WHAT IS A NATION?:

Nations as Dynamical[1]

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The global crisis which the just-inaugurated Presidency of Barack Obama has inherited, involves profoundly elementary forms of existential challenges for each and all peoples of the planet, challenges of a type which are beyond anything which recent governments of any part of the world have been willing to face heretofore. The rescue of those governments and their putative experts, demands some profound, and also shocking changes from the conceptions which have, heretofore, misguided the leading professionals involved in advising the most relevant leading governments of various regions of the world.[2]

My recent, extraordinary success of July 25, 2007, in long-range economic forecasting of crucial developments in the world's economic systems, should have become, by now, sufficient, even virtually overwhelming evidence of the need to abandon what had been, heretofore, the leading assumptions respecting economy by governments and others, and to adopt new, more appropriate principles which would be consistent with the validated methods of forecasting employed by me.[3] That forecast has become a breakthrough, toward a sweeping, fundamental change in the future meaning of the very name of economics, sweeping aside everything which had been considered professional expertise up to the point of that most recent development.

However, now that the inauguration has occurred, the new President and his Presidency, for their part, are now justly occupied, for the moment, with the proverbial "bits and pieces" of maintaining their "tempo of control" over the day-to-day role of the President in establishing and maintaining his office's control over its function of moment-to-moment national and world leadership in the current, virtually unprecedented crisis in the national and world situations. This compels that President to resort to large doses of improvisation; for, if he were to lose control, hostile foreign as well as domestic forces will be able to act to immobilize the Presidency's ability to exert management control over the current situation.

In the meantime, circles and individuals associated

1. This report was prepared in response to an important question, presented by relevant professionals, presented to me during the January 22, 2009 LaRouche PAC webcast.

2. From misleading conceptions premised upon the notion of money, to that of physical values.

3. Learn the homely wisdom of the ghosts in the celebrated German film ***Spukschloss in Spessart*** who said, *"Die Hauptsache ist der Effekt"* ("The effect is what's most important.")

with the institution of the Presidency, whether formally attached to it, or implicitly committed to its success, must generate programs and perceptions which are of a more long-range, lasting significance for the history of the republic and the world. Thus, while the new Administration is preoccupied with what may be characterized as "swatting flies," solid, long-ranging measures must be crafted and put into place for the long haul—soon. In the end, as the months pass, it will be those long-haul effects which will be crucial for this present Administration. This report of mine is focused on those conceptions which represent the most important among those urgent "long haul," elements of policy.

The most crucial, and also least understood, among those still controversial conceptions on which the survival of civilization on this planet now depends, is the issue of principle which I present in this report:

So, in remarks which I had delivered to a leadership meeting of January 13th, I emphasized the following:

1.) That, the systemic distinction, both physical and moral, between a species of animal life and a sovereign individual member of a human culture, is a difference expressed, in the human individual, as a process of development of an implicitly immortal, subsuming principle*, a principle whose expression occurs within an individual of a specific generation, but, a principle which, nonetheless, subsumes, ontologically, the way in which the ultimate outcome of* a succession of generations *of a nation is actually, intentionally ordered for effect.*

For societies which are capable of surviving this present world crisis, we have now reached the point that, no more can anyone who wishes to be considered competent, tolerate the assumption, that the process of an economy should be treated as being contained in a way in accord with the dogma of the unfortunate René Descartes: that as if within what were to be treated as merely a reflection of the externally influenced, mechanical-like interactions of the inanimate, or mortal individual subjects as such.

2.) What I was emphasizing in that report to the meeting of my associates, was the following.

The consistent failure of most attempts at long-range economic forecasting by my putative rivals from among the sundry economists and relevant others of nations, should have warned us, that we must reject the notion, that the controlling physical cause *of mass economic behavior could be what appears to have been a statistical succession of individual developments in society: as if embodying, as if mechanically, the physically efficient cause of the existence and behavior of each of the subsumed, presumably discrete elements of that succession.*

The dynamic quality of nations is fostered through scientific and technological achievements and their introduction into the physical economy, promoting the general welfare. This Leibnizian conception was well understood by Benjamin Franklin, whose scientific exploration of electricity is portrayed here by Benjamin West.

Kepler on Aristotle

Johannes Kepler refuted Aristotle's geocentric cosmology, and charged that Aristotle held science back for nearly two millennia, until the advent of Copernicus, by rejecting the Pythagorean idea that the Earth moves in an orbit around the Sun. Here is an excerpt. Kepler's full document was published in 21st Century Science & Technology, *Winter 2001-02.*

Johannes Kepler (1571-1630)

I am as little satisfied with Aristotle, when he thinks it is sufficient to have asked why the Earth remains at the center of the world, and to answer, that nature assigned this position to it. For it is entirely uncertain, and not conceded by me, that the Earth is in the middle of the world; and were it so, it would be so indeed on account of nature, but in the same way that all things are on account of nature. But one is not satisfied to know that things are according to nature, but one asks why they are that way and not some other way, and what means nature used to bring this about. . . .

For example: Contrary to mechanistic presumptions, Johannes Kepler's uniquely original discovery of an efficient universal principle of Solar gravitation, in his ***The Harmonies of the World****, remains, in fact, today, a prime example of what Gottfried Leibniz defined, during the 1690s, as a principle of physical dynamics. The categorical point of distinction of human society from animal ecologies, is a comparable case. The same* harmonic *quality of systems, is the subject of the physical science of such as Bernhard Riemann, V.I. Vernadsky, and Albert Einstein.*

The great fault of all recently prevalent assumptions governing the economic thought of professional economists and related circles, whether among the academics, or the opinion of the street gambler, lies in the influence of the axiomatic presumptions of the practice of usury, assumptions which were summed up by Adam Smith, not in his virulently anti-American tract of 1776, his ***Wealth of Nations****, but his earlier apology for the mystical irrationality of philosophical liberalism, an apology given in what should have been considered today as his more thorough promotion of the Ockhamite Liberalism of Paolo Sarpi, as in Smith's 1759* ***Theory of the Moral Sentiments****. The exclusion of the possibility of a physical-dynamic (e.g., Leibnizian, Riemannian) basis for economic value, rather than a monetarist one, is the great error of academic and Las Vegas gambler alike, an error which must be now suddenly expelled from the practice of economy by governments, if civilization is to survive this present crisis.*

Therefore, if civilizations wish to survive the presently onrushing, global economic breakdown-crisis, they must change their ways accordingly, shifting to the legacy of the physical science of Nicholas of Cusa, Leonardo da Vinci, Johannes Kepler, Pierre de Fermat, and Gottfried Leibniz, away from popular sentiments such as those prescribed by Paolo Sarpi follower Adam Smith's ***Theory of the Moral Sentiments****.* It is that Liberalism of the dupes of Paolo Sarpi, *which also made a dupe of not only Karl Marx, but many of Marx's followers, among many other types of cases of the same radically reductionist madness.*

The distinction of the subject of this present report, is its attention to, and explanation of the fact, that that which is expressed in the manner in which the living human individual, who is mistakenly seen as merely biological, is actually shown to be the embodiment of something which is subsumed by the superior efficiency of a higher principle. That principle is one which must appear to our biologists, not as a principle of biology as they have usually defined it heretofore, but, as what must tend to appear to most literate observers as an

eerie sort of spiritual principle, as that creative potential of the individual human mind which is lacking in all lower forms of life.

I refer, here, to the distinctive quality of a principle of human intelligence, a higher sort of principle which is expressed as original, or replicated discoveries of universal physical principles, or as artistic compositions expressing truly original and valid principles of composition. Eerie as this notion might appear to be to some persons, at first glance, it is, nonetheless, actually (ontologically) a physically efficient principle of our universe. It is to be treated as an expression of a physically efficient principle of dynamics*, rather than a mere effect, for example, of such as a Cartesian-like datum of the reductionist classroom's statistical dogma.*

Thus, in the matter of the relevance of the work of Academician Vernadsky, there are three, mutually distinct ontological qualities of such integral, dynamical systems to be considered by us here: a.) The general abiotic ("pre-life"); b.) Living processes, and their specific by-products, other than those of human mind; and, c.) The human mind. In these cases, the distinction of the higher one, is not a derivative of the nature the lower, but, rather, all three are commonly subsumed by a higher, common, universal, dynamic (creative: anti-entropic*) principle, as Albert Einstein summed up the combined effect of the uniquely original discoveries of the Solar System's principle of gravitation of Johannes Kepler and those of Bernhard Riemann, defining our universe as a finite, but not externally bounded universe.*

In other words, I mean dynamics as dynamics *(the echo of Classical Greek* dynamis*) was defined by Gottfried Leibniz's attack on Descartes, on this specific account. The fuller meaning of a general principle of dynamics in modern science, was given later by Bernhard Riemann, as this is typified for today's general reference by his 1854 habilitation dissertation. Further contributions to the elaboration of Riemann's discovery have been supplied, most notably, by the anti-mechanistic discoveries of Max Planck (e.g., harmonics, rather than Ernst Mach's "mechanics"), Albert Einstein, and Academician Vernadsky.*

3.) The principle which I have identified in the opening of this prologue, is of the same quality of form as that expressed by Johannes Kepler's uniquely original discovery of a universal principle of gravitation. So, Albert Einstein identified his own, Riemannian view of Kepler's work, as pin-pointed in Kepler's Book IV of ***The Harmonies,*** *as being the enveloping foundation of* ***all*** *competent, modern physical-science practice.*[4]

4.) So, I have emphasized, over decades to date, that in that competent way of thinking within the domain of physical science, this difference is expressed in the terms of what Gottfried Leibniz defined, in his denunciation of Descartes, as dynamics. *As I have said above, this is a notion of dynamics which Leibniz identified as an echo of the notion called* dynamis *among the ancient Greek and related circles of the Pythagoreans and Plato. The same notion, as developed in an enriched form by Bernhard Riemann and his followers, such as Albert Einstein, is crucial for defining the functional notion of the necessary integrity of a sovereign nation. Einstein's expressed, Riemannian views, insofar as they are known to me, lack only the needed, still higher standpoint of reference, to Academician V.I. Vernadsky's Riemannian notion of the Noösphere.*

5.) The application of this conception, so summarized above, supplies modern civilization with a specific notion of nation-state cultures which is crucial in addressing the root of that grave crisis of global civilization which is presently menacing humanity as a whole, as at this present moment.

