creative reason in an efficient way. The distinction which makes a person actually human, and which affords the individual actually human political status and the enjoyment of human rights, is the freedom of expression of the uniquely human powers of creative reason, as Carl F. Gauss's 1799 attack on the follies of

d'Alembert, Euler, Lagrange, et al., was the defense of human reason against the tendency toward the policies expressed by Olympian Zeus's torture of Prometheus.

On the matter of this issue, the rise of modern European civilization through the actions centered upon the great ecumenical Council of Florence, notably as the relevant principles of statecraft are expressed as Cusa's *Concordantia Catholica* and *De Docta Ignorantia*, owes the superior power of modern European civilization to the realization of the implications of those creative powers of reason which are the only essential principle of difference between man and Frederick Engels' apes. The defense and promotion of creativity, such as these provisions of that great Renaissance, which established this distinction in practiced modern European culture, yields the benefit of unleashing the willful form of the creative-mental potentials of the human individual for the benefit of society as a whole. This is to say, that modern European culture, insofar as it conforms in practice to the cited policies of that Renaissance, unleashes the benefit, for society as a whole, of the creative power within the human individual whose existence distinguishes the human individual, uniquely, from the beasts. This frees those men and women, and systems of government, from the evils and associated depravity of nations such as those which tolerated the torturer Torquemada, and which seek, still today, in the tradition of Hobbes, to imitate the quality of beasts.

This creative power has chiefly two relevant social expressions: science as the legacy of the Pythagoreans and Plato illustrates the meaning of science, and Classical artistic culture as typified in such prototypes as the principle's expression is typified by choral *bel canto* polyphony crafted according to the counterpoint of Johann Sebastian Bach. To the extent that the members of society are participants in the reliving and application of those characteristically human qualities of cultural development, the rate of society's increased power in and over nature, is increased in effect.

Take as a case in point, the continuing Baltimore study by my associates. Compare, as we are doing, the lessons to be learned from the catastrophic degeneration of the City of Baltimore during the recent three decades, for the understanding of the qualitatively different, but scientifically comparable crises in the condition of life in sub-Saharan Africa. Witness the increasingly pervasive cultural degradation spreading within the population of that City, and the associated increase of rates of both reversible, and deeply embedded mental regressiveness in the quality of individuals and of entire strata of the nearly two generations of degradation of what had been one of the leading urban regions of the U.S.A.

A policy of global search for the cheapest labor, is a lurch into global impoverishment, and a threat of a new, global dark age of all humanity. It is the enriching of the physical productive powers of labor, per capita and per square kilometer of the nation's and the Earth's surface,

which is the only tolerable goal and policy for a moral and sane government.

It is the development of the individual as human, rather than in the likeness of a feral beast, combined with the development of the opportunities for expression of those uniquely human powers of creative reason, which affords the wise society the benefit of the creative potential which was innate to the newborn human individual. It is the tapping of that potential by the fostering of such favorable circumstances, which endows present and future generations the benefit of the riches implicit in those powers of the human individual which set man absolutely apart from the beasts.

Thus, it is the effects of what is now, the recent nearly four decades of shift from the world's leading science-driven agro-industrial economy, to a "post-industrial services" economy, and the wasting away of the productive facilities and basic economic infrastructure upon which our former relative excellence depended, which have ruined us, bringing us now, thus, to the brink of an awful self-destruction.

Thus, Dynamics

This brings us to the matter of the physical "rate of return" on investment.

The application of the Cartesian or kindred notions of physical space-time to either mere financial accounting or to relations among physical-economic objects, produces views of economic processes in particular, or society in general, corresponding to notions of planets, moon, asteroids, and other objects floating in empty space. In reality, contrary to prevalent accounting practices and current economic dogmas, a national economy, or association among national economies, is a wholly integrated physical space-time, not objects floating as if in empty space and time.

