NOBEL ECONOMICS PRIZE

The Price Is Usually Wrong!

by Lyndon H. LaRouche, Jr.

While the snow piles up to record heights in the Swiss Alps, "global warming" hoaxster Al Gore is not the only fellow enjoying the receipt of a Nobel prize for fraud. Just at the moment that the present world monetary system has entered its terminal-collapse phase, three relevant, intellectually culpable U.S. academics, the University of Minnesota's Leonid Hurwicz, Princeton's Eric S. Maskin, and Chicago University's Roger B. Myerson, have been awarded this year's prize "for having laid the foundations of mechanism design theory." The Nobel committee's folly in this case illustrates the nature of some of the most important causes for the currently ongoing, chain-reaction-like, physical disintegration of the world's present monetary-financial system.

First of all, it must appear that the Nobel Committee's award to Hurwicz, Maskin, and Myerson, signifies that that Committee does not presently require a demonstration of what scientific tradition defined as a "crucial," or *unique* (*einzigartig*: Riemann[1]) proof of principle in defining its standards for awards. This is not exactly a new problem in the Committee's process of making awards in the field of economics; years ago, I wryly suggested that I might consider suing the Committee for defamation were it ever to proffer an award in economics to me (or, implicitly, to any other qualified scientist in the field). The hilarious feature of the Committee's referenced announcement of the economics prize, is that the award has been publicized today, precisely at the moment that the way of thinking represented by the current trio, has just recently unleashed a design for the already onrushing, greatest single monetary-policy disaster in all modern world history since the Weimar Germany crisis of 1923![2]

For our purposes in ***EIR*** today, the significance of that Nobel award, apart from the fact of the relevant piece's essential scientific incompetence, is that that incompetence is an all too typical symptom of the depth of the intellectual decadence which pollutes so much of the kind of already pervasive ideology influencing the field of economics, national political trends, and related subjects. This is a trend to be assessed as reflecting the increasingly sick state of mind which has been a critical contributing factor in the presently onrushing global social-economic disaster.

The formal, academic, and related origins of the dogma presented by the same embarrassing trio, are to be traced to the point, more than a century ago, in Bertrand Russell's notorious ***Principles of Mechanics*** and, also, Russell's ***Principia Mathematica***.[3] The immediately obvious link is to Russell's ***Principles of Mechanics***, but, as the 1930-31 work of Kurt Gödel attests,[4] the deeper epistemological implications of

1. Bernhard Riemann, ***Über die Hypothesen, welche der Geometrie zu Grunde liegen*** (1854), in Riemann's ***Gesammelte Mathematische Werke*** (New York: Dover Reprint Edition, 1953).

2. The precedent for this event is the role of mathematicians Myron Scholes et al. in the crafting of the August-October 1998 crash of LTCM, an experience from which, it appears, Henry Paulson seems to have learned nothing crucial. Actually, speaking of "carbon," the philosophy of current Liberal economic-financial policies is close to being a carbon-copy of those practices of the Fourteenth-Century Lombard bankers which created that century's infamous "New Dark Age." Such among today's fools are not to be condemned as much for being bad scholars, as denounced for being madmen running amok spreading an awful disease.

3. Bertrand Russell, ***Principles of Mechanics*** (1903) and ***Principia Mathematica*** (1912). Russell's conceptions strongly echo the mysticism of Ernst Mach's ***The Analysis of Sensations*** (1897), and may, arguably, have been largely derived from the suggestions provided by Mach's work.

4. Kurt Gödel, "On Formally Undecidable Propositions of Principia Mathe-

"While the snow piles up to record heights in the Swiss Alps, 'global warming' hoaxster Al Gore is not the only fellow enjoying the receipt of a Nobel prize for fraud." Left to right are Nobel Economics Prize winners Eric S. Maskin, Leonid Hurwicz, and Roger B. Myerson.

Russell's influence are revealed in the inherent failure of Russell's principal, underlying argument in the latter of the two works.

For our purposes here, the immediately relevant monetarist dogmas derived from Russell's radical thesis respecting scientific method generally, are chiefly associated, today, with the stream of ideology traced from Russell devotee John von Neumann's notion of a theory of economic games. Following that work by von Neumann and his associates, the development of the school of monetarism with which the present Nobel trio has been associated, has been the intrinsically, wildly pro-Malthusian cult of what is known in relevant professional circles as *Cambridge systems analysis*, as that cult is typified by the Cambridge disciples assembled around the former Soviet and other following of the Laxenberg, Austria International Institute for Applied Systems Analysis (IIASA).

In the post-World War II U.S.A., this international school of Russellite "econometrics" coordinated by the Cambridge systems-analysis group, came to be represented inside U.S. academic stirrings by such U.S. followers of Russell and von Neumann as the Cowles Foundation circles of George Dantzig, Tjalling Koopmans, Albert Tucker, George Marshak, and Kenneth Arrow, as much as the more prominent work of von Neumann and Oskar Morgenstern.[5] Inside the U.S.A. itself, this network of Russell devotees such as Norbert Wiener and von Neumann, was coordinated, most notably, through the Josiah Macy, Jr. Foundation and the offshoots of that Foundation's Cybernetics-project at the Massachusetts Institute of Technology's RLE. Inside the Soviet Union, one branch of this influence was represented by collaboration with L.V. Kantorovich and, later, the Global Systems Analysis group associated with the Austria-based branch of the Cambridge Systems Analysis group's ideological captive IIASA, the latter a Club of Rome-allied group whose influence contributed in a major way to the Soviet Union's 1989-1992 collapse.[6]

These presently global Russell/Russellite connections are key for understanding the particular form of *dementia* in the method encountered in the school of the three current Nobel economics prize-winners and their like.

Unfortunately, as I have already emphasized here, the current Nobel trio's celebrity is not merely an academic matter. This current, scandalous Nobel award is all too relevant to the kind of policy-shaping which had already plunged the world monetary-financial system into its presently onrushing, terminal phase of self-disintegration. (The real world, outside monetary dogmas, could survive this, provided we now immediately dump the present, Liberal monetarist—"free trade" system itself.) Without the widespread toleration for the spe-

matica and Related Systems," in ***Kurt Gödel Collected Works*** Vol. I (Oxford: Oxford University Press, 1986).

5. John von Neumann and Oskar Morgenstern, ***The Theory of Games and Economic Behavior*** 3rd edition (Princeton: Princeton University Press, 1953).

6. I had warned the Soviet government explicitly of this risk ("in about five years") during my part in back-channel U.S.-Soviet SDI discussions of February 1983, and had repeated that warning publicly, and repeatedly, since later Spring of that year.

cific type of clinical insanity echoed by the current award, the onrushing general collapse of the world's present monetary-financial system, would never have been permitted to reach its present breakdown-phase. The world economy today needs the designs of Myron Scholes and of Hurwicz, Maskin, and Myerson, about as much as a sufferer from the common cold needs the curative powers of a heavy dose of cyanide.

1. Geometry & Physical Science

The disorderly minds typified by the listing of exemplary persons and associations which I have just presented above, reflect two pathological features found in, respectively, medieval and modern European political-economy. These are, respectively, the pro-Aristotelean, "old Venetian," medieval tradition, and the modern, *Liberal* faction of Paolo Sarpi et al. The latter school, to which the three relevant Nobel cases belong, is the philosophical *Liberalism* which, while modern, traces its immediate philosophical ancestry, directly to that medieval irrationalist William of Ockham whom some moderns quaintly refer to by the seemingly scholarly, Latin name of "Occam."

The dogma presented summarily by that relevant trio, is a radically Sophist expression of a much-degenerated version of modern, "new Venetian," Sarpian philosophical *Liberalism*, a version traced to the radical extremes of such modernist perversion of taught academic practice as that typified by the radically positivist, and frequently hysterical followers of Ernst Mach.[7]

The earlier, medieval, Aristotelean kind of system, is to be treated, methodologically, as a system based upon an underlying assumption of a society ruled by an axiomatically fixed, deductive form of intent. This fixed intent is typified by the models of both the inherently Sophist dogma of Euclidean geometry, and that related, medieval notion of the Euclidean space adopted by the Roman imperial hoaxster Claudius Ptolemy, which was still standard methodological doctrine during my time of uncomfortable exposure to such miserable elements of secondary and higher education. The later, modified form of a modern neo-Euclidean system of René Descartes et al., is premised upon the assumption of a Sophist's quality of variable intent which is otherwise identified as political-philosophical "Liberalism."

Competent modern science, as established by Cardinal Nicholas of Cusa and his followers, adopts neither of these two ideological alternatives. As Albert Einstein and V.I. Vernadsky have emphasized the leading outcome of Twentieth-Century physical science more recently, today's competent modern science is "organically" Riemannian, and is rooted in the principled form of the actual development of the body of experimental physical science, from Cusa, through the work of Johannes Kepler, through Riemann.[8]

Physical Geometry

In treating cases such as the trio of Hurwicz, Maskin, and Myerson, we must take into account the ideological effect of a certain, historically crucial break between present and ancient forms of knowledge in the fields of physical science. I refer here to a "dark age"-like break, an ideological gap in the history of science, between the period of ancient scientific progress dominated by the method of the Pythagoreans and the Platonic Academy, and the reappearance of science during modern Europe's Fifteenth-Century Renaissance, onwards. This break, associated with the interval of the rise, since about 200 B.C., of the empires of Rome, Byzantium, and the Venetian-Crusader medieval system, created a functional gap in what might have been, otherwise, the continuity of ancient through contemporary European science.