In these days of a world of humanity now plunging at an accelerating rate toward depths which have not been thought possible, everything on which I expend significant efforts now, has both a long-term and an immediate purpose, that in service of the defense of the immediate, terrible threat to very existence of a civilized form of life on this planet. This condition of presently accelerating, global crisis, makes demands upon me, which bear upon the unique competencies which I have developed in the field of a science of physical economy. Thus, what I must present as of urgent relevance on this account, may appear to verge on the merely academic, but no one should be misled into thinking that what I write in the following piece is "merely academic" in any meaningful sense. The fol-

4. Kepler's demonstration that neither the sense of sight, nor hearing could account for the harmonic composition of the Solar System, freed science from the grip of the folly of sense-certainty, especially the folly of the modern European empiricism of the followers of Paolo Sarpi. Although this had been anticipated by Cardinal Nicholas of Cusa, as in Cusa's seminal ***De Docta Ignorantia***, and was already clear in the work of Pythagoreans such as Archytas, and of Plato, the actual experimental demonstration of this underlying principle of all competent modern physical science, is owed to the concrete work of Kepler. Hence, Albert Einstein's celebrated argument in support of both Kepler and Riemann.

lowing is written in what must be identified as "deadly serious" intent, and must be read accordingly.

That intent and character of what I write below, will be clear enough as the following account unfolds.

Introduction: On the Subject of One's Self

My specific contribution to the principles of dynamics being delivered within this present literary location, lies within those dynamics of humanity, as such, which underlie the actual characteristics of *physical* economies. This can be usefully illustrated, for these purposes, by a brief reference to a closely related aspect which is typical of my own, relevant personal experience, and in relatively greater, or lesser degree by some relevant others. I point out some notably relevant autobiographical items, as follows.

All but one of my grandparents were born during the 1860s, amid the setting of the decade of the great U.S. Civil War. One notable grandfather was a descendant of members of the group of the English settlers in North America during the middle of the Seventeenth Century; another was the son of a Scottish professional dragoon, a dragoon who arrived to volunteer his Civil War service with the First Rhode Island cavalry. The specifically English strain in that ancestry, was represented by grandparents representing families which had included active leaders of the anti-slavery conspiracy of their time,[5] as known to my grandparents' family dinner-table of my childhood, as having been expressed from among living ancestors born during the immediate, Seventeenth-Century establishment of what was to become this Federal republic, who were of this subsuming category.[6] In general, excepting large chunks of Scottish and Irish strains introduced to the ranks from approximately the middle of the Nineteenth Century, my family history is traced from its beginnings within North America, from Seventeenth-Century French and English immigrants from the same era as the original New England and Quebec settlements.

At the same time, the fact was, as actually known to me, that: despite a significant diversity of the specific traits and views of these individual parts of that extended family as a social process, the larger social process which was my emerging new nation (in actuality) during those three centuries before my own time, had predominant, manifestly underlying characteristics which are distinct from those of citizens of European nations, characteristics which influenced the individual representatives who were often not notably conscious of the nature of these influences upon their behavior, but which, nonetheless, were influenced by them in critical ways. Those characteristics were rooted in, as subsumed by the dynamics of this society, rather than the opinions specific to any individual representative of the family or related larger grouping. While the individual had an affect on the evolution of the national culture, the culture was never the simple aggregate of individual opinions among the population: *dynamics,* again.[7]

The most significant of the differences between the cultures of our United States and representatives of the same language-groups in Europe, was our separation from the European and other class-distinctions common to European, and such other expressions of oligarchical models of society, including those of British and other parliamentary systems.[8]

On this account, I now turn your attention to refer, once again, as I have often done so over the course of the most recently preceding sixty-odd years portion of my eighty-six years to date, to the strong impact of my first experience of the concluding paragraph of Percy Shelley's ***A Defence of Poetry***, a paragraph featuring his summary on the subject of the imagination.[9] I em-

5. Such as the Daniel Wood who had run an "underground railway station" in Delaware County, Ohio.

6. An American family of English ancestry identified, chiefly, within a genealogical study known as "The Lancaster Family."

7. Herein lies the root of the common failures of the customary opinion-pollsters. They mistake the footprint left by the mind, for the living foot which had left that print, a print which was often a misleading indication of the intention which that print reflected. Hence, we have revolutions and other developments by a society which take most of that society by surprise, when those strata see the unintended effects which their expressed opinion had created.

8. The oligarchical currents within our U.S.A. have been limited, chiefly, to the families associated with the British East India Company, and, a variant of that, the slaveholder pseudo-culture of the U.S. Federal states in which chattel slavery came to be promoted.

9. "Imagination," as employed here, does not signify "unreal;" it signifies products of the functions of the mind, rather than of mere sense-perception as such. As in all valid expressions of Classical poetry and drama, the imagination is the substance of the idea, called *irony*, whereas the relevant sense-perception is the shadow. One does not recognize one's beloved by sense-perception as such, but through those powers of the imagination needed to distinguish the person from the mere sensory form of image, as for the case of a "changeling." Irony, including meta-

phasize the usually unwitting role of most relevant persons in their fostering what can be isolated as those superb moments of achievement of a great people summoned to a great task, moments in which those individual persons performed with a certain commitment and excellence, yet, often, were unwitting of the underlying source of their inspiration, when, often, as Shelley emphasized, that inspiration was even contrary to their customary character. The emergence of the U.S. population under the leadership of President Franklin D. Roosevelt, is an excellent illustration of this. Consider the ironies of the matter in Shelley's own terms.[10]

Percy Bysshe Shelley; engraving by Amelia Curran, 1819.

The fact of the often unwitting quality of the motive to which Shelley refers, within that concluding paragraph, as in the behavior of many others of his time, expresses the same phenomenon which is the subject of this, my present report. That same quality of customary individual unwittingness to which Shelley referred there, is also expressed in physical science, as, also, in what are nonetheless great artistic endeavors generally.

The Classical Poetry of Science

Consider a more general expression of that irony.

That form of science which had been emerging from the rising waters of the oceans, then at a time not less than about 11,000 years ago,[11] was the product of what had been the ancient transoceanic maritime culture which had become settled, since, on the newly defined coastlines and the lowest regions found in the mouths of great riparian systems.

What we have come to call "science," as it emerged thus, was expressed, at that time, as that to which India's Bal Gangadhar Tilak would point, in his ***Orion***, as the approximately 26,000-year Equinoctial calendar cycle already known to the ancient Vedic culture. This is a culture whose work is embedded in the cultural characteristics, even those characteristics of the presently unwitting, of both later Sanskrit and India's culture generally, amid its living population, still today. Typical human experience with such relatively long cycles, reflects ancient ocean-going maritime cultures, whose attention to the cyclical and quasi-cyclical stellar array, bespeaks a current of experience and knowledge in mankind's culture, whose emphasis on the ancient

phor, typifies this. Objects which exist, but are sensed directly only as microscopic, or sub-microscopic, are typical of this. Shelley's ***A Defence of Poetry*** is clear on the matter of this distinction.

10. This present report is a continuation, but in broader terms, of my own. Lyndon H. LaRouche, Jr., "The Lesson of Pearl Harbor Day," ***EIR***, Dec. 19, 2008. I emphasize the presently urgent, following excerpt, taken from that paragraph which I have often quoted, orally and in print, more or less in full from Shelley (the ***Harvard Classics*** edition in my possession and use during the middle of the 1930s and early 1940s). I quote myself, thus, as quoting Shelley repeatedly over decades, as follows: "…we live among such philosophers and poets as surpass beyond comparison any who have appeared since the last national struggle for civil and religious liberty. The most unfailing herald, companion, and follower of the awakening of a great people to work a beneficial change in opinion or institution, is poetry. At such periods, there is an accumulation of the power of communicating and receiving profound and impassioned conceptions respecting man and nature. The persons in whom this power resides, may often, as far as regards many portions of their nature, have little apparent correspondence with that spirit of good of which they are the ministers. But even whilst they deny and abjure, they are yet compelled to serve, the power which is seated upon the throne of their own soul. It is impossible to read the compositions of the most celebrated writers of the present day without being startled with the electric life which burns within their words. They measure the circumference and sound the depths of human nature with a comprehensive and all-penetrating spirit, and they are themselves perhaps the most sincerely astonished at its manifestations: for it is less their spirit than the spirit of the age…." That passage must be restated, in print and sung aloud, repeatedly, for the sake of its unique relevance as being uttered by me, yet once again, as stating a principle which is typical of every culture, in every age: that the individual member of society should become able to recognize himself, or herself, as expressing a behavior which is often, predominantly, typical of the movement of his, or her time, rather than simply a conscious product of his own, individual opinion-making. (My punctuation and editing.) Without that concluding paragraph of his ***A Defence of Poetry***, any reprint of Shelley's piece were fraudulent by intent.

11. N.B., During the ebb in that glacial continuum estimated by some as about the recent two millions years, which is on the rise, again, today.

fruits of *astronavigation*[12] implicitly defines *the notion of man in, and acting efficiently upon the universe:* a true, anti-Euclidean notion of a quality of a science, which is to be defined, thus, as characteristically universal.

It is the relative mastery of this maritime standpoint for the definition of the concept of "universe," which presents the basis, from the past, for what we may fairly consider to be, virtually, the still living ancient "ancestor" of competent scientific practice, as reflected in the form of efficient action upon the domain of the here and now.

However, as I shall emphasize in the course of this present report, the proper primary subject of science, is not that of astronomy as such; science is the expression of that whose very existence is shown, essentially, not in the stars which Shakespeare brushed aside in his ***Julius Caesar****, but in a certain uniqueness of mankind's own behavior: a uniqueness which is to be adduced from in our species' unique, historical concern with ancient maritime culture's mastery of universalized astronavigation as such.*[13] We must proceed from mastery of the discovered principles which the outlook of ancient mariners' astronavigation reveal, as what we must know and employ as the principles which order the development of our universe in both the respectively very large and very small. Man is not an object in the universe; man comes not merely to know the principles which order the universe, but principles which are expressed by us, as in our making that universe itself our subject (rather than ourselves as being merely the subject of that universe). *In other words: man and woman of* ***Genesis*** 1 *as in the image of the Creator.*

Thus, I shall emphasize, that, therefore, the subject of man lies, as Shakespeare wrote in his ***Julius Caesar***: not in those "stars, but in ourselves," as every true Promethean must discover his, or her true heritage as a human being. Hence, true tragedy, including the intentional use of the concept of tragedy by Aeschylus, Shakespeare, and Friedrich Schiller, is not a matter of what not only ignorant, but also mis-educated individuals, label "the tragic individual." *Tragedy* is that principled quality of systemic folly which tends to permeate the "axiomatic-like" behavioral presumptions of an entire social formation, such as a language culture, a nation, or a social class, or the like, as an experience within or among nations.[14] As Shelley wrote: "…they are themselves perhaps the most sincerely astonished at its manifestations: for it is less their spirit, than the spirit of the age. … " Mankind distinguishes itself from the beasts by superseding the spirit of a former age.