As Johannes Kepler was the first to introduce this idea as a meaningful concept of the functional unity of matter, space, and time, as a notion of our Solar System as an integrated, developing process, empty space does not exist. Space, matter, and time, are not to be treated as part of a Babylonian's system of speculation in the implicitly "Euclidean" territory of a usurious real-estate scheme. The physical space-time of humanity in general, and the modern nation-state economy most emphatically, is *thoroughly dynamic*, as Vladimir Vernadsky defined the Biosphere, and also the Noosphere.¹⁵

This means, that nothing exists which is not ultimately affected by everything else: *the universe, like competence in science, is dynamic*. However, that statement, while true, is too general an observation for the needs of a discussion of more serious matters, such as the subject-matter here. As in the cases of Kepler's discovery of gravitation and Fermat's of "quickest time," the primary form of *dynamic interaction*

15. Lyndon H. LaRouche, Jr., "Vernadsky and Dirichlet's Principle" *EIR*, June 3, 2005.

within the universality of any phase-space, or broader domain, is the *interaction among universal types of fundamental principles*. This was already the policy of practice of the notable Pythagoreans and Plato; this was the significance of their use of the term *dynamis*, which Leibniz recapitulated as dynamic and associated with his use of the German term, *Kraft* (English: *power*; Classical Greek: *dynamis*). For our purposes here, the approach to be taken is the view of the effects of human practice on the universe on which man acts, as that view is determined from the vantage-point of the individual human mind.

This view of the universe, as *dynamic* in respect to interaction among universal physical principles, is exactly the view of physical science from the standpoint of the approach to physical hypergeometries which is encountered in Bernhard Riemann's view from the vantage-point of what he termed "Dirichlet's Principle." *The universe is finite, but not bounded*; which is to say, that there are no *a priori* definitions, axioms, postulates, or kindred ivory-tower *impedimenta* allowed, by means of which the universe might be defined as if from outside itself. The universe is bounded by its internal set of universal physical principles, which bound the universe so determined, as Riemann's reference to Dirichlet's Principle so implies. No principle exists *a priori*, Euclidean or other, in respect to that universe.

The proper goal of science, and the science of physical economy most emphatically, is to capture the universe as a whole within a single human mind's conceptual powers. What is actually achieved to that effect, is, at best, merely an approximation; however, the approximation can serve us very efficiently, provided we keep two considerations fully in mind. First, that our knowledge of principles is only partial, and, second, that we take into account, as a form of knowledge, the awareness of what significant questions for which we do not yet know answers: the principle of Nicholas of Cusa's *De Docta Ignorantia*.

It was on this account, that Riemann's celebrated 1854 habilitation dissertation stands as the platform on which all subsequent development of the knowledge of physical-scientific principle depends among decent people today. This does not lessen the worth of Riemann's predecessors; it brings science to a point toward which all honorable efforts to understand our universe have been working since the Pythagoreans of ancient Greece, and earlier. By discarding all aprioristic presumptions, such as those childish presumptions of Euclidean geometry, we have cleared the decks of garbage, so to speak, and have given the intellectual air a clean smell for a change, by freeing it of the stink of diaper-like childish presumptions. We do not know everything; but we have progressed from the superstition-ridden puberty of Euclidean and kindred, or worse, fantasies, to the true adulthood of scientific thinking.

The effective comprehension of that universe as a whole,

has been improved by the work of Vernadsky on the matters of the Biosphere and Noösphere. That is to emphasize, that it is more than merely convenient to divide the planet we occupy among three functionally distinct phase-spaces: the abiotic, the Biosphere, and the Noösphere. Thus, a convenient approach to defining a functional dynamic within the universe we occupy, can be expressed with reasonable approximation by summarizing the implications of an historical science of physical economy as the dynamic, functional relations among those three gross domains.

Once we have done that, we cut across those three partitions, by introducing the division between basic economic infrastructure and the production of the goods and essential services produced by the localizable action of private undertakings for human consumption. After matters have been sorted out to that degree, we now introduce the role of the thinking individual as the source of the creation of the ideas associated with discovery of universal physical principles and of Classical artistic works of composition and performance.

Thus, the individual living person becomes the functional center of the physical-economic universe; that creative individual activity, as typified by the critical discoveries by the Pythagoreans, Plato, and Nicholas of Cusa and his followers to the present day, becomes for us the center of a humanist universe, a universe of the individual person acting as the celebrated passage from *Genesis 1* avows, as an agent, an extension of the power of the Creator.