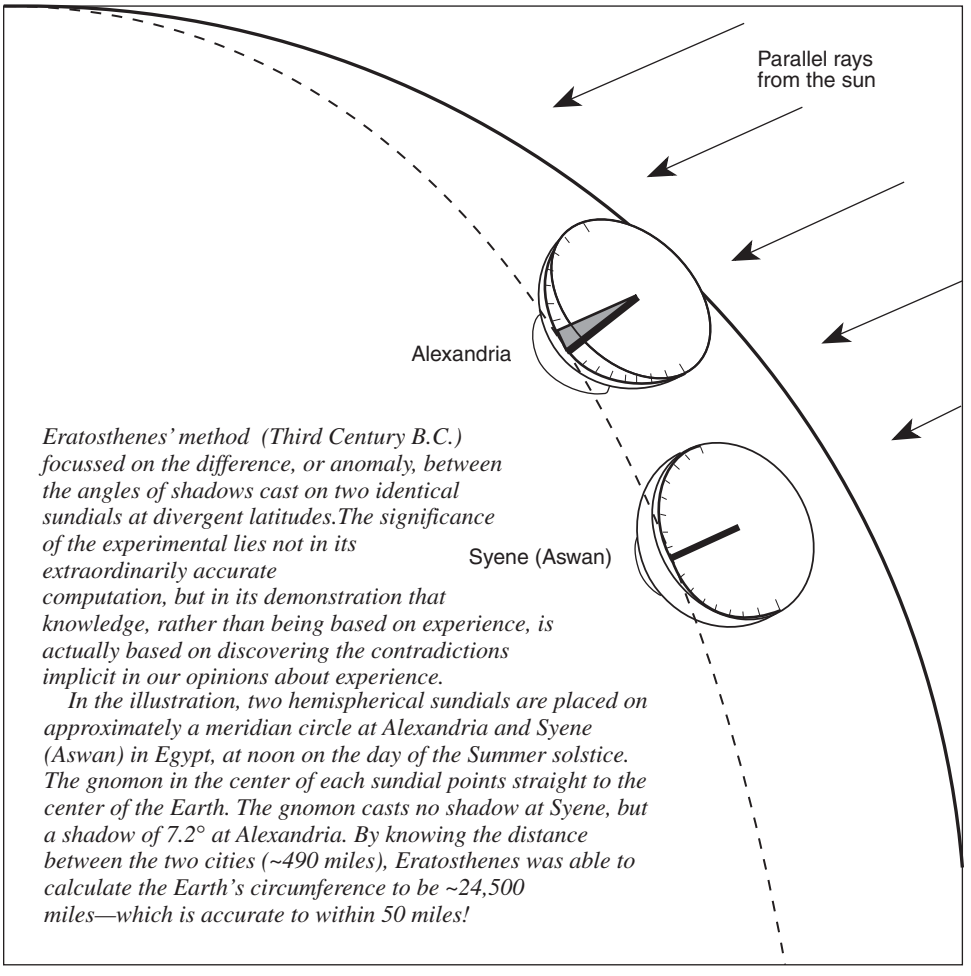
Thus, we find very modern comprehension of science in the elements of the work of the Pythagoreans and Plato's other circles; but, we also meet commonplace aspects of customary modern science instruction which are cruder than the thinking of the best among the Classical ancients.

On the subject of the crucial issue so posed as an included effect of that gap, there is the particular case posed immediately by the referenced trio of Nobel supplicants; the key question to be asked on that account here, may be fairly stated as: "What do we mean by geometry?" We are obliged to skip directly, away from the implied mechanistic outlook of Euclidean geometry, to the dynamics of the ancient Pythagoreans, Plato, and of Bernhard Riemann's habilitation dissertation, in order to return to the relatively far more advanced, pre-Euclidean standpoint represented by the circles of the Pythagoreans and Plato.

7. Typical is the case of Berlin during the period of World War I, when the Machian fanatics of Germany and Austro-Hungary conducted a lynch-mob-like effort to demolish the great Max Planck. Bertrand Russell was a relevant figure from afar in this atrocity, as he had been a then relatively new player in the systematic mental destruction of Georg Cantor.

8. Both Vernadsky and Einstein, respectively, and independently of one another, came to identify the competent modern scientific method as being Riemannian. In Einstein's account of this, the most essential of the accomplishments of Riemann, are a reflection of a scientific method traced systemically to the work of Johannes Kepler, who, in turn, traced his method to, principally, the founding of modern experimental-scientific method by Cardinal Nicholas of Cusa, with credit also given by Kepler to the developments by Cusa follower Leonardo da Vinci. Thus, once we have recognized the crucial role of Gottfried Leibniz in all of this, the essential core of modern physical science is rooted in the founding work of Kepler, who laid the foundation for such most notable successors as Fermat, Leibniz, Abraham Kästner, Gauss, Dirichlet, and Riemann. Riemann's discovery, as a follower of Kepler's original method, establishes that notion of physical geometry on which all competent modern science thereafter depends. Notably, Kepler has no rival in his originality as the founder of modern astrophysics; Copernicus and Brahe are useful, but only despite their failure to grasp the essential principle, that first discovered by Kepler, which establishes the potential of modern astrophysics as a true physical science.

FIGURE 1
Eratosthenes' Method of Measuring the Size of the Earth



Eratosthenes' method (Third Century B.C.) focussed on the difference, or anomaly, between the angles of shadows cast on two identical sundials at divergent latitudes.The significance of the experimental lies not in its extraordinarily accurate computation, but in its demonstration that knowledge, rather than being based on experience, is actually based on discovering the contradictions implicit in our opinions about experience.

In the illustration, two hemispherical sundials are placed on approximately a meridian circle at Alexandria and Syene (Aswan) in Egypt, at noon on the day of the Summer solstice. The gnomon in the center of each sundial points straight to the center of the Earth. The gnomon casts no shadow at Syene, but a shadow of 7.2° at Alexandria. By knowing the distance between the two cities (~490 miles), Eratosthenes was able to calculate the Earth's circumference to be ~24,500 miles—which is accurate to within 50 miles!

The related gap, on which our attention as modern economists must be concentrated here, is the historical gap between the time of the role of ancient *dynamics* in the physical-scientific method of the Pythagoreans and Plato, and the modern re-appearance of science in the work of our modern Cusa, Kepler, Leibniz, and Riemann,[9] and away from the simplistically reductionist, pathetic crudities of ancient radical reductionism echoed by that degenerate, radically positivist outgrowth of the Cartesian method of mechanics echoed by the three Nobel award-winners in the case presently at hand.

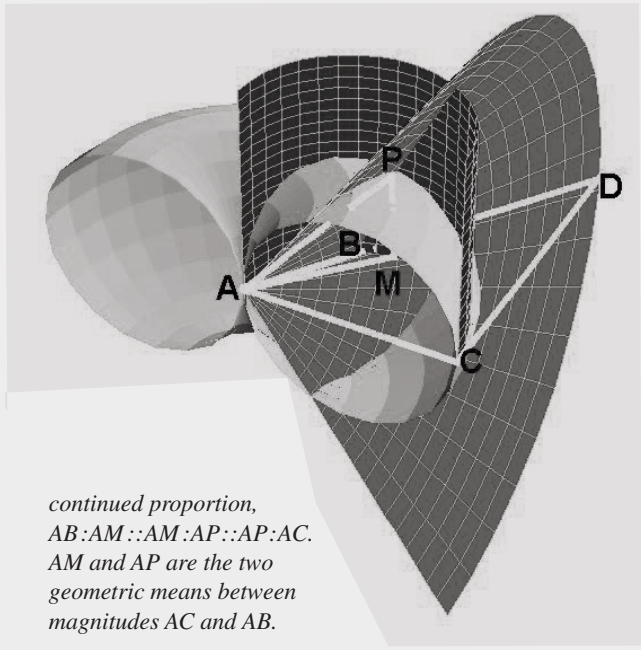
Look at somewhat parallel cases of net progress in science, that of the ancient Pythagoreans and the Platonic Academy, and the modern experimental science launched under the direction of Cusa. View this from the standpoint of geometry seen as a subject which should be considered a subsidiary feature of a notion of *physical astronomy,* as distinct from mere star-gazing. Look at *physical astronomy* from the standpoint of its role in ocean-going astrogation, as Eratosthenes' famous measurement of the great circle of the Earth reflects the methods of astrogation [**Figure 1**]. Think back to a time prior to the great glacial melt during about 17,000 to 2,000 B.C., an interval when ocean-going maritime cultures migrating in relatively large flotillas, preceded the gradual emergence of a land-based civilization within the northern regions of Eurasia and North America, as within the then crucially significant maritime cultures of the Indian Ocean, such as that which founded the non-Semitic, Sumerian, cuneiform culture of southern Iraq.

Relevant forms of traces of ancient "star maps" of our Zodiac, locate calendars based upon the span of multi-millennial cycles, producing thus those observed changes in the configuration of the heavenly bodies which must have been comprehended for ancient and later modes of trans-oceanic navigation. Applying the methods of astrogation used by navies as recently as prior to some decades ago, we can rather readily adduce the kind of long-ranging maritime practices which produced the relevant ancient calendars. The task, then, is to see the Solar system as Johannes Kepler presents it: not as a simply spherical system of perpetual motion, but a developing process, a process in which ordered development is governed by what modern science, since Kepler, knows as invisible, but efficient, universal, anti-entropic physical principles.

It is the evidence, such as that emphasized by Kepler, that universal principles of astrophysics forcefully violate what might be otherwise presumed to be a simply spherical geometry, which supplies us the keys to beginning the discovery of our universe's actual, efficient forms of universal physical principles. Thus, we are obliged, as the ancient Pythagoreans had been, to shift from simple astronomy, to *physical astronomy*, to shift attention to effects which must be attributed to the action of universal physical principles upon the system of motions to be observed in the universe which envelops us. We proceed thus, from Kepler's emphasis on the needed de-

9. The Classical Greek *dynamis*, which Leibniz restored to modern science as the principle of *dynamics*.

FIGURE 2
Archytas' Construction for Doubling the Cube



Archytas developed a construction to find two geometric means between two magnitudes, AC and AB. Magnitude AC is drawn as the diameter of circle ABC; AB is a chord of the circle. Using this circle as the base, generate a cylinder. The circle is then rotated 90° about AC, so it is perpendicular to the plane of circle ABC; it is then rotated about point A, to form a torus with nil diameter. (The intersection of the torus and the cylinder produces a curve of double curvature.) Chord AB is extended until it intersects the perpendicular to AC at point D; this forms triangle ACD, which lies in plane of circle ABC, AB, and AC. Triangle ACD is then rotated around AC, producing a cone. The cone, torus, and cylinder, all intersect at point P. Perpendicular PM is then dropped from P along the surface of the cylinder, until it intersects circle ABC at point M; this forms right triangle AMP.