Thus, I emphasize: Johannes Kepler's uniquely original discovery of the principle of universal solar gravitation, as Albert Einstein emphasized Kepler's uniquely original discovery, as being the foundation of all competent modern experimental physical science known by Einstein and relevant others up to that time. That is the most crucial of the discoveries on which all competent modern science currently depends.

In the end, man does not react to the universe; man reacts in ways implicitly intended, as a matter of principle, to modify that universe's behavior, ultimately to qualitative effect. So, man as a species is distinguished from the beasts, if and when he chooses to do so. That is that end which a person's search for a choice of destiny must serve.

12. The original reference to experience from which the meaning of the term *astronavigation* should be derived is not essentially "space-travel," but forms of transoceanic navigation which take into account the effects specific to changes in specific astronomical experiences, from fixed to variable, which are relevant to transoceanic navigation within what had appeared, initially, as a permanently fixed set of changes within the ordering of the planets or specifically stellar phenomena. The Classical name for a practiced body of physical science so defined, is that Egyptian-Greek science of *Sphaerics*, associated with the Pythagoreans and the method of Plato. For example, any truly universal physical principle is, contrary to all empiricist doctrine, the image of a reflection of any change in the universe, local or other, whose efficient origin, as a principle of action, lies within the existence of the universe as a whole. The Vedic record of the Equinoctial cycle, as reported from seemingly landlocked central Asia, reveals its ancient maritime origins and relations to cycles within our planet's presently continuing ice-age.

13. Long-term changes in the composition of the observed astrophysical system itself.

14. In a competent view, or performance of any Classical tragedy, the tragic factor lies in the adopted cultural habits shared among virtually an entire class of people, or the culture as a whole at that time; the individual's character is tragic only to the degree that he, or she is controlled by a habituated notion of principled behavior shared by an entire class of people, or as a "species-like" principle permeating even the culture of the population as a whole. In physical science, for example, belief in the *a-priori* elements of ***Euclid's Elements***, embodies what must be recognized as a society's tragedy, that in the same general sense that the opening two paragraphs and concluding sentence of Bernhard Riemann's 1854 habilitation dissertation (the virtual "book-ends" of that composition as a whole) discredit the tragedy characteristic of Euclid's admirers. Such principled distinctions, point out almost any kind of a popular folly of an entire population, that in fashion often suggesting the common, controlling feature subsuming the process of a slime-mold.

The Evil in Euclid

The most significant of the typical causes for the intellectual failure of a promising social movement, such as the Classical Renaissance associated with that period of the American Revolution prior to the effects of the British Foreign Office's orchestration of Philippe Egalité in the incident of the Bastille, is that the fact that so many among those supporters of the cause of our American Revolution were reacting to that development, during the best preceding period, in a manner contrary to what might be fairly described as their customary inclinations. In great moments of history, a people rises above its habitual traits; but, in decadent moments, reverts to something like that which it had already been before. I saw this reversion on my return to the post-Franklin Roosevelt U.S.A., after the war. Heinrich Heine's clear insight, as in the matter of the Romantic School, into a certain moral duplicity in the impressively brilliant Goethe, illustrates the point.[15]

Consider the historically ironical patterns of development, as during that interval of the rising influence of Abraham Kästner, his protégé Gotthold Lessing, and Moses Mendelssohn, which typify the favorable European setting for the success of the American Revolution.

The principle of that Classical school had held a large degree of sway, against the follies of the contrary influence, over strata which were, otherwise, of the contrary inclination of the Cartesian Abbé Antonio Conti, and such among Conti's followers as the hoaxsters and haters of Leibniz as Voltaire, and as the followers of Paolo Sarpi's tradition among the mere mathematicians Abraham de Moivre, Jean le Rond D'Alembert, Leonhard Euler, Joseph Lagrange, Pierre-Simon Laplace, Cauchy, Rudolf Clausius et al. That classical influence waned with the collapse of the dynamic expression of authority associated with the cause of the American Revolution, a corrosion already under way in 1782, and aggravated by the death of Benjamin Franklin, and by the fall of the Bastille orchestrated by London, and by the insurgency of that reactionary party which the Habsburg Emperor was now supporting (since the affair of the Queen's necklace).

So, the influence of the Eighteenth-Century renaissance was weakened to a degree that we in the U.S.A. saw manifest in Thomas Jefferson's period of defection, as also in the bedroom of President Madison, as under the influence of the traitor and British agent Aaron Burr. Under the earlier active influence of Benjamin Franklin, Thomas Jefferson, Madison, et al., startle us, still today, with a quality which Shelley identified as "the electric life which burns within their words," but, in the late 1790s and into the second decade of the Nineteenth Century, we must recognize the greatness of their time of association with Franklin as expressing, like the Biblical Jonah, or the Apostle Peter's "thrice," "less their spirit, than the spirit of that age." So, in the matter of the so-called "Monroe Doctrine," and other matters of later life, Jefferson returned to himself as he had been, more or less, under the influence of his former mentor, Benjamin Franklin.

Any truly competent treatment of history must recognize the kinds of examples which I have just referenced here, and also recognize the principle which Shelley had addressed in what I have referenced here as the relationship between the individual and the motivating power which appears in the form of the "spirit of the age."

So, we experienced a comparable return to the worse, with the death of President Franklin Roosevelt. Already, once the Normandy victory of the U.S.-led allies assured the defeat of the Nazis, the same, British led, right-wing faction, inside the U.S.A., which had been pro-Mussolini-Hitler prior to December 7, 1941, moved to take back their former power. So, the death of President Franklin Roosevelt served as the opportunity for the former, pro-fascist, right-wing gang to regain power in the Presidency under President Truman. During most of that change back toward a "right-wing" takeover of U.S. leadership, I was overseas—until late

15. The actual downturn in the rate of immediate progress of the American Revolution, came with Lord Shelburne's role in the 1782 establishment of the British Foreign Office. Thus, Shelburne caused the negotiation of a peace treaty to divide the U.S.A., French, and Spanish allies by separate British negotiations with each. The special relationships, between Shelburne and his lackeys Jeremy Bentham and Edward Gibbon on the British side, and the set of such as Philippe Egalité, Philippe's Swiss banking crony Jacques Necker, and the Martinist freemasonry generally, on the other, triggered the setting and unfolding of the history of the world, from the siege of the Bastille, on, under what has been called "The British Empire," from 1782 to the present day. The British East India Company's empire was established in fact, as a private empire of that company, by the February 1763 Peace of Paris; but, the systemic features of the government of that empire were established by Shelburne's adoption of Gibbon's model of Julian the Apostate.

National Archives

The end of the Second World War is celebrated in Norfolk, Virginia, 1945. Already, a shift was underway in the "spirit of the age."

National Archives and Records Administration

Veterans returning from the war settled with their families into suburban bungaloes, retreating from the great cause for which they had recently fought.

Library of Congress

With the death of FDR, the right-wing crowd regained power in the Presidency and other institutions. Here, the fascist Sen. Joseph McCarthy and his lawyer, Roy Cohn, during the Army-McCarthy hearings in 1954.

Spring 1946, and therefore had the peculiar "advantage" of experiencing, more fully, the shock of that change within U.S. institutions which had taken over the U.S.A. during the interval from Spring 1945 to Spring 1946.

The weakness of otherwise promising figures of the U.S.A., which allowed the corruption expressed by the "Wall Street" phenomenon, is also to be recognized in the pro-fascist elements of "right wing" anti-Franklin Roosevelt circles, particularly those which had been openly pro-Mussolini during both the 1920s and 1930s and sympathizers of Hitler during the pre-December 1941 1930s, and which represent the Liberal "free trader" tradition of the pro-fascist elements of both the Republican and Democratic parties still today.

We are currently experiencing a turn, somewhat akin to that under the onset of Franklin Roosevelt's leadership, in the early days of the change of the U.S. Presidency, from the reign of the wretched President George W. Bush, Jr., to the spirit of optimism which has arisen since the inauguration of the Presidency of newly incumbent President Barack Obama. We must reckon with both of the implications which that change presents, and do so with accompanying comprehension of what I have just summarized here as the thesis of Percy B. Shelley. The present moment is precious, its opportunities prospectively grand, and the perils grave.

This, as I have promised above, will be, necessarily, a lesson on the higher implications of the principles of dynamics.

I. Dynamics & Immortality

Yes, young fellow, human immortality does exist, just not biologically. You could say, that, in that way, it has an efficient, practical expression

within the individual's and society's experience of mortal life. Thus, true immortality is not something to be relegated to some domain of blind faith;' it not only can, but must be experienced by every living person who knows, really, what it is to be immortal, and, to be, thus, human in the sense of man and woman of ***Genesis*** 1. *It exists for us within a very efficient domain of experience, one called by Leibniz, and by others, dynamics.' It is important that you discover this fact for yourself, so that you may discover not only how to act as human, but how to become truly, fully human, not as some talking simulation of a higher ape, but as the realization of becoming a fully human, implicitly immortal being.*

There are several crucial points to be considered in this summary of the case.

1. First, and foremost, the essential distinction of the human personality from all among the beasts: that human personality is expressed by a living body with ostensible animal characteristics; but that, as the effect of the outstanding creative personalities of science and Classical art illustrate this more clearly, the creative human personality will continue to influence the development of the quality of society in a specifically creative way, as a sovereign personality, even after the mortal body of that person is dead.

   So, the incompleted discovery of one person can be adopted and extended in an active way after that person is deceased. So, each creative individual lives as represented in the continuing development of society even after the death of the mortal husk
2. Thus, that human society is not a collection of individuals, but is dynamic, not merely percussive, in respect to the interaction of society's individual members.
3. That the progress of society depends upon forms of action by individuals which express a form of action of change of culture comparable to the effect of the discovery and adoption of a universal physical principle, that according to such models as Johannes Kepler's uniquely original discovery of the principle of universal gravitation.