The essence of competent economic science, is the habit of thinking about the universe we inhabit in that way, with that viewpoint and outlook.

Within the scope of that arrangement, the following considerations are paramount.

Heraclitus and the 'Parmenides' Dialogue

In presenting the concept of dynamics to audiences for my recent writings on the science of physical economy, I have often chosen the definition of the dynamics of the chemistry of life which V.I. Vernadsky presents in his *Problems of Biogeochemistry II*, as perhaps the most accessible presentation of what I have intended by use of the term *dynamics* for physical-economic processes.¹⁶ His presentation of the interrelationship of abiotic and living chemistry, as defined by a universal principle of life not present within the bounds of the chemistry of abiotic processes, comes most simply, and yet very closely to the proper meaning of *dynamic* as Classical Greek and modern science concur on the essential principle of the meaning of *dynamic* when it arises as a transcending connection between the two such qualitatively distinct phase-space domains.

To make that connection between ancient and modern science clear to the specially human cognitive processes of

16. Lyndon H. LaRouche, Jr., "Vernadsky and Dirichlet's Principle," *loc cit*.

individuals, I compare this illustrative feature of Vernadsky's work with the view underlying the famous fragment from the ancient Heraclitus, the view of Heraclitus' "nothing is permanent but change," which also appears, as a concept of *Sphaerics* which is a central feature of Plato's *Parmenides* dialogue.

The usual problem which arises in pointing out the latter connection is that too many scholars, and others, rely on handing down commentaries upon commentaries, without demonstrating any actually practically efficient comprehension of the terms they are describing in this way. In effect, they spend much, or more effort on debating what they do not actually know, as knowing what they are talking about.

My view, my contrary method, is that one does not know anything unless he or she has constructed it in the knowledgeable way typified by the discovery and experimental demonstration of a discovered principle of nature. I apply this here, in its narrower, and more profound implications, the original construction and proof of a valid universal physical principle. Or, the principle may also be applied to propositions which are not proven, or are even refuted, if this knowledge of the provable defects of the proposed conception satisfies the same method appropriate for proof of a valid universal physical principle. My rejection of Euclidean geometry during the adolescent hour of classroom time I was first confronted with it, is typical of the approach I have adopted since childhood and adolescence. I rejected that course of instruction from the start, because I could not accept the notion of the real-world existence of principles of a non-physical geometry. This resistance brought me, more than a decade later, to the adoption of Bernhard Riemann's 1854 habilitation dissertation, as the necessary conceptual standpoint for a science of physical economy.

The method which I have just thus described provides the basis for my reading of what is commonly regarded by relevant persons as Heraclitus' aphorism. I know what Heraclitus intended (the *logos*), because I have constructed the proof of that meaning. I have identified the object, ontologically, which corresponds uniquely to what Plato's treatment of the Eleatics (i.e., *Parmenides*) recognizes as the reality expressed by the paradoxes of that Plato dialogue. I know that I understand that properly, because it is the only real-world conception which is consistent with the method of *Sphaerics* on which the Pythagoreans and Plato premised all of their known discoveries. Any contrary approach would be, at best, academic sophistry.

The center of the method of science practiced by the Classical Greeks prior to the appearance of Aristotle and Euclid, coincides with the apparent aphorism of Heraclitus. It corresponds thoroughly with the implications of dynamics as Vernadsky, for example, treats that for biogeochemistry. I apply that concept here, to the matter of the remedy for the immediate existential economic crisis of the U.S.A., in particular, today.

It is not sufficient to talk about economics with others in an academically approved manner; it is necessary to know what one is actually talking about, a rare event in recent decades of the history of the U.S.A. and Europe, among other places.

In competent science, to "know what one is talking about," is, primarily, knowing the relevant universal physical principles.

So, the typical social problem of nations' economic policy-shaping which we must face today, is that which we addressed on the subject of the Einstein-Born debate, in the *EIR* weekly's Christmas edition's "The Principle of 'Power.'" The radical-positivist trends in teaching of physical science, have introduced a shift from a physical science based on discovery of universal physical principles, to a mere "mathematical model" of a relevant stereotype of phenomenon: some mysterious, unproven "thing" allegedly operating out of sight and mind, under the "floorboards" of experience, as in the case of the wild-eyed fairy-tales of Mandeville, the Physiocrats, and Adam Smith, or the pagan religious mysticism of the post-World War II "ivory tower" systems analysis of the operations research circles of Tjalling Koopmans.