Through this construction, a series of similar right triangles (only partially shown) is generated, which produces the continued proportion, AB:AM::AM:AP::AP:AC. AM and AP are the two geometric means between magnitudes AC and AB.

velopment of the physics of elliptical functions, into the still higher, anti-entropic, physical hypergeometries of Riemannian physics.

Millennia prior to the uniquely original discoveries by Kepler and his students, cultures such as the Pythagoreans had, thus, already brought astrogation "down to Earth" in the form of a scientific practice known as *Sphaerics*. The principles of *Sphaerics*, as contrasted with the Sophist hoaxes associated with Euclid, are an extensive subject for study in themselves; for the purposes of this criticism of the referenced Nobel hoax, it is sufficient to emphasize such examples as both the celebrated, scientifically crucial, constructive doubling of the cube by Plato's friend Archytas [**Figure 2**], and the underlying implications of the mastery of the design of the Platonic solids by Theaetetus. In fact, the crucial ironies posed to the future by the Classical Greeks' work on this matter, were not understood systematically in modern European practice until the unique discoveries by Cusa, Kepler, et al.

The relevant point to be emphasized in this location, is that geometry does not pertain primarily to measurement of the Earth, but to measurements of the universe within which we are contained, which we experience as situating, and controlling the fate of our planet Earth. The birth of a true modern science begins with the recognition that that universe is not simply a repeating process, but is an expression of an open-ended, *specifically anti-entropic* quality of universal process of development of the universe from relatively simpler, to more complex, higher-ordered processes.

In other words, we have thus entered the domain of astrophysics, which means the domain of mankind's voluntary role, as specified in ***Genesis*** 1, in influencing the unavoidably continuing, qualitative development of (not merely our Solar System, but) the universe we inhabit. Johannes Kepler's two, unique, closely interrelated, principal discoveries, of the physical principle of universal gravitation and its harmonic ordering of our Solar System, thus typify the modern meaning of physical geometry as the other, higher-ranking name for a modern, Riemannian mode in physical science.

Thus, all competent science, including a science of mankind's increase of, or failure to increase his potential relative population-density, must be premised on a special notion of astrophysics (a less misleading name than "geometry"): a *physical geometry* adumbrated by the principles of ordered changes in the organization and related behavior of our universe. Competent economics must be defined, therefore, as the principles of either ordered increase, or failure to increase the power of the human individual will to make changes which improve the universe we inhabit for the benefit of mankind, that to the effect assigned to man and woman in ***Genesis*** 1.

It is directly relevant to the pathetic case of the Nobel award treated here, to emphasize that the systematic foundations of modern physical science were established by Cardinal Nicholas of Cusa's recognition, that Archimedes' proposed quadrature of the circle and parabola was incompetent,

that on grounds of physical principle. This was a fundamental discovery of principle, by Cusa, which was to become crucial for Kepler's later, uniquely original discovery of the universal physical principle of gravitation. Here, formal geometry *per se* must be abandoned, to be replaced entirely by a hypergeometry of universal physical principles, as with Kepler's uniquely original discovery of the physical principle of universal gravitation.

This was crucial, as Kepler was to emphasize, in locating physical science within the domain of a general theory of elliptical functions,[10] the same crucial evidence which prompted Kepler to enlist "future mathematicians" in the crafting of a universal calculus which would be accomplished, uniquely, by Gottfried Leibniz.

White House photo/Shealah Craighead

Treasury Secretary Henry Paulson (shown here when President Bush announced his nomination on May 30, 2006), appears to have learned nothing crucial from the collapse of the LTCM hedge fund in 1998. He and our Nobel Prize winners are to be condemned "for being madmen running amok spreading an awful disease."

In that sense, there is no science but *physical geometry so conceived*, on the condition that we define geometry itself rightly, as Leibniz did so, *as physical geometry*, that in contrast to the subsequent perversions by D'Alembert, Euler, Lagrange, and Cauchy. Here, in terms of such a view of a physical geometry, a *dynamical*, *rather than mechanical* geometry, lies the crucial proof of the essential incompetence of the subject Nobel award.

So, implicitly, the very choice of language, the subject trio's "mechanism design theory," essentially, gives the folly of their show, and Henry Paulson's, away.

2. Dynamics: Man in Our Universe

The key to competent economic science can be reduced rightly to the simple statement: *The human individual is not an animal*.

Conceded: the human individual has been awarded an animalistic body; nonetheless, there is a fundamental difference, a difference of fundamental principle, between the role of man in nature and that of any merely animal species. Formally, the difference may be measured as an *ecological* paradox, which may be summarized as follows.

All forms of life are subject, as a set of species, to *dynamical* regulation of a *potential relative population-density, per capita, and per square kilometer of surface-area*. This is a potential which is built into the set of interacting species, *dynamically*, in the sense of Leibniz's ***Specimen Dynamicum***. Only man, as ***Genesis*** 1 states, is capable of *willfully* changing that functional characteristic of his own, and also other species *in principle*. Man does not act as another animal within the set of animal life; man is distinguished from the set of the beasts by those of his actions, as from a higher plane—a higher order of universal physical phase-space, which, typically, transforms the ecological potential among the set of the affected animals.[11]

Thus, we may say, that the human individual soul is implicitly, efficiently immortal, and, in this degree, is ultimately become independent of the animal-like body it had once, temporarily, inhabited: the effects of changes introduced to the principled form of human practice, changes which may be supplied to society by the willful action of a single, sovereign human individual, are able to continue to supply an efficient increase in *the relative potential population-density* of the human species for generations to come, for a time far beyond the mortal death of that individual human body which had conveyed the relevant principle of development into action. The advantage to mankind of the discovery and propagation of a known, valid universal physical principle, is an example of this.

This willful distinction of the human individual mind from that of the beast, defines a distinction of human nature, as a universal phase-space, as precise as that which, compara-

10. From the work to this effect by Gauss et al., and by Riemann's subsequent treatment of Abelian functions and hypergeometries.

11. V.I. Vernadsky's *Noösphere*.

bly, separates living organisms in general, dynamically, from non-living processes.[12] The notion of the existence of such a distinction between living and non-living processes, is presented to us, in functional terms of reference, by the example of Kepler's uniquely original discovery of universal gravitation. Similarly, mankind's ability to escape those bounds of a relatively fixed potential relative population-density, which are relevant for a lower form of life, represents the existence of a universal physical principle, a characteristic of the nature of the human individual, which does not appear in any lower form of life.

From the comparative standpoint of animal ecology, mankind embodies, thus, a characteristic, *noëtic* principle absent in all lower forms of life. This principle is the only true expression of specifically human creativity. It is a principle excluded from modern *Liberal* styles (such as empiricism and positivism) in contemporary classrooms. It is this *noëtic* principle in human cognitive behavior, which enabled Kepler to recognize the dynamic principle ordering the planetary orbits, and to adduce a general principle of Solar gravitation from the evidence of the harmonics of the complex of planetary orbits. This same *noëtic* principle, as a characteristic of those creative potentials of the individual human mind which separate the human species from the mere beasts, is also the underlying principle of the Leibniz calculus. That principle, as prescribed, together with the development of the general principles of elliptical functions, as proposed by Kepler, underlies the Leibniz-Bernouilli definition of the catenary-cued, *universal physical principle of least action*.[13]

The effect of the active presence of that distinguishing principle of individual human existence, is normally expressed as an increase in the relative population density, of the human species per capita and per square kilometer. This is also expressed, as by Vernadsky, in terms of shifts in the relative composition of the component masses of the planet, in terms of the shifting percentiles of the total mass of our planet associated, respectively, with the inanimate element, with the Biosphere, and with the Noösphere: such that, under successful condition of practice, the Biosphere increases, cumulatively, as a percentile of the total mass of the planet, and that the Noösphere normally increases in mass, *and rate of increase of mass*, relative to the Biosphere.

The changes in ratios among the three, pertain to the expansion of the boundaries of effective action of each of the three (respectively non-living, living, and cognitive) domains. As society extends the reach of its effective such action into the micro-sphere and the macro-sphere, man's efficiency of existence is increased per capita and per square kilometer of the Earth's surface.[14]

Measurements of such phenomena of changed relative powers among domains, can not be measured in mechanical (e.g., Cartesian) terms; they must be measured in terms of *dynamics*, as Leibniz defined *dynamics,* relative to Cartesian folly.[15] *The thesis of the three beneficiaries of the referenced Nobel prize, is, therefore, intrinsically folly on that account alone. However, that is only the relatively superficial aspect of the trio's incompetence.*

The ABCs of Bio-Dynamics

All who are versed in the modern profession of animal ecology, are familiar with the problem of *temporary* increases in relative potential population-density of an animal, or other non-human living species. (For example: an increase in the population of rabbits above the relevant "average" ecological potential, may appear to benefit families of hungry foxes, as also extroverted house-cats, in the short run; but, that sets countervailing effects into motion, such that, in the end, the gains of both species prove to be no better than temporary.)

Animal ecologists are also familiar with shifts in climate and other so-called "natural conditions" in the "environment," changes in conditions which alter the potential level of stability of an eco-system. Thus, the term "relative potential population-density" is a well-established notion among competent naturalists generally, and of relevant biologists otherwise. With the introduction of the subject of the behavior of the human species to that investigation, the meaning of "ecology," and of the associated notion of "potential relative population-density," must be radically changed: human "ecology" is not a branch of "animal ecology." Only incompetents would discuss matters of human ecology in the same terms used for discussion of animal ecologies.

The increase of populations (e.g., "potential relative population-density") of human societies, presents us with a phenomenon which is not met within the animal kingdom. Man is not an animal; the distinction of human "ecology" from all animal ecology, is comparable to the distinction between the chemistries of non-living versus both the living processes and the by-products specific to living processes.

These distinguishing bio-chemical changes in the "ecology" of the human species, have been the special province of Russia's V.I. Vernadsky and his associates. The concept of the "Noösphere" is a result.