So, for example, the principal failures which those who were merely mathematicians have brought into the domain of physical science, are results which could be traced readily, by some, from what has been clearly the outright fraud prompted, still, to the present day, by the *a-priori* presumptions of ***Euclid's Elements***. These failures have been rooted in the *a-priori* notion, that both space (explicitly) and time (implicitly) are as Euclid's almost bestial *a-priori* assumptions of sense-perception wrongly presume them to be.

However, since the work of such leading modern scientists as Riemann, Planck, and Einstein, the absurd notions of *space* which may be associated with the legacy of Euclid, have been called more seriously into question. Nonetheless, even among the so-called scientifically literate classes, a mistaken notion of *time*, considered as being consistent with the presumption of simple clock-time, maintains its stubborn grip on belief, even among some considered to be leading physical scientists.

The matter of time is the crucial theme of this present report on the principles of economy.

Nonetheless, despite those reasons for doubts, even among scientists, respecting the notion of simple clock-time, even on the most rudimentary level of the notion of dynamics, the popular tendency has been, as it might be said: to "go along with the popular notion of clock-time, to all practical intents and purposes." It is not until we pause to examine more closely the way in which human creativity functions in the effects of fundamental progress in physical science, or, also, the Classical metaphor of poetry and musical counterpoint, the more we begin to recognize the existence of a practicable approach to comprehension of this ironical character of the human experience of time as such: the *physical time of evolutionary change in the rate of human action per capita and per square kilometer at the Earth's surface, rather than clock time*.

To introduce this point most simply, and yet forcefully, consider the following.

The long reign of a Euclidean or similar pseudo-science, as within what is usually studied as ancient through modern European history, is echoed in the role of those arbitrary, *a-priori,* assumptions respecting space and time, which are, as I have just stated, above, associated with the same state of mind as faith in the fraudulent dogma of ***Euclid's Elements***, that as according to what are still those popularly accepted, but incompetent presumptions.

Library of Congress

Gottfried Wilhelm Leibniz (1646-1716) anticipated Einstein's study of space-time: *"The source of our difficulties with the composition of the continuum comes from the fact that we think of matter and space as substance, whereas in themselves material things are merely well-regulated phenomena, and space is exactly the same as the order of coexistence, as time is the order of existence which is not simultaneous." (Letter to Nicholas Resmond, March 14, 1714.)*

On the first account of those popular, but mistaken beliefs, the notion of *space*, the notion of an infinite Euclidean, or Cartesian space, is not acceptable in anything which should be allowed to pass for modern scientific method among respectable sorts of relevant modern institutions. Space put to one side; so, far, however, most opinion on the meaning of time is still worse than muddy, even among professionals. This failure by them has crucial bearing on the reasons for the failures of economists and relevant others so far today.

So, despite the clear case respecting the falseness of belief in "space by itself, or time by itself," as made by such authorities as Albert Einstein, the needed correction for the notion of *physical time* (rather than "clock time") has not become anything better than can be met among a tiny fraction of what passes for literate expressions of contemporary scientific opinion.

In outlining that case here, my emphasis is on the importance of a relativistic conception of physical time, as needed for competent argument in the field of a science of physical economy. This, however, is not merely the kind of a formal problem to be relegated to the classroom. My emphasis here is on the role of relativistic time in the practical work of that science of physical-economy which is my speciality. In that latter context, it points toward the implied requirements of the highly practical need for my own choice of a broader, and more profound approach to the notion of time urgently needed in the common practice of nations today.

Currently, the most damaging error in the usual treatment of the subject of time, among even some persons formally certified as scientists, occurs chiefly as the expression of a widespread hoax, a dubious notion of thermodynamics which is traced to the supposed "authority" of the mid-Nineteenth-Century activities of mechanistic dogmatists such as Rudolf Clausius, Hermann Grassmann, Lord Kelvin, and the later followers of Ernst Mach and, worse, Bertrand Russell. The "pro-Malthusian" form of political motive for that fraud, known as "The Second Law of Thermodynamics," is as interesting clinically, and important, as it is related to the study of the closely related implications of the popular folly, even among scientists, on the subject of time.

I will return to that popular error in due course, here. First, I must define the issue as it is posed from the standpoint of the working scientist; in this case, I mean the standpoint of economic science, my profession, rather than mistaken appeals to the favor of today's wildly misguided popular opinion on that subject .

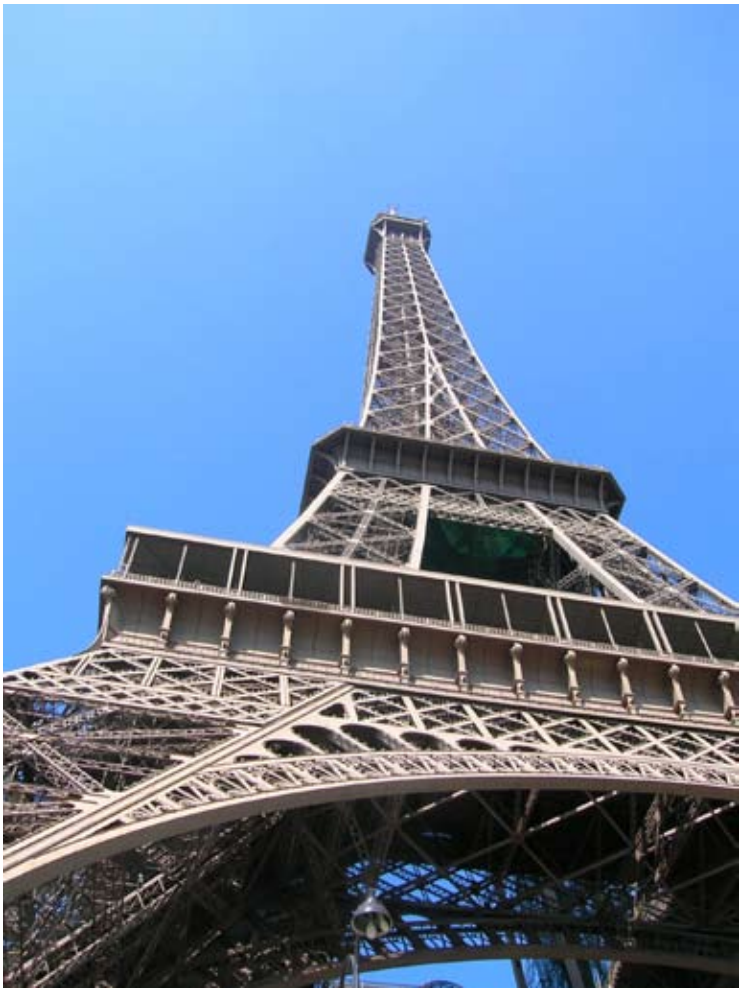
Therefore, we must now work through the following discussion of some key features of the problem.

In the rudimentary physics of design in construction, for example, we consider the specific relationship of the geometry of supporting structures, to the required mass of support required for the combined mass of both that support and that which it supports. The Paris Eiffel Tower is among the most conspicuous illustrations of this point, still for today. My own introduction to that physical view of geometry, came to me about the time I reached the age of fourteen, a consequence of my fascination with this ironical feature of the structures witnessed at the neighboring Boston

area's Charlestown Navy Yard. As a result of that experience, I had rejected the notion of Euclidean geometry at my first secondary classroom encounter with it, and, as a result of that, soon became an admirer of some translated works of Gottfried Leibniz, that in some not-unimportant, relevant respects.

In the science of physical economy, the same type of point is illustrated in the matter of the functional relationship of the infrastructure which supports production and its productivity, to the specific effect, that, obviously, infrastructure which supports no *physically productive* function by mankind, is waste, or, might be described as comparable to the role of the fruits of the act of masturbation in the production of society's wealth.[16]

So much, so far, on background, for the matter of the physical function of space. What of the physical-economic function of time?



The magnificent construction of the Eiffel Tower illustrates LaRouche's point that geometry is not a question of blackboard mathematics, but of structure in the physical universe.

Creativity as Human

Insofar as our attention is focused upon the notion of the "creation of wealth," this signifies something which, in the view of competent animal ecologists, never occurs within the bounds of practice of any animal species, except through effects of biological evolution. Willful creativity never occurs except through the creative intervention of the human will, as by farmers, for example. Consider the contrasting cases of the so-called "animal kingdom" and society on account of this difference between man and beast.

Fairly said, in the study of animal populations, but not in the case of mankind, the potential relative population-density of animal species, is not located essentially in the willful powers of the particular species, but, rather, in an ecology within the evolution of the Biosphere as a whole, integrated (dynamic) process. Thus, for example, the application of the specific idea of an animal ecology to mankind, is an intention and practice of a type, which, in the case of human society, would be tantamount to forms of fascism such as that Hitler-like, "green fascism" of Prince Philip's pro-genocidal World Wildlife Fund: a practice whose utopian expression is best described as "farming human populations" as one does flocks of hens or herds of cattle. Adolf Hitler and Hermann Göring, like the lately deceased former Nazi-SS officer Prince Bernhard of the Netherlands, and his fellow Prince Philip accomplice, former U.S. Vice-President Al Gore, typify their intended application, as by the World Wildlife Fund, of the ecological principles of mere animal populations to people.