The latter folly is carried to a wild extreme by the pack of foolishness known as the debate over "Evolution" versus "Intelligent Design"—it is difficult to judge which of the two positions' advocates have scored the silliest arguments. Neither side believes in a God the Creator. The one believes in a kind of witchcraft, while the other is worshiping a game of chance. They are united in faith only by a common prayer, the fabled craps-shooter's, "Baby needs shoes!" The current arguments of both devolve to a battle of statistical models, in which no actually principled difference between man, beast, or machine is considered. This same radically positivist method of ivory-tower lunacy, the cult of "mathematical modeling," still super-pollutes the practice of governments and business management dogmas, this at a time now past seven years after the August-September GKO financial-derivatives bubble popped—still today. That is typical, still today, of the "models" of hedge-fund designs which are currently in the process of collapsing the world's present financial-monetary system! Thus, the crucial experiment has been conducted, and failed, catastrophically.

Meanwhile, the evidence remains on Vernadsky's side. The Biosphere increases as a percentile of the mass of the planet as a whole; the Noösphere increases, cumulatively, relative to the mass of the Biosphere. The principled distinction among abiotic, living, and cognitive processes is the greatest mass of physical evidence—or, even if you prefer, "statistical evidence"—extant. What evolves is the planet within our Solar System; the most powerful forces of change we know are shown, thus, to be the principle of life, as distinct from the abiotic, and the principle of cognition, as distinct from all known forms of life excepting the human individual. The principle of life is more powerful than non-life, and the

power of cognition is more powerful than life itself. The human mind, through the development of culture, triumphs over death, and comes, through presenting the productive fruit of that talent, to share more and more of the intended burdens of the Creator's management of our Solar system and beyond.

In Conclusion: Principles, The Crucial Fact

Once again: Consider Gottfried Leibniz's unique discovery of the fundamental principle of the differential calculus, the Leibniz-Bernoulli, catenary-cued universal principle of physical least action, as the implications of this principle were clarified by the circles of Gauss and Riemann. This is the grounding principle of all competent approaches to the subject of economy today. Once again: the principal features of the accomplishments of Leibniz, Gauss, Riemann, and their circles, are directly outgrowths, realizations, of a Fifteenth-Century European revival, by Cardinal Nicholas of Cusa and his associates, of the Classical Greek science associated with the Pythagoreans and Plato. This revival unfolded along a line of development associated inclusively with the work of Luca Pacioli, Leonardo da Vinci, Johannes Kepler, and Pierre de Fermat.

Study the long wave of the historical process, from the roots of the work of the Pythagoreans, through the respectively unique, signal contributions of such as Kepler, Fermat, Leibniz, Gauss, and Riemann, by reference to the pivot of Leibniz's uniquely original development of the calculus, which he crafted according to the specifications which Kepler made for a calculus which had presented "to future mathematicians." From that historical vantage-point, it should be seen as elementary, that what is embodied, conceptually, in this accomplishment by Leibniz, is obviously the most profound and pregnant conception introduced to physical science within modern history. This is also the same challenge to "future mathematicians" presented by Kepler's 1611 *Six-Cornered Snowflake*.¹⁷

Leibniz's discovery incorporates the germ of the European physical science first developed by ancient Classical Greeks, of the persuasions shared among such as Thales, the Pythagoreans, and Plato. This was for those ancients, as for Kepler and Leibniz in their time, the central conception of physical science, a conception identified as the notion of powers (*dynamis*), among the Pythagoreans and Plato. The mammoth work of Kepler, which brought this concept into focus for modern science, posed one crucial question to his followers, a question which is answered, in essentials, by Leibniz.¹⁸

17. Johannes Kepler, *The Six-Cornered Snowflake* (1611), Colin Hardie, trans., Oxford University Press, *21st Century Science & Technology* reprint of December 1991.

18. The notion that Newton invented a calculus independently, is a silly hoax, whose true provenance was made very, very clear on the day that the celebrated John Maynard Keynes presented, and, publicly, slammed shut Isaac Newton's long-sought chest of scientific papers.