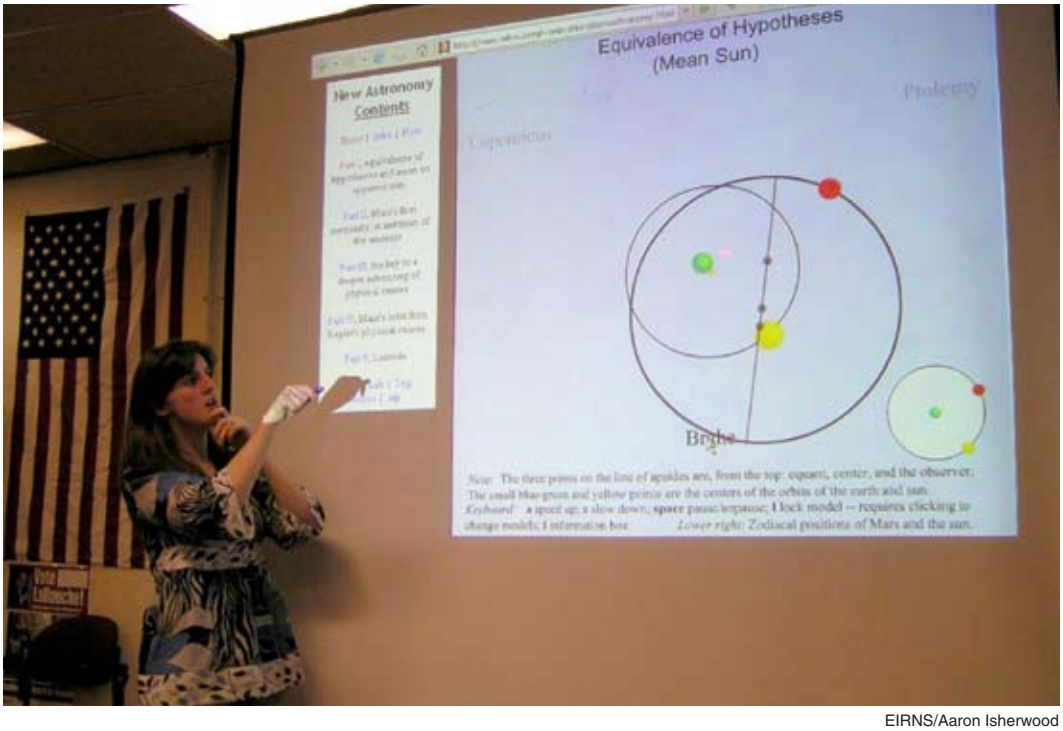
As far as I know to date, the effective treatment of this distinction of human "potential relative population-densities" from animal varieties, has been among my unique contribu-

12. Cf. Lyndon H. LaRouche, Jr. "Vernadsky & Dirichlet's Principle," ***EIR***, June 3, 2005.

13. This was Leibniz's notion of what Gauss was to recognize openly, later, in updating his work on the Fundamental Theorem of Algebra, as the Leibniz-Bernouilli basis for defining a physical complex domain.

14. Cf. Riemann, op, cit., §3. op cit. pp. 285-286. Wherein the three prize-winning Nobel cases should have noted: *"… Es führt dies hinüber in das Gebiet einer andern Wissensschaft, in das Gebiet der Physik, welches wohl die Natur der heutigen Veranlassung nicht zu betreten erlaubt."* Mechanics, a derivative of aprioristic arithmetic, is not physical science.

15. E.g., Gottfried Leibniz, ***Specimen Dynamicum*** (1695).



EIRNS/Aaron Isherwood

The rigorous work on Kepler by the LaRouche Youth Movement's "Basement Teams" in Northern Virginia, is now radiating out to LYM operations worldwide, including the class here in Melbourne, Australia.

tions to the science of physical economy and of successful long-range economic forecasting generally.

The functional relations between ordinary non-life and life, on the one side, and mankind on the other, can not be treated as the members of the Nobel trio do, and are not representable in mechanical terms, such as those of a Cartesian system. Here lies the crucial evidence of the essential absurdity of the very proposition which the Nobel Committee reported on this matter. In all competent science, it is the relationships among principles, rather than among discrete objects pummeling one another in empty algebraic space, which determines the characteristic behavior of the relevant systems.

The commonplace problem, as in the case of summary argument presented by Hurwicz et al., is that the usual way in which mathematics is taught and learned, relies on mathematical formulations which describe the relevant events in a mechanical-mathematical way. On this account, modern taught mathematics practice commonly falls way below the intellectual standards of the ancient Pythagoreans and Platonists; reductionist methods, such as those of Sarpian empiricism, degrade mathematical arguments into a superficial describing of nature, rather than insight into the fact that what appear to the experimentalist as mechanical-like interactions, are actual reflections of the interaction of the principles representing two or more distinct systems.

For example: in the case of interaction of living species, man's essential form of *functional* (e.g., ecological) relationship to the beasts is not individual man to beast, but the interaction of the distinguishing, noëtic principle of mankind with the non-noëtic characteristics of lower forms of life. How does man, for example, induce qualitative changes in the systemic ecological potential among the beasts?

Comparably, when society introduces the application of a newly employed discovery of a universal physical principle to even a portion of a nation, or of human society as a whole, this principle, itself, transforms the social-economic relations within society as a whole in a way which then becomes characteristic of that society as a whole. So, the adoption of the policy that nuclear power's application shall be the dominant technology in society, imbues all parts of that society, whether they use nuclear technologies locally, or not, with the characteristics of a system of society which depends for its existence, and the characteristics of its existence, on the implications of applied nuclear fission.

That, briefly, is an elementary sort of illustration of the meaning of *dynamics*, rather than mechanics, in defining the characteristics of those human ecological processes we know as economies. That is the essential difference between a competent science, such as that of Leibnizian dynamics, and the intrinsic incompetence of the reductionist Descartes and his followers, such as the three Nobel prize-winners. Such is the incompetence of the mechanistic method underlying the failures inherent in linear programming, for example.[16]

Another way of representing the same kind of distinction, is to say that all linear programming is intrinsically incompetent as a means for defining the effects of technological

16. This was the problematic feature, the intrinsic, systemic error of mechanistic schemes of economic accounting and forecast, left unresolved by Wassily Leontieff et al.

change, or lack of change, on an economy. All competent representation of social-economic processes is intrinsically a matter of the Riemannian hypergeometries required to describe an actually dynamic universal system.

Dynamics appears in the study of economic processes as a matter of hypergeometries. It is the introduction of the changes generated by use of a discovered, new universal physical principle, or revival of an abandoned such principle, which transforms all of the "set" of relations within the unified processes to such effects as a qualitative upshift in net potential relative population-density of an entire society, as by so singular a change as the introduction of general use of nuclear-fission technology to supersede modes of a qualitatively inferior "energy-flux density."

It is not the number of calories supplied which determines productivity, but the relative energy-flux density of the mode of power supplied. The use of raw "solar power" for raw power will degrade, and, thus, ultimately, destroy a culture; whereas, the use of "solar radiation" for production of food and forests, will lower the mean temperature relatively, while increasing the relative potential population-density of that society as a whole. So, the primary moral use of hydroelectric systems is not to be seen as a general source of power, but functions of water management which increase the conversion of Solar radiation into water for life, and also produce some useful power as a by-product of this arrangement.

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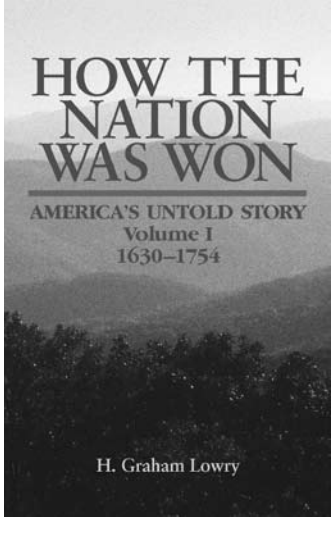

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The essence of the matter, is that mankind's specifically human *noëtic* power, as identified by the generation of discovery of valid universal principles, is the essential principle of action (of both ancient Greek and modern *dynamics*) which expresses the functional relationship between mankind (i.e., society) and lower forms of life, and also non-life. It is dynamics, so defined—Riemannian *dynamics*, as identified by Vernadsky and Einstein respectively (instead of any mechanical design), which pre-determines successful actual evolution within national and world economies.

The Fallacy of Sense-Perception

In my "Music & Statecraft,"[17] I emphasized the point, that human knowledge of the real universe outside our skins, is not imparted to us as literal readings of sense-perceptions as such. Rather, as I employed the case of Helen Keller to illustrate the point in that location, our knowledge of the universe is not imparted to us in the form of simple sense-perceptions. Our actual knowledge of the universe, "as if outside our skins," is the work of the specifically creative powers of human mind itself, a mind which treats all sense-perceptions in the fashion we should regard the "information" supplied to us by laboratory instruments. The most important of these ironical facts, is the case of knowledge, such as Kepler's discovery of the harmonic organization of the Solar System, which depends on the mind's "decoding" of the ironies of (for example) sight and hearing. Our use of instruments to enable us to probe domains into which unaided sense-perception may not reach, into the sub-atomic small and the astrophysical domain of action on a vast scale over enormous lapses of time, underscores the point made by Riemann in the concluding §3 of his 1854 habilitation piece.

It is not sense-perception as such which provides us knowledge of the real universe in which we live; it is the power of the human mind to provide the human individual with a reading of the instruments called our "senses," to an effect produced, not by mere sense-phenomena, but by those powers of the human mind which do not exist among the lower forms of life.

For example:

Until Twentieth-Century developments, specifically Vernadsky's and Einstein's adoption of Riemannian physical geometry, we were accustomed, at best approximation, to think of a universe representing a single quality of space. Einstein brought us to think of physical space as a gravitational model of a *finitely self-bounded*, Riemannian physical space-time. Vernadsky proved that our presently known universe is composed of three, interlocking phase-spaces: non-living, living, and cognitively *noëtic*.

We dare not, now, presume that that is the limit of such discoveries of complexities of our universe. However, we

17. Lyndon H. LaRouche, Jr. "Music & Statecraft: How Space Is Organized," ***EIR***, Sept. 14, 2007.

may be certain, that within those bounds, the way of thinking about the universe which we have obtained with the help of Vernadsky and Einstein, is functionally correct for all ordinary purposes of practice today, at least relatively the best available to us presently.