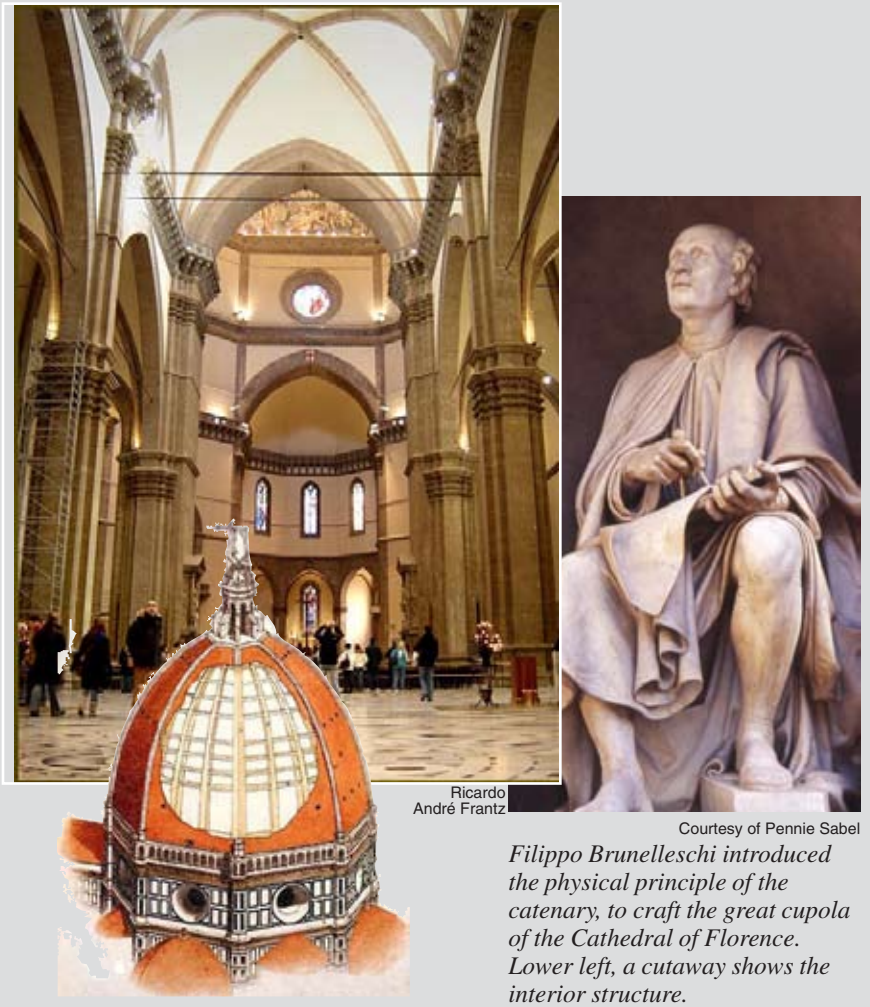
That view by such as that Prince Philip, the late Prince Bernhard, and Al Gore, is otherwise expressed

16. The apologist might argue that, it may not be productive, but it might be considered as threatening to produce, even without ever producing what its advocate purports to simulate. The Rockefeller Foundation's recent proposal to perpetrate the public display of "economic masturbation for a price" in supporting the "infrastructure" swindle of New York's Mayor Bloomberg and Californication's Governor Arnold Schwarzenegger, is an illustration of the principle involved.

in the perverted, already implicitly fascist notion of the contemporary descendants of Giammaria Ortes, and of his plagiarist Thomas Malthus, that the notion of "balance" within systems of animal ecologies must be also imposed upon human populations.

We should not be surprised that this shameless, shared dogma of so-called "eugenics," as shared among the late Bertrand Russell and Aldous Huxley, Prince Philip, the late Prince Bernhard, and former Vice-President Al Gore, is approximately as incompetent for science, as it is as monstrous as it was in the paws of Hitler and Göring,, when applied to humanity.

From the relevant standpoint of physical science, the essential functional difference between human and animal populations, is located in those potentially creative powers of human individual reason which are absent from all members of animal ecologies. Hence, we have Academician V.I. Vernadsky's distinction of Noösphere from Biosphere, to the following effect.[17]



Filippo Brunelleschi introduced the physical principle of the catenary, to craft the great cupola of the Cathedral of Florence. Lower left, a cutaway shows the interior structure.

As Seen in Physical Science Generally

At this point in our account, we must introduce an illustration of the functional meaning of creativity; the most appropriate approximation for that immediate purpose, is that uniqueness of Johannes Kepler's discovery of the principle of universal gravitation, as in his ***The Harmonies of the World***. This work of Kepler serves at this point in my account, to point out the shocking incompetence of today's customary academic use of the term "creativity," as the contrary, true character of this discovery by Kepler was treated properly by Albert Einstein, as being the foundation of competence in modern, Riemannian, European physical science.

On that account, I must, therefore, insert a qualification for what is to be said now. This qualification is, that all competent modern science is Riemannian in that coincidental sense of the use of the term "Riemannian" by both Einstein's treatment of the subject of Kepler's astronomy, and in the related case of Academician V.I. Vernadsky's defining of the physical chemistry of the Noösphere. The coincidence of intention expressed in these and related cases, hangs on that notion of dynamics which had been brought back to life, so to speak, by Gottfried Leibniz's defining the meaning of "dynamics" in connection with his attack on the incompetence of Descartes and, implicitly, also, Descartes' Seven-

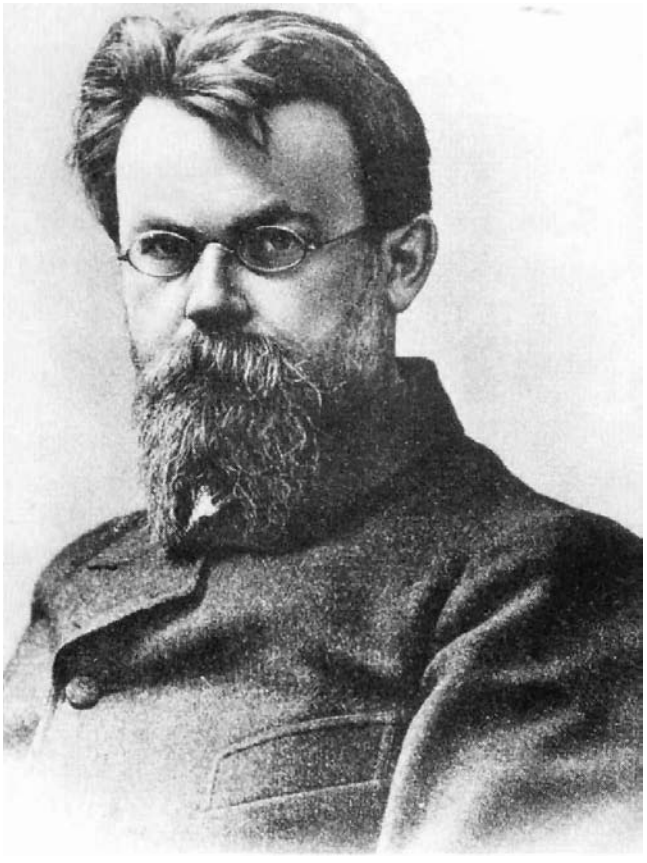
17. Although Vernadsky was prompted to adopt the term "Noösphere" from his encounter with the use of that term by Teilhard de Chardin, the systemic features of the use of the term by Vernadsky are rooted in his application of the standpoint of Riemannian physics, not those quaintly mystical, reductionist schemes of Teilhard de Chardin, as those associated with the infamous Piltdown hoax.

teenth-Century and later empiricist followers.[18] The list of such relevant rogues as those empiricists, includes the philosophical mechanists Clausius and Grassman, Ernst Mach, and, most emphatically, the hoaxster Bertrand Russell.

By the term "creativity," I mean such relevant historical occurrences as the duplication of the cube by Plato's contemporary Archytas; and, such modern cases as the discovery, by Filippo Brunelleschi, of the function of the physical principle of the catenary, as to be seen, still today, in the principle of design employed for the construction of the cupola of Florence's Santa Maria del Fiore; as to be read in the founding of the system of modern European physical science by Cardinal Nicholas of Cusa in his ***De Docta Ignorantia***, or, in the uniquely original discovery of universal gravitation by Johannes Kepler; or, the principle of least action by Pierre de Fermat; and, the uniquely original discovery of the modern calculus by Gottfried Leibniz. Ironically, each of these discoveries expresses a common, shared principle of creativity which subsumes each and all as aspects of a common dynamic conception, as might be anticipated for the case of a set of events expressing one and the same physical universe.

The avoidance of that error in defining creativity which each of us must be certain to ward off, requires that we stick strictly to Albert Einstein's approach to the subject of Kepler's discovery of the general principle of gravitation, as Kepler effected the original discovery, as shown in Kepler's ***The Harmonies of the World***, and, then, Einstein's viewing Kepler's actual approach to that result from the standpoint of Einstein's adoption of the viewpoint of Bernhard Riemann.

The risk of error lies in acceptance of the misleading assumption, that a principle of nature is defined by numerical values for an algebraic function, when, in fact, as for the case of Kepler's uniquely original discovery of gravitation, exactly the opposite relationship between principle and coefficient pertained. Any actually universal physical principle does not lie within the system; but, as Einstein insisted, it bounds it, that in the same sense that Einstein emphasizes, that in opposition to the pseudo-science of modern, Sarpian philosophical Liberalism, that gravitation is not a mechanical-like relationship within the system; rather, it bounds the entire system, both externally and internally, as a finite system of a form which is without external boundary at any given moment in the system's normal, continuing (*anti-entropic*) self-development.



Academician Vladimir I. Vernadsky (1863-1945), the Ukrainian-Russian biogeochemist who pioneered the Soviet Union's nuclear program. His work, including his concept of the "Noösphere," is rooted in Riemannian physics.

However, to grasp certain implications which are also already embedded, if only as systemic implications, in Einstein's presentation of the case, seek the greater degree of clarity required, by taking into account V.I. Vernadsky's distinction of Noösphere from Biosphere.

Any system which does not lie within the Biosphere, lies either within the system of inherently non-living processes, or within the Noösphere which supersedes the Biosphere. No living process, or what is uniquely a relic of a living process, is a relic, as a living process, of the "pre-biotic" phase-space of our universe. Yet, no noëtic function of human mind is a specific product of

18. Such as "the usual suspects" Abbé Antonio Conti, Abraham de Moivre, Jean le Rond D'Alembert, Leonhard Euler, Joseph Lagrange, Pierre-Simon Laplace, and the sometime plagiarist and hoaxster Augustin Cauchy.

NOAA/Shane Anderson

The abiotic: *Dramatic rock formations on Santa Cruz Island, one of California's Channel Islands—but with the biosphere clearly making its incursions.*

NOAA/Channel Islands NMS

The biosphere: *Garibaldi damselfish (*Hypsypops rubicundus*) live around the Channel Islands.*

The universe, which contains three, categorically distinct, and interacting phase-spaces, LaRouche writes, expresses a universal creative principle of anti-entropy that subsumes the three phase-spaces. That universe is itself intrinsically anti-entropic.

NOAA/Joe Heath

The Noösphere: *young scientists, exploring the tidepools at Moss Beach, Calif.*

the Biosphere. Yet, the universe, which contains the three, categorically distinct, and interacting phase-spaces (the *abiotic*, the *Biosphere*, and the *Noösphere*), which thus expresses a universal (creative) principle of anti-entropy, subsumes the three phase-spaces. That universe is intrinsically anti-entropic in and of itself, and imparts that inherently noëtic quality to that integrated process which it contains. Such a set of conclusions, is supported by the evidence of the accomplishments most distinctly characteristic of the creative powers (acting within the dynamic of society as such), the anti-entropy which is the characteristic seed-form of the human mind itself.

Nothing demonstrates those principles more clearly, more emphatically, than the subject of a science of physical economy. Such is the implication of the notion of mankind's individual as a noëtic power of change within the universe.