As I have indicated here at an earlier point in this report, Kepler's uniquely original discovery of a universal physical principle of gravitation, defined the basis for the future development of a calculus on two related premises. First, that the interval of change of motion in the planetary orbits, especially the Earth-Mars-Sun relationships, was so small that that interval was virtually non-existent: hence, the notion of the *infinitesimal* calculus. Second, that the orbit was not merely elliptical in the sense of a static cross-section of a cone, but that the rate of generation of the elliptical pathway had functional characteristics whose properties were not effectively understood until the work of Gauss's circles during the early Nineteenth Century. Moreover, Kepler had shown that that principle of action was so powerful that the effects expressed by this infinitesimal interval of action were manifest on an astrophysical scale. As I have already emphasized, earlier here, with respect to Euler's folly, the relevant infinitesimal of an ontologically zero magnitude, was the power over the Solar system. The infinitesimal, contrary to the Sophist Augustin Cauchy and de Moivre, d'Alembert, Euler, Lambert, Lagrange, et al. before him, is a form of action which is very efficient, but is expressed experimentally as of not a very small finite magnitude, but, contrary to Euler's ontological folly on this account, actually of virtually zero magnitude.

All universal physical principles are expressed, as universal physical principles, in that same way. There is nothing to be properly deemed suspicious in this fact. As I have emphasized earlier in this report, the peculiarity of the experience of any truly universal physical principle, is that it is *universal*: as extensive in its reach as the universe reaches. Therefore, its manifest existence in some particular expression, can not occur as an object peculiar to a particular locality, but is nonetheless manifest experimentally as a particular kind of local influence. It appears locally, therefore, only as an effect called a discontinuity of the visible domain, as Kepler's experimental demonstration of the Solar orbits expressed this influence as an infinitesimal at every chosen relevant point. Its local magnitude, expressed in a geometry of continuous functions, is necessarily "zero," and yet it is a "zero" which expresses an efficient effect, and is therefore a definite existence, even though its expressed linear magnitude in that interval is zero. That is the meaning of an infinitesimal in the Leibniz calculus, but not the dubious Cauchy version.

The same applies, in a special way, to the boundary condition which distinguishes living from non-living processes, and which distinguishes human cognitive behavior as belonging to a different domain than the Biosphere, the Noösphere. This latter distinction is that which Bernhard Riemann, writing in his posthumously published work on the subject of "*Zur Psychologie und Metaphysik*," named *Geistesmasse*, after the style of the anti-Kantian psychology of Classical education of Johann Friedrich Herbart. *All valid discoveries of efficient universal physical and Classical-artistic principles appear in*

the form of such crucial, functional discontinuities within what is otherwise an ostensibly continuous process.

In effect, every such discovery which is expressible as such a discontinuity, has the locally expressed form of an infinitesimal. The way in which Leibniz's complementary, original discoveries of both the catenary-linked principle of universal physical least action and the functionally related natural logarithmic functions, came to be expressed as a special quality of geometrical function in the complex domain, is a general expression of this. Every discovery of a universal physical, or comparable principle expresses this same characteristic.

As the tracing of the struggles by mathematicians with cubic and biquadratic functions, from Cardan until Gauss, attests, when we enter what a Euclidean geometry misapprehends as the simple domain of solids, the person who adheres to Euclid or the like is trapped in a formal-mathematical predicament of the type exhibited by the empiricists, de Moivre, d'Alembert, Euler, Lagrange, et al., a predicament implicit in Leibniz's discovery of the principle of universal *physical* least action, the predicament addressed successively by such members of the circles of Alexander von Humboldt as Lazare Carnot's circles of the École Polytechnique, and Gauss, Wilhelm Weber, Dirichlet, and Riemann.¹⁹

Thus, in the matter of animations of crucial cases in economic developments, the factor of change which is of crucial significance has the form of what appears to be radically non-linear intervals of action between "dots." The most typical such intervals of change are simply positive, or negative: simply the addition of uniquely distinct technologies, or the termination of such technologies from practice. These connections between dots, in such cases, are non-linear: hence the incompetence of most attempts at defining a mathematical economics of "linear programming," as that later had been popularized since the work of Bertrand Russell's unscrupulous acolytes Norbert Wiener and John von Neumann. Even the careful workmanship of Professor Leontief fails to grapple effectively with this irony.