For our purposes in this report, it is sufficient to emphasize that the three physical phase-spaces of Vernadsky are what we should understand here as interacting. That is, that the universal principle of life as such, including chemical materials produced by action of life, acts, in turn, on both the non-living domain, as it acts also on the intellectual-noëtic domain, and as the applied discoveries of noëtic scientific practice act upon both the Biosphere and the more primitive domain.

In effect, each such quality of physical space-time acts to shape the conditions of action within the other two, just as human cultural activity shapes the existence of living species according to the broad implications of Leibniz's 1695 ***Specimen Dynamicum*** and his and Bernouilli's universal principle of physical least-action.

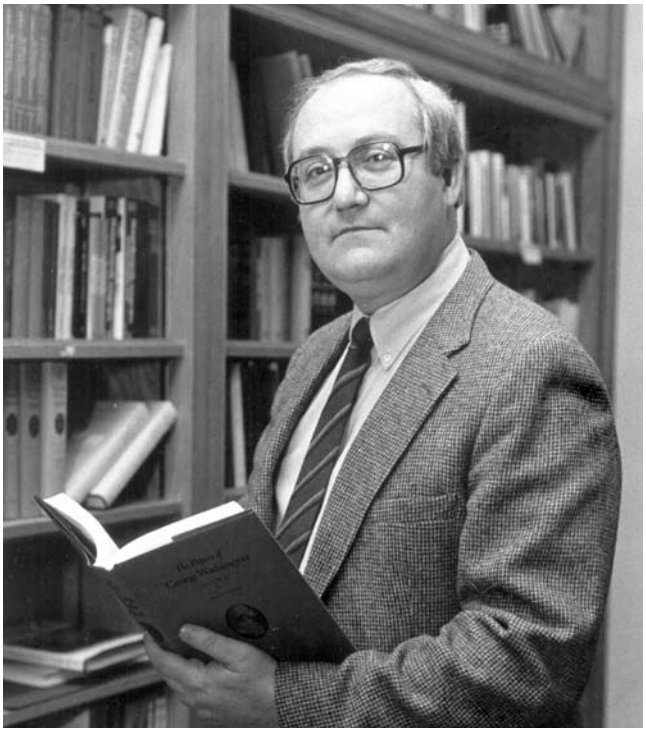
The almost most notable fact in this latter array, is the evidence that the noëtic powers of the human individual are superior historically to both the Biosphere and the non-living domain. The actually most notable fact, is that the entire system is implicitly subsumed by the specific noëtic powers of the individual creative mind's discovery of principles and their use (the Noösphere). Man is thus to be seen as made in the likeness of the Creator, including the matter of the power of the will to create.

That principled potential of this unique quality of action of the mind of the human individual, is the fundamental principle underlying all competent practice of economics as a physical science. Whereas, the subject Nobel trio dwells in a kind of childish fantasy associated with the board-game called "Monopoly."

We must learn to employ the notion of human ecology, as qualitatively distinct from animal ecology, with those considerations in view.

It should be clear from what I have reported thus far, that we must not take the popular, naïve view of universal space-time literally. The relevant LaRouche Youth Movement (LYM) teams spent a good deal of effort in producing a rigorous showing of the way in which modern European civilization arrived at Johannes Kepler's insight into the functional (dynamical) composition of the Solar System.[18] In due course, the student must give up the desire to simply see the organization of the Solar System as by "looking over the fence." Our sensing of the functional organization of the Solar System itself, must ultimately surrender to the reality that the universe is, as Einstein insisted, functionally self-bounded in a way which defines it functionally as "finite" in the sense of the us-

18. See the account of this within ***The Harmony of the World*** in ***LYM: Animating Creativity***, under links in the LaRouche PAC website.



EIRNS/Stuart Lewis

This report is dedicated to the memory of H. Graham Lowry, whose groundbreaking work on the American System "places him in the spirit of leaders of The Society of the Cincinnati such as Alexander Hamilton, Edgar Allan Poe, and James Fenimore Cooper."

ages of Kepler, Riemann, Einstein, and Vernadsky. All notions of a universe extended into the Euclidean and related form of delusion called mathematical "infinity," must be abandoned; the universe is known to sane and competent minds as a *dynamic* system in the Riemannian sense adopted by Vernadsky and Einstein, and in no other way.

3. The Matter of Liberalism

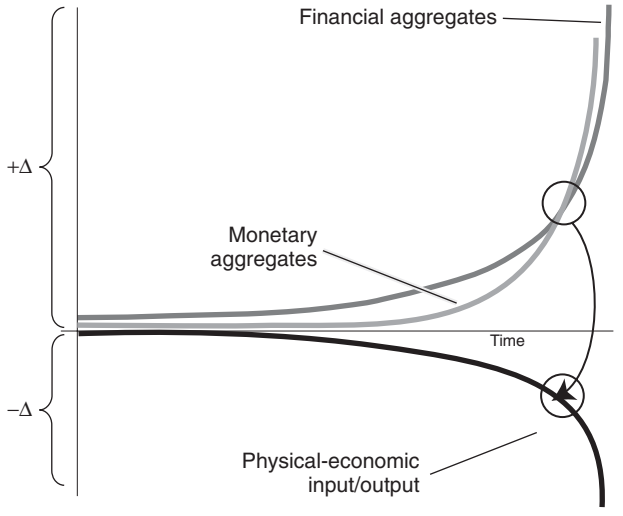
In the next, and final chapter, I shall focus attention on the actual role of money and pricing required for a healthy, non-mechanistic form of design for a rebuilt U.S. (and international) economy. The objective shall be, as it had been Franklin Roosevelt's intention for the post-war world, a world system composed of cooperation among respectively sovereign nation-states. In that chapter, I shall summarize the physical principles to be adopted as the alternative to the deadly lunacy of the scheme outlined by the referenced three Nobel prize recipients.

As preparation for that concluding argument, we focus now on the issue of the global heritage implicit in the role and intention of President Franklin Roosevelt.

To understand the roots of the folly of the subject Nobel award, I must once again, as in earlier publications, turn your

FIGURE 3

The Collapse Reaches a Critical Point of Instability



attention to the relevant issues posed by the founding of what was to become known as those modern doctrines of political-economy associated with Anglo-Dutch Liberalism. In the foregoing sections of this report, I have already emphasized the role of the notion called *dynamics* in defining the anti-Liberal, scientific policies of practice on which the singular achievements of the U.S. republic and its economy have depended—whenever we chose to return to them, as we must do so now. Our currently monstrous economic folly as a nation, begs for a defense of those principles on which our republic's successes have depended, and a rejection of a return to the Anglo-Dutch Liberal principles against whose evils, of such as Adam Smith and the treasonous British East India Company scoundrels among us, against which our republic's struggle for freedom was conducted.[19]

The foregoing treatment of the science of economy has brought our discussion, now, nearly to a state of preparedness for treating the subject of money and prices. To prepare for the subsequent introduction of that subject-matter, I refer the reader's attention now to a pedagogical diagram which I have used, more or less regularly, since January 1996, when I introduced it as the thematic feature of my campaign for the U.S. 1996 Democratic Presidential nomination [**Figure 3**]. In that location in the concluding chapter of this report, I shall repeat the updated version which I presented first for my campaign for the Democratic 2000 Presidential nomination. I shall discuss the practical implications of that illustration at a suitable point in the subsequent, concluding chapter of this report.

Now, in this present chapter, I prepare the way for that specific element of the discussion.

As that accompanying diagram illustrates, not only do I seem to have the makings of a celebrated major prophet of our times; the general effect of the radical changes in U.S. economic and financial policies which occurred, and which I denounced during the interval from 1967-68 to 1981, produced what has become a decades-long, net decline in both the real, U.S. physical-economic output per capita and per square kilometer of our territory, with an accompanying upward acceleration in relative prices and financial indebtedness. That physical decadence, and rising financial indebtednesses of our own economy and those of the Americas and of western and central Europe, has been the predominant trend in the world economy at large, since approximately 1968, up to the present point of the general collapse triggered by insanely belligerent strategic U.S. policies toward China, policies which were crucial in unleashing that immediate, currently ongoing great crisis which struck world markets during the month of July 2007 and beyond.

It is probably necessary to state the fact, here, that had our U.S. Government and the Democratic Party leaders heeded my now thoroughly vindicated warnings, even as recently as early 2006, the present global disaster hitting the U.S. and world economies could have been avoided. They did not do so, and the consequences now being suffered by our nation as a whole, are the result.

The diagram shown here, while schematic, contains nothing misleading in respect to what it purports to represent as the general trend being considered here. In this present chapter of the report, we shall supply the needed background for the following chapter's discussion of the matter which that diagram illustrates.

Now, consider a few urgent bits of recent economic history, on background.

The FDR System

Had President Franklin Roosevelt not been inaugurated in March 1933, Adolf Hitler and his successors almost certainly would have been coming to rule and ruin the world from that time to the present. The world situation today can be seen as a fair approximation of those pre-Franklin Roosevelt, 1920s developments which had plunged the world into the great Depression of the 1930s. Today, the new monetary system which emerged under FDR, which then made us prosperous and powerful for two decades to come, was a period of increasing, and relatively great prosperity, one which FDR had led in crafting; but, now, over the most recent three decades, that accomplishment has been destroyed by an orgy of "free trade" which has now become far worse than any economic reces-

19. In that sense, this present report is dedicated to the memory of the American historian and patriot H. Graham Lowry whose ***How the Nation Was Won*** (Washington, D.C.: Executive Intelligence Review, 1987) places him in the spirit of leaders of The Society of the Cincinnati such as Alexander Hamilton, Edgar Allan Poe, and James Fenimore Cooper.

FDR Library

The successful world monetary system which emerged under President Franklin D. Roosevelt has now been dismantled, and "we are presently at the end of our rope," writes LaRouche.

sion already experienced during the 1920s and early 1930s. We are presently at the end of our rope, by which our nation's fate will be surely hung, unless we now, very suddenly, abandon the whisperings of that contemporary "Mr. Scratch," Felix Rohatyn, and his like, that we might now change our ways back in the direction of what FDR had done from 1933 onward.[20]

During the close of the 1920s and first half of the 1930s, the leading "American Tory" circle of Manhattan, descendents of Vice-President Aaron Burr and Liberal President Martin van Buren, as these were merely typified by Brown Brothers Harriman, were fully committed to support the then-head of the Bank of England, Montagu Norman, in bringing Hitler's system to world power. Franklin Roosevelt's actions in his role as President prevented that evil bankers' plot from succeeding, and even turned many of the former Hitler backers of Manhattan, such as the Harriman interests (including our current U.S. President's grandfather), to becoming supporters of Roosevelt's great global alliance against Hitlerism.