Noësis—that quality which true human creativity shares with the universe as a whole—is a principle in itself. By *noësis*, we signify an action of the type which adds a new principled element to the universe, such as the knowledge of the discovery of what is, for that person, a previously unknown, *lawful quality of* principle of the universe, as typified by Kepler's uniquely original discovery of universal gravitation, as presented by him in his ***The Harmonies of the World***.

All of the categorical discoveries of universal principle to which I have referred thus far, are contrary to that vile hoaxster Bertrand Russell, and are included among the dynamics of a common type of creativity. Therefore, wherever I employ the term "creativity" hereinafter, I signify that meaning of the term "creativity."

Ecology, Economy & Creativity

The universe, insofar as we presently know it, is essentially *anti-entropic*.

Our Sun is a product of its immediate "neighborhood," that being our galaxy, which was in turn, a product of the universe as a whole. The Solar System, and its periodic table of elements and the like, are a product (of probably polarized thermonuclear fusion) generated by the evolution of a once faster-spinning, younger Sun. The preconditions for the appearance of living processes on Earth, are traced in apparently

manifest origins to the development of our planet Earth. The species of life were ostensibly generated on Earth, but, probably, must have also appeared in locations such as other parts of our Solar system and beyond. The living species which wander, slither, crawl, fly, walk, or swim with apparent willfulness, on the land, within the upper crust of the Earth, and in the bodies of water, constitute an included part of what Academician V.I. Vernadsky defined for physical chemistry as a Biosphere. Into this setting came mankind. Mankind's characteristic, potential, *willful creativity*, is not found in any other known living species.

The existence of mankind thus changes the ordering principle within the universe, away from what must be assumed to be the characteristic of a universe without the existence of mankind.

Raphael's "The School of Athens," detail showing Plato (pointing up) and Aristotle.

The orders of life which appear amid such developments, are represented, as I have already said here, by two distinct general categories, the Biosphere and the Noösphere, as both have been defined with a certain scientific rigor by Academician Vernadsky. Although, we know of development within the Biosphere, from such orders as marsupials, to the superior placentals, no animal or comparable species of life, apart from mankind, has presented us with what can be classed as creative powers comparable to the quality which distinguishes the human species as absolutely superior, categorically, to other forms of life, even to forms generated, as ostensibly from marsupial to mammal within the domain of animal life.

The relevant sort of gross demonstration of these distinctions of beast from man, is found in the comparison of the fixed difference of the dynamic of the biosphere as defined only by the animal species, to the breaking of such types of ecological boundaries by the presence of mankind. Man changes the value of the Biosphere, usually upward, by aid of the role of human creativity in changing the composition and anti-entropic values for the Biosphere.

The Immortality of the Soul

In my knowledge of the matter, the idea of the immortality of the human soul, came meaningfully into the province of European physical science only as an aspect of what some currents of Judaism share with the scientific implications of Christianity.[19] My own knowledge of the history of that concept of immortality, is rooted in references to the work of Plato, and that of Cardinal Nicholas of Cusa and his followers, as that concept of the principle human *dynamics* was illustrated as the argument of famously illustrated in the Vatican Library's "School of Athens" by Raphael Sanzio.[20]

Any valid reading of the background for that view, pertains to the associated notion of a "simultaneity of eternity." This concept is, in turn, interchangeable, ontologically, with the notion of that human creativity which we trace in European history from the *Sphaerics* of the ancient Pythagoreans, Plato, and those of kindred insight and accomplishment. The celebrated, unique solution for the construction of the doubling of the cube, by Archytas, has been, historically, a scientifically crucial demonstration of the method of reconstructing knowledge congruent with that conception. Kepler's discovery of the general principle of gravitation, as in his ***The Harmonies of the World***, is an expression of this, as is Fermat's concept of least action, and Gottfried Leibniz's uniquely original discovery of the principle of the infinitesimal calculus.

19. E.g. the exposure of the fraud of Aristotle by Philo of Alexandria, and the work of Moses Mendelssohn.

20. Some would say, that the figure of Plato is pointing the way to God the Creator, while Aristotle, in a like manner, is directing his minions to Hell. I believe that Philo would agree strongly with me on that point.

In general, as in those instances which I have just referenced, the existence of action in physical space, like that of the infinitesimal of action in time, must replace the superstition of belief in "absolute" space and "absolute" time as such. That needed conception must be dynamic, not percussive.

The demonstration of that principle of a science of physical economy which underlies the notion of a "simultaneity of eternity," was presented in a pedagogically expert way by Philo's argument denouncing the posturing of the Aristoteleans of his time. The relevant theological argument may be properly restated as follows.

Aristotle's relevant argument is that since the Creator is perfect, the results of his work are perfect. Therefore, according to the argument of the relevant Aristotelians, once the Universe is "made," the Creator Himself could not be permitted to change it. The implication of this is, that the philosophical reductionists, of which that Aristotelean dogma is an example, would not have permitted a God who created the universe to have existed, in the first place. The point is, that the perfection of the Creation lies in the power of the Creator to change it. In other words, in real physical science, the fundamental law of the universe is the continuing power of creation: the universe is essentially an anti-entropic one, from which the concept of universal entropy is absolutely banned.

In other words, to identify the conclusion to be reached in the simplest terms: the notion of a *permanent Creator* whose existence is contrary to the Aristotelean presumption attacked by Philo, implies (if it does not yet suffice to prove) the notion of a fixed conceptual reference-point of existence in a universe undergoing characteristically systemic transformations.

The Role of Descartes

For purposes of reference to modern empiricism, such as that of René Descartes and his modern dupes, let that follower of Paolo Sarpi, the thoroughly wicked Descartes, be the whipping-boy of reference for our argument here. Descartes is a follower of Paolo Sarpi, not Aristotle, but the argument against Aristotle follows for our purposes here. A brief comment on the historical significance of Descartes since Europe's early Eighteenth Century, is required, to situate historically what we have to say today.

Descartes is, with one important qualification, the model used by Abbé Antonio Conti and others for the crafting of the synthetic personality of Sir Isaac Newton. The circle of fakers associated immediately with Newton was created chiefly as a faction intended to combat, even intended to eradicate the reputations of Johannes Kepler, Pierre de Fermat, Leibniz, and, to some degree, Christiaan Huyghens. The most significant target selected by the followers of Paolo Sarpi, during the Eighteenth Century and beyond, was Gottfried Leibniz. The desire for Leibniz's ruin, during the 1690s and beyond, a desire premised on the intention to defend the principal features of the claimed authority of Descartes, was the chief motivating factor in that work of a network of salons created to promote the reputation of the synthetic personality of Sir Isaac Newton, a project which was initiated by Abbé Antonio Conti and Voltaire, and implemented through a network of salons featuring Abraham de Moivre, Jean le Rond D'Alembert, Leonhard Euler, Euler's intellectual protégé Joseph Lagrange, and such as Pierre-Simon Laplace, Augustin Cauchy, Clausius, Grassmann, and Lord Kelvin.

After considering all features of that campaign by Conti et al. which are relevant for our consideration of the subject of the present chapter here, it is the neo-Euclidean conception of ontologically empty space and ontologically empty time, as defined by the follower of the Paolo Sarpi school's René Descartes, which fills the vacancy of the thought in physical and popular science for the presently still hegemonic, and popular empiricist school of leading trans-Atlantic opinion about scientific matters, still today. Even where the impact of Nineteenth-Century progress in continental European science has threatened to supplant the axiomatic, Cartesian notion of "Cartesian empty space," there is almost no significant progress, yet, in attention to the evidence exposing the fraud of the Euclidean-like "empty space" of clock-time.

To understand the origins and characteristics of the fallacious notions of space and time being examined in this moment, the following, very ancient implications of the fraud by Descartes and his followers must be considered here.

Clausius' Crime Against Science

The most conspicuous obstacle to recognizing the reality of *physical time*, rather than clock time, has become the fraudulent assertion introduced, as the popularized cult of that mechanistic doctrine of ther-

modynamics premised on the initiative of Rudolf Clausius, the mathematician Hermann Grassmann, and their associate Lord Kelvin.[21] What inspired Clausius et al. is appropriately located as an echo of the argument by the fictional Olympian Zeus of Aeschylus' ***Prometheus Bound,*** in which Zeus menaces all mortal persons, pagan gods, and demi-gods alike with threat of the torture meted out to Prometheus, should anyone dare to inform mortal mankind of the existence of discoverable universal physical principles, such as "fire," by means of which human potential might be increased in fact.

Although Aeschylus's report is one of the greatest Classical compositions in all of the known history of European civilization, what Aeschylus attributes to the mouth of Zeus is, in historical fact, the greatest political and moral issue in the known history of mankind, even still today. What is being expressed by Aeschylus' character Zeus, as by Clausius, Grassmann, and Kelvin, ranks among the cruelest frauds against science and mankind in the sum-total of known history to date; such is the effect of the doctrine known since Clausius, as *universal entropy,* or, before Clausius, by creatures such as the Giammaria Ortes whose English edition was so lavishly plagiarized by Thomas Malthus.

The known origins of the oligarchical model prescribed by that fictitious Zeus[22] are traced from the mists of more ancient millennia, into the rise of the type of oligarchical maritime model of both the Mediterranean region and land-based West Asia. The emerging characteristic of these cultures rooted in such ancient times, has been the model of society based upon the principle of human cattle, cattle who talk, but not too much, on the subject of the authority of what are esteemed as the pagan "god-like" or "semi-god-like," who are assigned the function of more or less arbitrary rule, a rule by flesh-and-blood demi-gods, whose power is limited by the still higher power of the pleasure of mythical invisible gods. The Homeric ***Iliad*** and ***Odyssey*** are contrasted cases which illustrate the role of the tradition of such pagan gods and demi-gods, still today.

So, the idea of the Roman Pantheon, and of the British empire struck in the model of Julian the Apostate, are illustrations of the reality of that pagan tradition, even if the visibly reigning authorities are not any real gods, but, merely the incarnate demi-gods of ruling social-political classes, classes which do as much as they can to promote adoration and fear of the alleged, invisible hand of the pagan gods of the City of London and Wall Street.

To create and maintain organizations of society in which the majority of the population is bestialized through a maintained status as slaves, serfs, or modern European culture's pleasure-seeking fools, it has been considered necessary by those ruling classes, or by other circles of similar bent, to stupefy the general population into suitable states of submission, preferably self-induced submission to a conditioned culture which acts as invisible shackles on the mind of those intended to submit by self-inflicted habits and related ways of thinking. The indoctrination of foolish believers in ***Euclid's Elements*** must be prominently included as an example of this.