For example, the downshift of economic activity from that of a prosperous industrial region, to a "services economy" region, describes an economic collapse, a physical-economic, and also a moral degeneration in practice, so expressed not

19. Hence, the pregnant concluding words of Riemann's 1854 habilitation dissertation: "Es führt dies hinüber in das Gebiet einer andern Wissenschaft, in das Gebiet der Physik, welches wohl die Natur der Heutigen Veranlassung [mathematics: LaRouche] nicht zu betreten erlaubt." *Werke*, p. 286. This same point is typified in contemporary experience by the way in which some brilliant physicists, even with credentials in important original experimental discovery of principle, tend to fall apart when it is demanded that they prove a physical principle by its derivation currently from conventional mathematicians' standards of review, as if at the blackboard! The increasingly radical reductionism of the academic mathematician in contrast to competent physical science, expresses a difference which often lies between different universes, each unknown to the other.

only in quantitative, but qualitative terms. Conversely, the introduction of a useful new technology to practice, transforms the quality of labor and per-capita activity as a whole, in a qualitatively upward direction. From the vantage-point of the thoughtful statistician, no ordinary statistical methods of the varieties in use today will competently reflect qualitative changes in the principal action operating between "dots." Explicitly non-linear approaches, not comparable to Lobatschewkian, but Gauss-Riemann anti-Euclidean geometries and their derivatives, are required.

When this boundary condition is approached, either as a feature of the economic process in progress, or as a projection of a qualitative-technological change to be introduced into that process, so-called conventional statistical methods become inevitably fraudulent in effect.

The worst of such frauds, is to use conventional accounting standards for statistical analysis, even when the intention to perpetrate fraud is absent. While it is true that the allocation of activity and materials is determining, and that the price of the activities and materials has a financial accounting or related representation, finance as such, money as such, has no rational quality of functional relationship to either production or the effects of consumption of goods. The real relationships are physical, not financial.

Once the necessary shift in approach, to viewing economic processes in Riemannian physical terms, is adopted, the primary calculations for policy-shaping, and for related forms of analysis of performance, are focussed on physical principles as such.

For example. The effectiveness of a specific type of production varies according to the environment of both the process of production and of the physical social condition of the population in that area. Thus, in transferring a plant and its labor-force from one locale to another, the same quality of productive effect will yield a better or worse result, according to the development, or want of development, of the basic economic environment and related factors of environment, such as basic economic infrastructure, and the cultural habits of the population. The intelligent way to approach these and other interrelations of production and human existence with the Biosphere and abiotic domains, is to realize that the development of the associated domains, is inescapably an integral feature of the real cost of production; just so, the education and cultural level of the population from which the labor-force is drawn, is a cost of production, too, and also a factor in determining potential relative levels of productivity of the labor-force of that locality. Here, we encounter the fact that the domains of the abiotic, Biosphere, and Noösphere interact, functionally, in a non-linear way.

For example, the most significant factor in net physical productivity of cultures and regions, is what is typified by Aeschylus' *Prometheus Bound*. A population which is oriented to the desire to employ revolutionary discoveries of universal physical principles, rather than the monotony of

generally accepted beliefs, will exhibit a greater impulse for improved physical productivity, than a population which is more strongly oriented to "tradition." The psychological factor of "traditionalist" cultures, has been as great a cause of failures of entire cultures as any physical calamity. It is only when man behaves as a cognitive species, oriented as if axiomatically to revolutionary advances in physical scientific and related knowledge, that the culture can be said to be a "healthy" one.

This has been the potential advantage of the U.S.A. over the civilization of Europe, an advantage which emerges clearly about the beginning of the Eighteenth Century. In Europe, the burden of traditional cultures, a tradition associated with the active legacy of class-distinguished oligarchical institutions, has been the pandemic cultural disease, the disease of traditions oriented to "respect" for the oligarchical legacy. This has been the advantage of the U.S.A. in all of our better periods, as was shown in the upgraded performance, from the beginning of colonization, of American colonists from Europe. This was the key to understanding the susceptibility of European nations for rampages of anti-progress, "irrationalism"-oriented cultural pessimism, as distinct from the cultural optimism which is shown conspicuously in periods of U.S. culture such as under President Franklin Roosevelt.