The Manhattan and London financier crowd used the opportunity of President Roosevelt's untimely death, to reverse some of the most crucial of Franklin Roosevelt's anti-Hitler reforms. With the assassination of President John F. Kennedy on November 22, 1963, our U.S. was plunged into the waves of folly which have destroyed the structures of prosperity we in the U.S.A. had enjoyed until that time. With the riotous international developments of 1968, the way was cleared for uprooting the great prosperity which the U.S.A., and much of Europe, had enjoyed in the aftermath of FDR's social, physical-economic, and monetary reforms.

Unless we now change back into an FDR direction, and that dramatically, this nation of ours, among others, will not survive much longer, perhaps even not until January 2009. Even worse, if we go down, the world as a whole will go down in the aftermath of our self-destruction.

Such is the seriousness of the implications of the silliness of the crew, both former Vice-President Al Gore and the trio considered here, which has received the recent Nobel awards.

Charlemagne, Cusa & Louis XI

Since the fall of the Roman Empire, there have been three principal revolutionary developments which laid the foundations upon which the founding of our U.S. republic has been premised. The first step toward a modern European economy was expressed as the great system of reforms under France's Charlemagne. Unfortunately, following Charlemagne's death, the Venetian financier oligarchy used sundry devices, including the launching of the series of Crusades, to ruin Charlemagne's reforms as much as possible; nonetheless, like the Cathedral of Chartres and the canal system which Charlemagne designed and launched for Europe, it was revived through elements of Charlemagne's program which were employed in the launching of the first modern sovereign nation-state of modern Europe, Louis XI's France, which was the model for Henry VII's reformed England.

However, the principles upon which all of the relative successes of modern European civilization itself have depended, was chiefly the work of Cardinal Nicholas of Cusa, the founder of the conception of the modern sovereign nation-state (***Concordantia Catholica***) and modern experimental science (e.g., ***De Docta Ignorantia***). Louis XI's reforms were, like the discoveries of Christopher Columbus which Cusa's writings prescribed, chiefly an immediate reflection of the principled initiatives of Cusa's founding of the conception of the modern, science-based, sovereign nation-state.

The key to modern civilization has been Cusa's revolution, including his launching of modern physical science. Al-

20. "Mr. Scratch" refers to the Satan of author Stephen Vincent Benet's celebrated short story, "The Devil and Daniel Webster," a Satan whose present-day real-life incarnation would be, most appropriately, the notorious Middlebury College monster, Rohatyn.

though the formal institution of a modern physical science of *dynamics* was introduced by Leibniz during 1692-95, the actual revival of the ancient Classical Greek physical science of dynamics (*dynamis*) was made, earlier, by Cusa, as in ***De Docta Ignorantia***, a work whose content was the basis employed by Kepler for his unique founding of a modern physical science of astronomy.

Initially, the reforms associated with the great ecumenical Council of Florence, in which Cusa contributed a key role, had defined the intended design of a modern form of technologically progressive, sovereign nation-state, such as that of France's Louis XI and, later, Henry VII's and Sir Thomas More's England. However, the spread of the Inquisition, as organized by the Venetian financier oligarchy's infamous Tomás de Torquemada, has divided European civilization since the 1492 expulsion of Jews from Spain, to the present day. The history of European civilization (and beyond) since 1492 has been a see-saw battle between principally two opposing forces within that portion of the Eurasian continent. This has been a conflict between the legacy of Charlemagne and the 1439 great ecumenical Council of Florence, on the one side, and the Renaissance's two, rival adversaries of that Renaissance, the two Venetian oligarchical factions, "antique, traditional (Aristotle)" and old Venice's Liberal (William of Ockham) rival, on the other.

Since the February 1763 Peace of Paris, when the British East India Company was established as an empire-in-fact, to the present date, the principal conflict within all globally extended modern European civilization, has been a struggle of the principles of the constitutional sovereign nation-state, such as that of the U.S.A., against the de facto, global, imperial financier-oligarchical power of the Anglo-Dutch Liberal financier system. Since the 1812-1815 (notably sexual) Congress of Metternich's Vienna, only the American Revolution has been a perpetually menaced, temporarily successful challenge to the supremacy of the Anglo-Dutch Liberal tyranny.

In these pages of modern history since, the victory of President Lincoln's U.S.A., against London's Lord Palmerston, and the legacy of President Franklin Roosevelt, have been notably successful challenges to imperial world domination by the Anglo-Dutch Liberal system. During most of the time since 1789, especially since President Lincoln's victory over Palmerston's treasonous American puppets, the Confederacy, and most notably since the accession of President Franklin Roosevelt, the British empire's challenge has been expressed chiefly by London's efforts to degrade the U.S. republic into a lackey of the Anglo-Dutch Liberal "free trade" system. This was done afresh, in the aftermath of the assassination of President John F. Kennedy, with the launching of the ruinous, fraudulently crafted, long U.S. war in Indo-China, a ruinous enterprise which led to the election of the U.S. President and scoundrel Richard M. Nixon, and the systemic wrecking of the U.S. constitutional system and economy over the course of the 1970s and beyond.

To understand the Presidency of Franklin D. Roosevelt, we must understand two things. First, that President Franklin Roosevelt's actions as President reflected his understanding of the patriotic legacy which his ancestor, Isaac Roosevelt, had shared with former U.S. Treasury Secretary Alexander Hamilton. Second, that all great, principled endeavors, especially those in public affairs, emerge as expressed approximations of the intention which had motivated them.[21] Neither the original U.S. republic, nor Franklin Roosevelt's administration leaped fully formed from the brow of Athena; like a successfully fertilized germ-cell, the development of the germ of the maturing form of the original, principled intention, unfolds in interplay of its development with its environment. The quality of that interplay is never mechanistic, but *dynamic*. That intention was expressed by the insertion of the crucial statement of principle, "the pursuit of happiness," taken from

Toward a New Council of Florence

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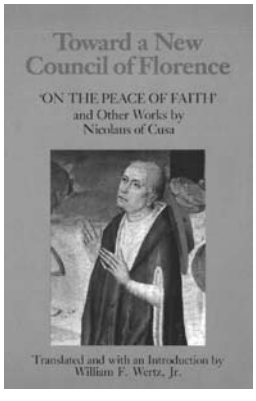

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21. The notable enemy of the U.S. constitutional system of economy was the network of the London-directed, "American Tory" faction directed from 1763 onward by the British East India Company of Lord Shelburne. These treasonous "American Tories" were typified by an agent, Aaron Burr, of British Foreign Office "secret committee" head Jeremy Bentham. Bentham and Burr gave to the U.S. Presidents (and scoundrels) Andrew Jackson (of "The Trail of Tears" notoriety, and Jackson's owner, Land Bank swindler Martin van Buren. The Confederacy itself was a British creation of Bentham and Bentham's prize pupil, Lord Palmerston.

The flag of the British East India Company (left) and the Confederacy's battle flag, the "Stars and Bars." Both institutions were sworn enemies of the American System of political-economy.

Gottfried Leibniz's second rebuttal of John Locke, and the recapitulation of that same principle from the Declaration of Independence as the supreme principle of constitutional law expressed as the Preamble ("The General Welfare") of the U.S. Federal Constitution.

On the Matter of War

War was never to be considered as a permanent principle of civilized society. The essence of relevant constitutional law is what is expressed by the 1648 Peace of Westphalia ("the benefit of the other"). War is never justified except as necessary defense of a society struggling to become a representative of the inherent natural, peaceful interest of the person as an immortal being in his or her soul, against the aggression by forces of evil. This means, typically, against those forces which like the Roman, Byzantine, Venetian-Crusader, or British empires, have a consuming, anti-humanistic appetite for tyranny over their intended victims.

Nonetheless, since history shows that almost anyone can be induced to become an enemy, war is never justified by the mere presumption that an enemy exists as a potential adversary. As the Peace of Westphalia, when considered in the context of long religious warfare, illustrates the case, it is insane to overlook that the object of the civilized nation is to make partners, if possible, where adversaries have stood, to win the other to a nobler cause through emphasis on the principle of "benefit to the other."

Human nature is not inherently evil except among people who believe that man is essentially evil. After seeing an aggressive crocodile, we know that, normally, man is essentially good. What we must recognize as evil in human beings is the quality of frankly pro-Satanic depravity of the type which, frankly, U.S. Vice-President Dick Cheney and his like represent, currently. There was never a reason to enter into the long, ruinous war in Indo-China, which became the means by which our republic became unraveled, nor the pro-Satanic policies of Samuel P. Huntington et al., policies, derived from British imperialist traditions, which sucked the U.S. into the ruinous, pit of warfare in Southwest Asia and beyond.

Our nation's only persisting enemy over the interval since 1689 has been Anglo-Dutch Liberal forms of rapine and imperialism. That remains our republic's chief, and perpetual adversary to the present day, not because the people of the United Kingdom are evil, but because they are themselves the victim of a neo-Venetian, usurious imperialist scheme which has menaced us of the U.S.A. since, especially, that February 1763 Peace of Paris which established Lord Shelburne's imperial British East India Company, whose first and foremost colony was Britain itself.

It is that evil system which the three subject recipients of the current Nobel prize represent, wittingly, or otherwise.

4. The Triple-Curve System

Turn now to the "Triple Curve" model presented in the preceding chapter.

Earlier, I have emphasized the fundamental difference between ecology, as that term can be applied to the domain of living processes below the quality of human behavior (the Biosphere), and the determination of those characteristics of human populations, and of human individuals, which separate human beings absolutely from all lower forms of life. That difference, I have emphasized, lies, functionally, in those creative mental powers specific to human individuals, powers which do not exist among lower forms of life. To restate that in broadly descriptive terms, the difference between man and beast is expressed as the function of the Leibniz differential of his calculus, or, the same thing, what Kepler discovered as the universal principle of gravitation, or what Nicholas of Cusa recognized as the crucial element of incompetence in Archimedes' attempted definition of the generation of the circle by quadrature.