The Prometheus Concept

This problem was understood, in his fashion, by the Cardinal Nicholas of Cusa whose earlier ***Concordancia Catholica*** and ***De Docta Ignorantia*** have been prominent keystones on which Europe's escape from the Fourteenth-Century "New Dark Age" has depended, even to the extent this has happened thus far. Among the most crucial of the included contributions of Cusa, were expressed in his ***De Pace Fidei***, the peace of faiths, and his crucial part in setting forth the policy which set Christopher Columbus on the course for discovery of the Americas. That is to emphasize, on the last account, that Cusa's recognition of the pernicious role of the Venetian financier oligarchy in its effort to destroy the great, mid-Fifteenth Century European renaissance, required crossing the oceans to develop Europe's rela-

21. See ***Bernhard Riemanns Gesammelte Mathematische Werke***, H. Weber, ed. (New York: Dover Publications reprint, 1953), footnote on p. 293. The posthumous attack on Riemann's work, by editor Heinrich Weber there, is premised on the presumed authority of Clausius, although the argument was actually made by Clausius' associate, the mathematician Grassmann. The significance of this matter is located in the text of the body of this report, above.

22. It is to be conceded that there is an argued, and likely historical basis for that model of the Olympian Zeus, as the Roman (Sicilian) chronicler Diodorus Siculus attributes the information to both Egyptian chronicles and the legends of the Berbers of his own time. The Middle Eastern documentation traces the origin of the oligarchical model referenced as the case of the Zeus of Aeschylus's ***Prometheus Bound*** to its exemplification by the degeneration of the bow-tenure system of an Indian Ocean-based maritime culture from the Fourth Millenium B.C., which degenerated, and was replaced by an emerging Semitic culture, which became, in turn, the root of the Babylonian and related oligarchical models of later times.

tions on other continents. Columbus, who encountered and adopted this policy of Cusa's, about 1480 A.D., thus produced the initiative which led the best currents of Europe to taking, hopefully, some of the best of Europe's culture to a distant place of relative safety, freed from the immediate grip of Europe's, essentially financier-controlled oligarchy.

The fortunate outcome of that was the founding of the U.S. Federal constitutional republic; the unfortunate thing, was that the European financier and related oligarchies pursued the European colonies across the oceans, and sought to bring about their permanent submission to European oligarchical corruption, as imperial London's creation, the North American Confederacy, was formed to this purpose, and London's pet, Wall Street, has continued this predatory role of seduction and other corruption under a just ended, monstrously morally and financially corrupt U.S. Presidency from whose induced state of wreckage we are now struggling to arise again.

Yet, all that, and much more said to the same effect, the nature of the human individual, as distinct from the nature of all lower forms of life, is shown to be efficient, in that the inherent creative powers, and inborn character of the human individual, has produced an improvement in the size and condition of the human population in general, and has also given us the means of potential to succeed in reaching levels of achievement never known by any other species during, or before our present time.

The actuality, and, more significantly, the potentiality for such continued achievement lives within and among us today. All of this achievement, and all potential for future achievement, depend upon the truth of that spoken by the fictional Prometheus of ***Prometheus Bound***, and also spoken, implicitly or otherwise, by those who see in the human species a power for development which brings us toward a likeness to the Author of this universe, if we are but willing, and enabled to accept that challenge of immortality.

So, as the U.S. Declaration of Independence quoted Gottfried Leibniz's "the pursuit of happiness" in the founding of our republic, it is the goal of reconciling our purpose in existence to that outcome of our existence as personalities beyond the beastly aspect of our incarnation, which is the standpoint in personal commitment which would prompt us to yearn for a certain immortality which is expressed in sundry ways, including scientific and technological progress in the condition, and the increase of power, per capita, and per square kilometer, of the human species so destined.

'Aye, there's the rub'

So far, so good. However, astute readers of these lines already know, that all to be considered on this account is seldom truth or goodness. The most common experience of a person who seeks to be good in the sense I have just indicated, that from childhood, is that he, or she, when pursuing the goals of cognitive self-development toward which I have just pointed above, will often find himself, or herself the target of a "black chick, white chick" phenomenon. Will he, or she, be able to stand up for truth, when a popular or kindred lie is demanded? It is often fairly said, that the principle of torture is "sweet conformity."

"Why do students lie in school?" As Adam Smith wrote in his 1759 ***Theory of the Moral Sentiments***: in pursuit of pleasure and avoidance of pain. Truth does not necessarily come up for consideration, in either classroom, or playground; what you are expected to repeat, does. Thus, in our society today, speaking truth is usually avoided, and frequently even dangerous. Being popular has its perils, but it is nonetheless the usual goal of those who are, at least temporarily, prosperous and influential, until they come upon what they come to consider the sudden injustice of their own misfortune.

It should become obvious, sooner or later, to those who have some sort of what is called "a realistic outlook," that the delusions of those who think themselves either successful, or about to become successful, are the chains of delusion through which those who think themselves on the top of things, are mustered to ride herd on those who, for the moment, are on the bottom. However, an exchange of place usually lurks nearby.

Truth lies not in the past or present, but in devotion to a better future. A "better future" usually turns out to be something which develops, as for Niccolo Machiavelli, when one is rather old, or already deceased. Wisdom is usually devotion to what a future generation should experience. This means, in turn, that happiness, in the sense of the passage from Leibniz contained with the 1776 ***U.S. Declaration of Independence***, means an assurance of the future outcome of the present.

Take Shakespeare's tragedy of Hamlet as a case in point. In the famous soliloquy, "To be, or not to be,"

Hamlet contemplates his adopted devotion to his own doom. This is not because there is no alternative; but, there is no acceptable alternative for a member in good standing, even any official of his self-doomed society. The doom lies not within himself, but in the relevant characteristic of his society, a cage formed of the compulsions of adherence to the habit of his society, from which he is unwilling to escape completely. In Schiller's ***Wallenstein*** trilogy, it is not what Wallenstein does, which is his fate, but that which he does not know how to do, precisely because the evil which grips his society, is not his own, but he is a prisoner of both the culture, in the tradition of the Netherlands wars, and a prisoner of the cultural setting of the Habsburgs and Paolo Sarpi, not the Westphalian impulse of a Cardinal Mazarin. After all, Schiller's ***Wallenstein*** is not fiction, but the shadow of real history put on stage as historically truthful drama.

II. Dynamics & Creativity

Since the introduction of this report as a whole, I have repeatedly emphasized, here, the decisive importance of that concept of dynamics which Leibniz had revived from the *dynamis* of Classical Greek science, as being the crucial principle upon which all competent notions of economy are to be premised. So, echoing Percy Shelley's ***A Defence of Poetry***, I emphasized that the dynamic which subsumes the equivalent of the Classical musical composition as a whole, particularly that in the tradition of Johann Sebastian Bach, is the key to the whole action of which the various, subsumed elements are only subordinated aspects.

As I have pointed out repeatedly, above, the function of human creativity, as distinct from anything encountered among lower forms of life, is that once a valid discovery of principle is made, the discoverer, or his or her mentors, should be reminded to relive that act of discovery. This process of reliving the act of discovery, has a feature of crucial significance. That is, once a discovery has been made and validated in its own terms, we must return to the origin of that specific discovery, this time to rediscover the universe which has been changed by the initially successful discovery.

The point to be emphasized so, is that the nature of any valid principle of the universe is its universality. Thus, while a discovery of a principled form of action is made, we must then discover whether this takes into account all of the changes which our discovery has made *in defining the universe within which it has occurred*.

That leads to outbursts of the following relevance: "We have just made a valid discovery of what is, in its own terms, a universal principle. Since such a success, however otherwise limited, has changed our idea of the universe from what it had been a moment earlier, we must now hypothesize and experiment afresh, this time to discover the universe which has been changed from that which we had thought we knew before the new discovery was to be added to our roster."

Take cases such as Archytas' duplication of the cube, Brunelleschi's discovery of the physical principle of the catenary, Nicholas of Cusa's ***De Docta Ignorantia***, Kepler's discovery of the principal of universal gravitation, Fermat's discovery of the principle of least action, and Leibniz's uniquely original discovery of the calculus, as examples. Then take all discoveries which have a similar quality of uniqueness as principles, whether in science or Classical art-forms. These typify, individually, or as combined, the kind of notions which are key to identifying the principles which subsume, and situate the composition as a unified whole effect. Each of these discoveries required the subsequent discovery of an added, principled consideration.

There is no linear (e.g., statistical) continuity in the unfolding of history.

With the introduction of this concept of dynamics, as Hermann Minkowski proposed for a reform of physics, "space by itself, and time by itself" cease to exist. (Unfortunately, the brilliant Minkowski erred in choosing Lobatchevskian geometry, rather than Riemannian.) The part then partakes of the nature of the whole, and, more than that, conveys the nature of the whole in each impact of the part.

Now, interpose the intention to act according to such a principle of dynamics in an interval of action. Such a development presents us with a form of relevant, creative action within an interval of time for that action. This defines the general meaning of relativistic time. Thus, through the role of principles of actions which transform space-time, neither space nor time are empty forms. We have, simply said, physical space-time, instead.

That application of such a conception of dynamics to social processes considered in those terms, is the true

key to the principles of a practiced science of physical economy. The natural outcome of that, is that the underlying principle of a competent science of economy, and of related features of social interaction and development otherwise, is Riemannian dynamics as the work of Einstein and Vernadsky typify the role of Riemannian dynamics in all competent modern physical science.

Take a relatively simple type of action, corresponding to an included enhancement of a principle, from the process of physical production. This enhances the productive powers of labor, even if the action of the human operative has not been altered, otherwise. What is characteristic of one part of the productive process, in a system, is radiated as an expression of dynamics in the whole.

Thus, through the introduction of relevant new physical principles, the productivity of the economy as a whole has been increased, in just the same general way that the experience of what turned out to be the creation of our U.S.A. has been a dynamic characteristic of the distinction of the U.S. society from European societies of the same stock included among those with us, here.

This enhancement is not limited to the action of production itself. The enhancement of the environment of production also enhances the expressed productivity. The part of the dynamic as a whole, expresses the whole, in the sense that the citizen, whatever else he or she embodies, nonetheless also reflects the dynamic character of the society as a whole.

In general, in production, the increase of the energy-flux-density of the production or comparable action, increases the net productive powers of labor, even if no other change has occurred at the point of production.