So, in the U.S.A. itself, the cult of "environmentalism" has shown itself to be significantly a product of the ebbs and flows of police-state mentality since the death of Franklin Roosevelt, as we see this fascist-tending populism as insurgent not in Nazi or kindred uniforms, but in the guise of "Elmer Gantry"-style so-called religious fundamentalism, and in the related, lunatic debate between backwoods varieties of extremely cultural-pessimistic "Creationism" and not-so-intelligent dogmas of "Intelligent Design."

However, we see the same mental illness of cultural pessimism in systems of higher education which seek, as by aid of Ritalin, to disrupt the creative potential of the individual non-conformist in the classroom and in the practice of business management. Don't blame a student who is being bored "half to death" in the classroom, for being "disruptive." Give him, or her the environment of task-oriented creative disruption any child with an active brain requires. It is cows, not people, which we should breed for a disposition for "conformity" in their routine lives. When virtual "brain-deadness" is a standard of gregariousness, the culture so infected may be self-doomed. Thus, the mental environment, as defined in terms of distinction between creative minds and gregarious conformity, is as significant in determining the productivity of a culture, per capita and per square kilometer, as any other type of physical consideration.

The employment of even highly skilled labor within an area in which the population is predominantly backward, either physically, intellectually, or both, will lower the economic vitality of the enterprise employing the highly skilled

elements of the labor-force. Hence, the idea of "globalization," as much as its practice, will, if continued, destroy all of global civilization, lowering the effective productivity to such a degree that the world population as whole will slip toward a prolonged new dark age, in which global population levels not seen since the Fourteenth-Century European New Dark Age, are the likely outcome.

Every enterprise which introduces a better principle contributes, at least implicitly, to the potential of the entire community. If we promote the exceptional enterprise, and the exceptional individual, and exceptional ideas, this will tend, if allowed, to help improve conditions of the area and its entire population. This happy outcome requires, however, that we recognize that the misery of some is a threat to all, and neglect of the development of the total environment to higher levels of quality of the Biosphere and Noösphere, are the indispensable policies on which the net success of any outstanding innovation of some of the population depends.

The poor are not a threat to their neighbors, but their poverty is. The poorly educated are not a threat to society, but their ignorance is. As the fall of the once-great culture of Athens warns us today: that indifference to truth which is known as Sophistry, when promoted by some, as the Congress for Cultural Freedom typifies a modern imitation of ancient Athenian Greece's Sophist degeneration, is a threat to the welfare of everyone. Indeed, the foreign policy of the Bush-Cheney Administration, with its openly surfaced commitment to the pro-Synarchist Vice-President Cheney's Help-and-Parvus's quasi-Trotskyist, neo-conservative dogma of *Permanent War/Permanent Revolution*, is an expression of exactly the type of combined intellectual and moral decadence which led Athens to the self-inflicted doom of the Peloponnesian War. It was that indifference to truth which led to those post-war changes in culture of the U.S.A., which brought the world's greatest economy ever, under Franklin Roosevelt, to the mass of suppurating cultural and economic wreckage of the financially bankrupt nation of hapless President George W. Bush, Jr.

The great issue of global culture today, is that a reductionist ideology, such as that of the empiricists in general and the Anglo-Dutch Liberal ideology in particular, by suppressing the impulses which are associated with Leibniz-like scientific creativity and the Classical artistic legacy of Johann Sebastian Bach, induces a combined intellectual stupor and moral decadence like that of typical sophistry. A culture which permits itself to be steered by those intellectual forces of decadence, as the U.S.A. and Europe have drifted downward so during the recent forty years, is headed toward a new dark age. Therefore, the turn to a renaissance of modern European physical-scientific creativity now, is needed not only to rescue a self-threatened physical economy from onrushing global bankruptcy, but to revive the practice of scientific and Classical-cultural creativity, on which the disposition for such goods as a physical-economic recovery depends.