This functional distinction of man from beast, was already known to the ancient Pythagoreans and Plato, although not to Aristotle, and certainly not to either William of Ockham, or Ockham's followers, the modern Liberals (empiricists). It is the form of action on the universe, by sovereign human individuals associated with those elements of practice of the Pythagoreans, Plato, Nicholas of Cusa, Kepler, Fermat, Leibniz, Gauss, and Riemann, but not the Aristoteleans, empiricists, et al., which are expressed in the role of human creativity in shaping the human species' ability to willfully increase its societies' potential relative population-density.

For example: Kepler's demonstration that the actually el-

liptical Earth orbit could not be generated mathematically by the method of quadrature used by Archimedes, defined the basis for the discovery of the principle of gravitation, as the higher-order, harmonic "anomalies" among the Solar System's orbits defined the general principle of gravitation. This set of discoveries by Kepler was the basis for Kepler's assigning the discovery of the Leibniz calculus to "future mathematicians," and, also, the discovery of higher order considerations associated with the general role of elliptical functions in physical science (as distinct from the domain of naive textbook geometry).

In brief, then, the characteristic form of action which distinguishes the principle of population for the human species from the ecological models for lower forms of life, lies in mental actions of a type typified by the legacy of the "infinitesimal" principle of action from Kepler's astronomy, as embodied in the work of such successors as Fermat, Leibniz, Bernouilli, Gauss, Abel, Dirichlet, and Riemann.

The complementary expression of this is found, despite the ***New York Times*** style book, in the *specifically ironical* role performed by the *comma* of Pythagoras and of traditional, literate forms of classical literary composition typical of European Classical poetry, prose, and musical composition during the Sixteenth through Eighteenth centuries, as suggested implicitly by William Empson's ***Seven Types of Ambiguity***.[22]

The role of increase of physically definable productivity specific to the sovereign individual human mind, represents the principle of action which not only defines the difference between the self-development of the human species and that of the inferior species of the entire animal kingdom, but is the entire basis for a rational study of the efficient physical principles of real-life economies.

Therefore, the essential characteristic of all competent attempts at a science of economy, is the need to define the observable elements of the social economic process (e.g., the economic system) in terms which reflect the active role of a form of human individual creativity which coincides with the function of the so-called "physical infinitesimal" of Kepler, Leibniz, Riemann, et al. in generating willful increase of the potential relative population-density within, or among societies.

Unfortunately, in the radically positivist econometric systems popular in universities and so forth today, there is no longer any effective comprehension of this crucial fact. The use of such currently popular, taught and practiced mathematical schemes as those latter, to define a "more perfect" approximation of a radically "free trade" monetarist design of a monetarist's system, precludes, *axiomatically*, precisely those regulatory provisions on which the success of President Franklin Roosevelt's revival of the constitutional American System's general welfare principle depended.

22. (Middlesex: Penguin Books, 1961).

Read the Preamble of the U.S. Federal Constitution. Read it to the following effect.

The Science in U.S. Constitutional Law

This brings our attention to the fundamental difference between U.S. constitutional law, and the law of all present legal and governmental systems of western and central Europe, in particular. European systems, especially all parliamentary forms of government, are intrinsically morally inferior to the U.S. constitutional system. The most flagrant expression of the relative moral and functional depravity pervasive among European systems, is met in the adoption of so-called "free trade" policies, under which governments are instructed to abstain from interfering with the free, self-regulated conduct of the European monetary systems.

Ironically, much European constitutional and other law, does echo the moral principle of the "common good," the moral principle of the Apostle Paul's ***I Corinthians*** 13; but other provisions of law and custom thwart this principle in moments of relevant crisis. This characteristic corruption of customary European parliamentary government, is rooted in the matter of the so-called "independence" of the monetary system's central banking systems from government direction. The same parliamentary form of corruption is familiar to us in the U.S.A., and that with increasingly disastrous results, since the inauguration of U.S. President Richard Nixon.

This pervasive, monetarist form of moral corruption within the current systems of western and central Europe, is an echo of the very reason many European settlers moved to North America. The principles which they brought to North America, as in the case of the pre-1688 Massachusetts Bay Colony, were European; but, in Europe itself, that morality was systemically frustrated by the presence of the oligarchical traditions left over from feudalism and empires of the past.

The essence of the U.S. constitutional system, on this particular account, is reflected as constitutional law in the U.S. Declaration of Independence, as Leibniz's "the pursuit of happiness." The same principle is reformulated as the Preamble of the U.S. Federal Constitution. Under our patriotic law, there are two considerations which are absent from western and central European law and related practice today: first, that no currency or its like can be uttered except by the Federal Executive with the prior consent of the U.S. House of Representatives; second, that our constitutional principle of banking and credit defines the U.S. financial system as a credit system, rather than a monetary system. In other words, U.S. constitutional tradition rejects the notion that the state must be constrained by the monetary system, a role of monetary systems which our patriots have denounced and rejected as the evil practice of usury; and demands that all monetary systems be regulated by sovereign government.

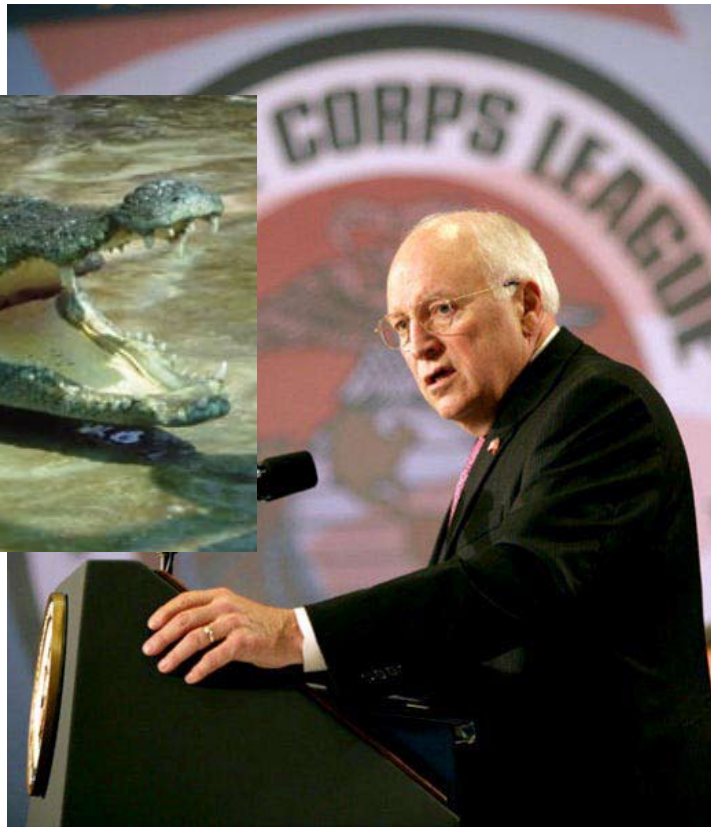
Under the U.S. constitutional system, we require protectionist measures of regulation of credit and the currency system, which, through means such as differential rates of tax-

ation and other means of regulation, we create what has been called at times a "fair trade," rather than "free trade" system.

The foregoing explanation delivered up to this point, the challenge to our government is to create a system of regulation in which the weighted adjustment of credit, taxation, and price reflected in the system of circulation of credit and currency, and of crafted schemes for taxation, such that the behavior of money and prices in circulation within our economy, and abroad, efficiently reflects those policy objectives implicit in the Preamble of our Federal Constitution.

That much said on background, we are now prepared to examine the implications of the "Triple Curve."

After seeing an aggressive crocodile, we know that, normally, man is essentially good. Vice President Cheney is a notable exception.



White House photo/David Bohrer

The Function of the Triple Curve

This diagram (page 14) is composed of three elements in physical-space. Only one among these three elements is real; in this case, it is the downward curve which represents significant forms of net physical output measured per capita and per square kilometer. The other two curves are, respectively, volume of money in circulation (per capita), as compared with what is accounted as financial output/input per capita. In a healthy economic process, the rate of physical output per capita and per square kilometer is rising, both in absolute terms, and relative to monetary value of product produced and consumed.

When these ratios are re-stated in terms of the categories (for the whole economy) of "inorganic," "Biosphere," and "Noösphere," rather than raw gross amounts, the source of the increase in net output is to be regarded from the standpoint of the Noösphere as, directly or implicitly, the fruit of both scientific-technological progress, both per capita and per square kilometer. In other words, an increase of productivity per capita and per square kilometer. This also represents, implicitly, an increase of effective capital-intensity, both per capita and per square kilometer.

These patterns are to be adjusted for what are clearly effects of price-inflation. It is urgent, that we eliminate any consideration of so-called marginal utility. Focus in upon two leading factors: physical productivity per capita and per square kilometer, as adjusted for gross financial expenditure, and, for reasons I explain below, scientific/Classical literacy.

The process of gains, in the case there were marginal net gains in physical output per capita and per square kilometer (as for the U.S. over the intervals, respectively, 1939-1964 and 1945-1964) when costs were adjusted for depreciation of capital improvements. Things became worse with the progress of the U.S. war in Indo-China, especially since about 1966; a new loss in physical-capital replenishment was evident from about 1966-1967 onwards. From about 1968-1970, the trend was increasingly "auto-cannibalistic," especially as the post-industrial trend took over trend-setting.

All measurements are rightly reduced to the terms of physical productivity per capita and per square kilometer. We must take into account the relationship of raw increases in capital-intensity per capita and per square kilometer, to changes in physical productivity. We must also take into account what is fairly described as the "Classical culture" factor, as literacy in Classical modes of expression typify this as a cultural factor in promoting net productivity.

What underlies the function of improvements in scientific-technological progress (per capita and per square kilometer) is, first, pure physical science, and, second, the factor of increase of Classical literacy.

Leibniz's 'Comma'

Return the focus of our attention to the matter of *intention,* as identified in the preceding chapter of this report. When the

term *intention* is used as I summarize the case here, intention has precisely the same connotations as universal physical principle in the work of Nicholas of Cusa, Kepler, and Leibniz, and in Bernhard Riemann's freeing of modern science from the claws of modern, neo-Cartesian expressions of empiricism and positivism.