For example, among the poor of India and Africa, no significant rate of increase in local productivity, as in farming, can be secured from production; a generation or two of favorable preconditions were needed for that. However, if we turn our attention to recommended improvements in infrastructure, as through charging the thorium nuclear reactors for developing increased water supplies, there can be a large net increase in net product through factors of basic economic infrastructure.

For example, in the U.S.A., as in Europe, there has been a catastrophic drop in actually productive activity per capita, a shift accompanied by essentially non-productive make-work, paid for out of reduced income for those employed in actually productive work. The shift to lower technologies, as using highly inefficient "free energy" and similar very low-grade power-sources, for alleged "environmental" reasons, has been a prominent part of national economic catastrophes in the U.S.A. and Europe.

A related, implicitly disastrous effect has been the lowering of the productive capacity of the general population through the catastrophic loss of productive skills through increasing emphasis on "alternative" forms of make-work employment.

Or, if we replace hours of commuting lost through congested traffic patterns, or lost through excessive distance travelled, we have tended to increase the net productive powers of labor of that society, even if no other improvement were introduced as a factor.

This applies not only to particular enhancements of such a form; the disposition of the relevant population for adopting such enhancements, is also determining.

Generally, there are two general "dimensions" of culture which tend to shape the relative potential of a population for performance. The variability of the potential among national cultures generally, and among the sub-sectors of national cultures, acts similarly.

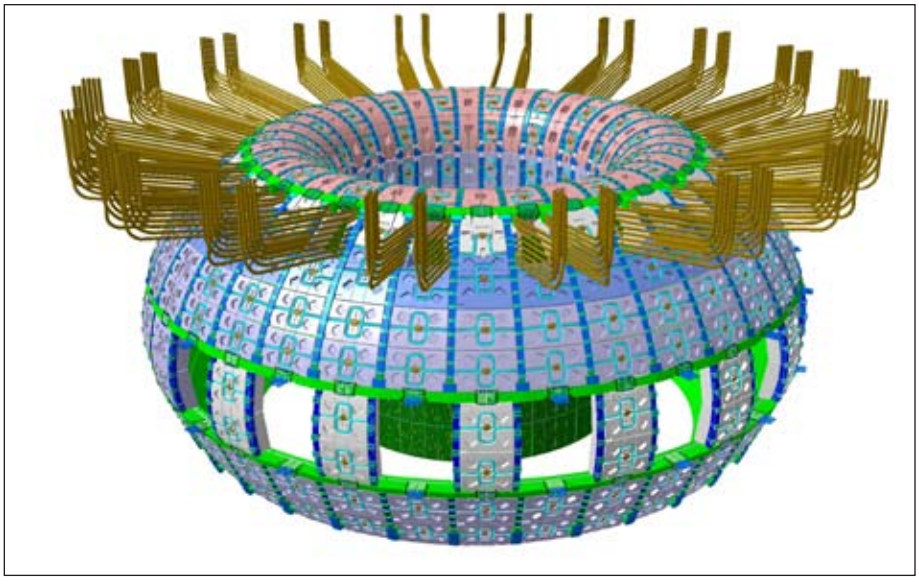
In general, increase of the productive powers of labor requires an increase of relative physical-capital intensity, as well as scientific-technological intensity, including improved qualities and degrees of education, and including greater required emphasis on Classical forms of culture, rather than dionysiac revels.

Similarly, the relative price of the element of the national bill of materials, is a relative price which tends to adapt to what the whole requires for it.

The U.S.A. & Germany: 1877-1890

One of the greatest leaps in national productivity per capita and per square kilometer, occurred in Germany under the leadership of Chancellor Bismarck, between approximately the 1877 aftermath of the U.S.A.'s great Philadelphia Centennial and the ruinous effects of the ouster of Bismarck from the Chancellory. The cause for this progress in Germany was, primarily, the effects of the U.S. victory over the British Empire in the U.S. Civil War of 1861-1865, and the explosion of agro-industrial progress in the U.S.A. during the immediate post-Civil War decade.

Indeed, the cause for what became known as the international wars organized by the British Empire between 1895 (Japan against China) through the close of the first World War, was made possible by the combined effects of the ouster of Bismarck and the assassination



ITER

The International Thermonuclear Experimental Reactor (ITER) project: high energy-flux-density power for the 21st Century. Shown is a drawing of the "blanket," which removes heat from the plasma and protects the vacuum vessel and magnets from radiation damage. It is subdvided into modules to allow ease of access.

of U.S. President William McKinley, enabling the Prince of Wales and later King Edward VII to pit the two cousins, Germany's Kaiser Wilhelm and Russia's Czar Nicholas in war against one another, all for the greater glory of the British Empire.

It was implied that Britain's motive in launching those "Seven-Years-War-like" war of the 1890-1917 interval was war against transcontinental railway building on the continents of North America and Eurasia. This was, indeed, the keystone motive for all of the wars of the interval, but the more essential issue behind the opposition to transcontinental railways, was that such railway systems shifted the potential power of economies, as measured per capita and per square kilometer, from sea-based, to land-based development, thus undermining the maritime supremacy strategic to the perpetuation of the British empire. Otherwise, that motive of the British financier interest was, as always, and still today, the intent to represent a global financier-imperialist maritime power, to dominate the planet as a whole, forever (it would never succeed, in the end; but they did keep trying).

Thus, the wrecking of the U.S. transcontinental railway system through the promotion of highway motor traffic as a substitute, was, intrinsically, a cause of the ruin of the productivity of the U.S. economy, per capita, and per square kilometer.

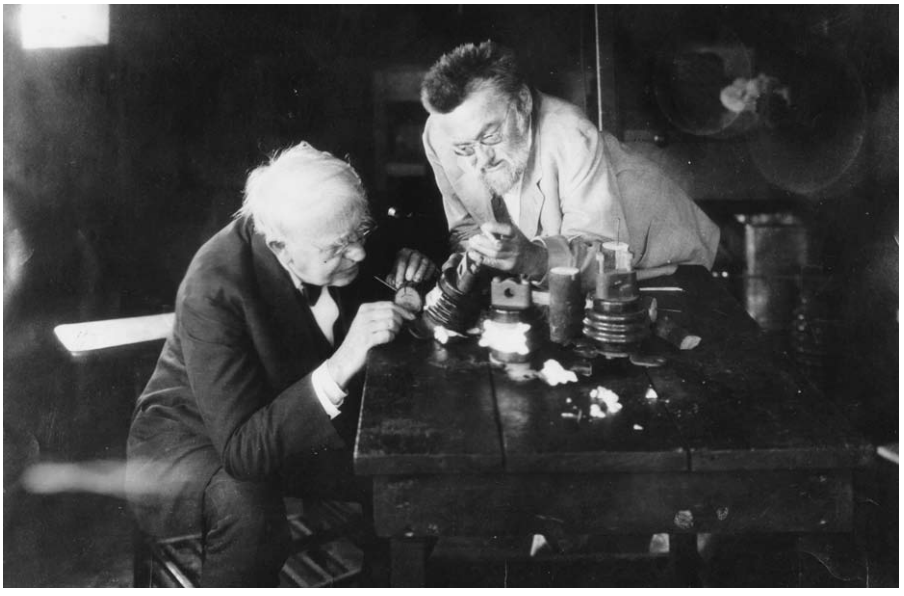
In these matters, the physical organization of the economy is essential, but the mental social-cultural organization of the mind and disposition of the population, is even more significant.

The Issue Is Productivity

In my two most recent webcasts, one of the issues posed as a question from among the participants, was the subject of the benefits of the income of operatives whose source of income was not production. The argument of the question was along the lines of the inher-

EIRNS/Finn Hakansson

The shift to low-grade power sources has been a prominent part of the national economic catastrophes in the U.S.A. and Europe. Here, promotion of ethanol at the New York Stock Exchange, 2006.



A crucial feature of productivity, ignored by British System economists, is individual human scientific and technological creativity. Here, scientist/engineers Thomas Edison and Charles Steinmetz, at a General Electric facility in Schenectady, N.Y., 1922.

ently fraudulent dogma of "marginal utility" introduced in the later Nineteenth Century phase of British imperial perversions.

Ultimately, all true wealth of nations arises from physical-productive output. This is effected either through physical production as such, or as activities which are essential to either that production itself or the households which supply functionally necessary support for the functions of physical production, such as science and engineering, and the essential administration of government and productive enterprises. Marginal utility is sheer bunk.

The cult-dogma of "marginal utility" presumes that there is a potential equilibrium between prices of goods or services and the relative "good" which society senses (by some mysterious organ) in a certain ratio of each considered "utility" to the society as a whole. E.g., "cocaine" and "heroin" make some people happy. There is, in fact, no natural money-price which could be equilibriated. U.S.A. and other past experience has shown, that social agreement on a range of "fair trade" prices is the best option for defining price-ranges. There is nothing inhering in that object called a commodity which defines a proper price for it.

There are three principal aspects to national productivity, when that productivity is assessed in terms of those principles of dynamics reflected in this report.

One is at the virtual "point of production." A second is the technology and related capital formation in which the production and circulation of the product is situated. A third is the society in which both the productive individual and that individual's household is situated, and also the physical capital formation invested in both of the previous two aspects of the process. The part reflects, and thus radiates, that which it represents within the whole.

That point is conveniently illustrated by referring to the related point that, contrary to the obscene suggestions of the so-called "globalizers," virtually all good product tends to reflect a national cultural character of the product and its production. So, the World Trade Organization (WTO) is a lunatic venture whose time will never come. Up to eighty percentile of the product consumed in any region of the world should be produced within that region. This rule ensures lowering the net cost and supporting the benefit to the consumer nation.

The corollary of these considerations lies in the nature of the principles of the dynamics of technological progress. On this account, there is, most immediately, the generation and transmission of the relevant advance in technology, and also the technology-intensity of the physical-economic accumulation of both technological capital applied and that consumed. There is the capital-intensive level of accumulated investment in technology in use to be considered, and the rate of capital-intensive and technology intensive productivity and product development to be considered.

A British gentleman once uttered a book on the subject of "the production of commodities by commodities." The author was clever, but essentially mistaken. The subject of a proper book would have been the progress of mankind through the progress of man's scientific-progress-driven, increasingly capital-intensive production of man. Creative progress in the individual human mind's comprehension of the universe, through aid of fundamental scientific progress in rising levels of progress in technological intensity had been a better title, and, hopefully, also better content for a book.