The crucial notion of intention referenced by me here, is to be compared with the theological notion of the Creator's personal intention, as this matter was addressed in the celebrated manner that the subject was treated by Philo of Alexandria, in his denunciation of the Aristotelean theologians of his time.

The argument by Philo's neo-Aristotelean opponents, was, that if we wish to assert that the Creator's work was perfect, then it must be a finished Creation, without any margin for improvement. Hence, the literal reading of the neo-Aristotelean theology was that God, by creating the universe as perfect, had prevented Himself from any further willful form of intervention in its affairs, thus leaving the capacity to make further interventions to the whims of, perhaps, Satan, or, on some occasions either Vice-President Dick Cheney or the surrogate would-be god who refers to himself, blasphemously, as "the decider."

Admittedly, that curious argument was, in a manner of speaking, purely Aristotelean. However, it should be readily seen that, contrary to Aristotle, the universe never was, and never will be "completed," at least not "completed" in the specific sense of the Aristotelean Claudius Ptolemy's famous fraud in astronomy. The perfection of Creation lies in the reality that it is *a continuing creation*: in other words, an *anti-entropic creation*.

As I have already emphasized in preceding pages here, the universe as we know it is, so to speak, "upward evolutionary," or, in the formalities of scientific method, is anti-entropic: proceeding from relatively simpler, to more developed states of existence. This kind of upward development occurs only in two known ways: either as a built-in characteristic of the universe, or by the willful intervention to this effect by mankind, as ***Genesis*** 1 would also suggest.

That universe, so defined, is one of continuing, successive, qualitative changes, from relatively lower states of organization, to higher orders. As from solitary Sun to Solar System, and Suns to galaxies, and galaxies to galaxies producing the effects of super-super "Novas," a universe in which all acting components interact, not in a mechanistic, but a dynamic fashion, as Bernard Riemann's developed notion of continuing processes of hypergeometric development implies.

Similarly, the discovery of actually universal physical principles, which occurs only through relevant modes of action within the sovereign bounds of the individual, creative human mind, defines man's willful role in promoting a self-developing universe of continuing creation, from qualitatively lower, to higher physical states.

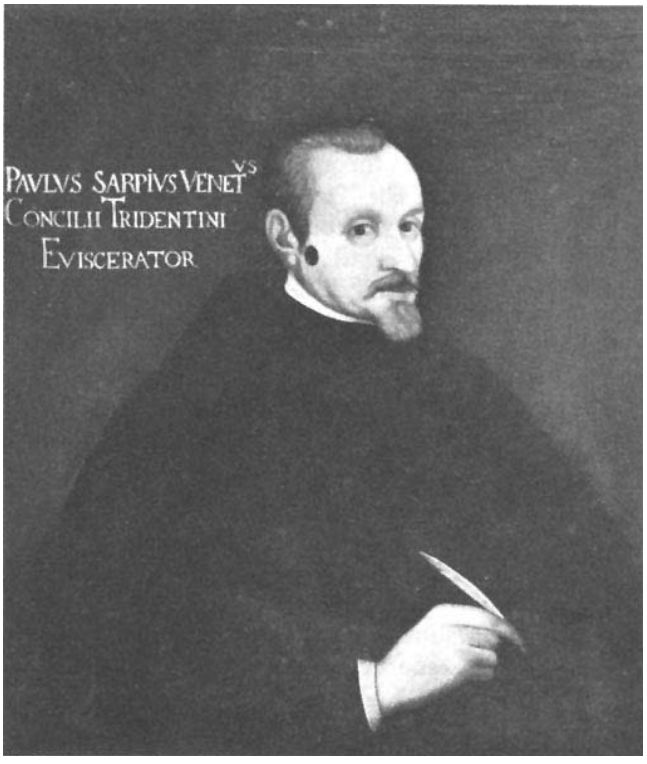
So, the creative powers of the sovereign individual human mind, acting to produce an increase of man's apparent physical power over the Earth (and Solar System) per capita and per square kilometer of the Earth's surface, express the essential nature of the human individual, the absolute difference of such a human individual from any member of an animal species.

Hence, the implicitly Satanic evil expressed by "Malthusian" and related conceptions, such as those promoted by former U.S. Vice-President Al Gore. Whenever any culture, once successful, turns toward a "pro-Malthusian" orientation, such as that of Nobel award-winner Al Gore, that society has embarked on a voyage toward Hell, a path, such as that of the U.S.A. "Baby Boomer" elite of today, of willful, implicitly pro-satanic self-destruction of our planet's civilization as a whole.

If we consider President Franklin Roosevelt's expressed intentions for the post-war world, the "logical," so to speak, outcome of his knowledge and war-time experience of two "world wars," is that the cause of such warfare has been, typically, the existence of imperialist systems such as those of the Anglo-Dutch Liberal and related empires. If it were possible, at the close of the war, to eliminate imperialisms, the circumstances which would have tended to breed general warfare, could be controlled, by establishing a world-order premised on the prescribed universality of a system of perfectly sovereign nation-states. We know that that was Franklin Roosevelt's expressed intention for the post-war world.

The change which came with Roosevelt's death, on April 12, 1945, was President Truman's ripping up of what had been President Franklin Roosevelt's intention, by joining that faction of imperial Britain's Winston Churchill which was the avowed and fervent enemy of the freeing of subject peoples from Anglo-Dutch Liberal, French, and other manifestations of colonialism. The Anglo-American engineering of the unnecessary Truman conflict with the Soviet Union, was the paradigmatic feature of this Anglo-Dutch Liberal compact of President Truman with the British empire.[23] This issue, then,

23. After the experience of World War II, Stalin's Soviet Union wished no conflict with the U.S. Nor did Stalin intend an "imperial" sort of division of Eastern from Western Europe. The experience of awful war had brought about a great change, comparable in many ways to the circumstances of the adoption of the 1648 Peace of Westphalia. Under President Roosevelt, we of the U.S.A. had the world in our hands, if Roosevelt had not died. Inasmuch as our FDR's anti-imperialist policies against colonialism shaped the global environment generally, FDR, had he lived, was situated to lead in establishing a new order among a world composed of sovereign nations. We had the power under FDR; foolish Harry Truman threw that great power away. Russia's President Putin continues to seek to revive the essence of the intended post-World War II cooperation between Moscow and Washington. A similar opportunity, which was lost, existed in President Reagan's proffer to Andropov's Soviet Union. To lose the chances which are associated with "Kennebunkport" today would be a global catastrophe for all mankind for generations to come.



Venice's Paolo Sarpi (1552-1623) introduced Liberalism (empiricism) as a trick to allow a certain latitude for innovations, but only by prohibiting the spread of knowledge of universal physical principles.

was the exact same issue underlying the present British drive toward virtual warfare against Russia, and other targets, today.

The remedy for the continuation of a general threat of warfare, is, in principle, the principle of the 1648 Peace of Westphalia. To enact that agreement, the parties must be sovereign in their relations to one another.

Conflict in the sense of existential interest, is a disease of morals and opinion caused by cultural tendencies toward bestiality, tendencies which are fostered by the combination of brutishness imposed in obvious ways upon both so-called lower classes, and upon those assigned to hold such lower classes in check. The epitome of such moral diseases is imperialism, for which the epitome today, is the moral disease called Anglo-Dutch Liberalism.

Reflection on those and related considerations bring us to the matter of the other Nobel award, that of the cited trio of the Nobel economics award.

Systemic Empiricism

As I have detailed the relevant argument in locations published earlier, modern *Liberalism*, as implicitly interchangeable with the term *empiricism*, was a trick introduced by Venice's Paolo Sarpi, a trick adopted by him in the effort to outflank what was otherwise the defeat of traditional Venetian feudalist methods by the rise of the modern civilization launched by Nicholas of Cusa et al. in the setting of the 1439 great ecumenical Council of Florence.

The freeing of the mass of the population from the prevalent brutish obscurantism under the medieval Norman-Venetian system of feudal tyranny, had fostered a great increase of the efficient power expressed by the so-called lower and middle classes of European society. In the face of this new development in social relations, the Venetian faction was able to heap ruin upon the work of the Renaissance, but could not succeed in crushing a population which had gained new powers of resistance lacking in the earlier, medieval times. As I have already emphasized here, the "Old Venetian" faction relied on attempting a forced imposition of the proverbial "old ways," an intent which emphasized hatred of everything which Nicholas of Cusa had represented: both the conception of the sovereign nation-state republic, and emphasis on scientific and related progress in popular culture.

Sarpi recognized that it was precisely the "Old Venetian" faction's obsessive resistance to productive forms of innovation, which had become the key marginal factor of resistance to the Venetian's forces cause. However, Sarpi also recognized that the spread and advancement knowledge of universal principles was the factor which threatened to free society generally from continued domination by social institutions such as Venetian-style monetarism. Sarpi thought himself to have solved that existential paradox, by affording latitude for innovations contrary to Aristotelean rigidity, but, at the same time, prohibiting the spread of knowledge of the underlying universal physical and comparable principles which technologically progressive innovations express.

The compromise which Sarpi, Galileo, et al. adopted on this account, was to allow innovations expressed in the form of descriptive mathematical formulations, but to prohibit the types of crucial-experimental knowledge of universal physical and comparable principles typified by the work of the ancient Pythagoreans and Platonics, or the modern followers of Nicholas of Cusa, Kepler, Fermat, Leibniz, et al. The empiricist hoaxes of Descartes, de Moivre, D'Alembert, Euler, Lagrange, Laplace, Cauchy, Clausius, Grassmann, et al., typify the methods used to destroy mental access to the experimental proofs of principle which underlie successful progress in the fundamentals of scientific knowledge.

The cases of Hurwicz, Maskin, and Myerson are typical of a certain, extremist expression of empiricism, the "ivory tower" version of empiricism, as in the "arm chair" Sophistries of Ernst Mach and Bertrand Russell, which eschew the qualities of crucial physical-experimental methods which test hypothesized new, higher principles of scientific and related practice. Were such a morally disgusting scheme as theirs to be tolerated, future generations would mourn the ashes we shall have become very soon, under the crisis-conditions of today.