The Principle of 'Power'

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The special circumstances presented to us by the presently onrushing, global breakdown-crisis of this world monetary-financial system, require that we quickly replace what are now clearly the hopelessly failed practices which had been lately taught as "economics" in our universities, governments, and comparable places. Instead of those currently failed ideas, we must adopt a notion of economy whose standard is functionally consistent with the crucial difference, *the principle of creative reason*, which is the only quality of action which actually sets man apart from Wolfgang Köhler's ape.

Contrary to the currently prevalent Anglo-Dutch Liberal varieties of political-economic dogma, or derivatives, such as the Marxist dogma derived largely from London's Haileybury model, it is that crucial, fundamental difference between man and beast, the uniquely human principle of creative reason, on which all competent attempts at defining a conception of both the nation-state and its economy have depended, since the work of the Pythagoreans, Socrates, and Plato.

The fuller statement of reasons of the necessity for employing this exclusive requirement, will be made clearer in the course of this report.

It is most notable, that the presently ongoing physical collapse of the world's current monetary-financial system, is the expression of a decline of about four decades in what had been the world's relatively most successful economy of modern history, a system based upon a revival, under U.S. President Franklin Roosevelt, of what had been the world's greatest political-economic system, the system which had been known as the *American System of political-economy*.

The principal source of the present economic and related calamities of globally extended European civilization, has been the sabotage and willful liquidation, over the recent forty years, of the global fixed-exchange-rate system based on that American System of political-economy which was reestablished under the leadership of President Roosevelt. This was the so-called Bretton Woods system of credit based upon fixed exchange-rates, whose

destruction, in favor of a return to the Anglo-Dutch Liberal imperialist system of global monetarist tyranny, was launched under U.S. President Nixon.

That change, under Nixon, was continued with the systemic wrecking of the U.S. domestic economy under National Security Advisor Zbigniew Brzezinski: That has been, broadly, the principal immediate cause for the presently ongoing breakdown-crisis of the current world system. The included result of these measures of self-destruction adopted by the U.S. economy during the 1970s, threw the control of the world's monetary-financial system back into a worse form of the "free trade" mode of the Anglo-Dutch Liberal system which had previously failed civilization so miserably during the 1920s crises of the post-Versailles form of the system leading into the 1931 collapse of the British gold-standard system.

However, although that American System had been the most successful design of both a national economy and a system of cooperation among sovereign national economies, the deep principles which underlie its successes have been poorly understood even among most of its advocates. Even what had been understood about relevant U.S. history earlier, was ripped out of the academic curriculum beginning soon after the death of President Franklin Roosevelt. During the recent four decades, even the rudiments of design of a barely successful national and world economy, have been obliterated, as if pulled out from the racial memory of the generation currently in charge around the planet today.

In the meantime, the physical-economic conditions of the world-economy, including the growth of population and rise of Asian economies, have been altered to the effect, that even an attempted return to the relatively successful, previously known practices of the American System, while now indispensable, would not be, by itself, sufficient basis for a durable physical recovery of the world's economies under today's conditions.

The once-famed American System of political-economy which had been derived chiefly from the founding of a modern science of physical economy, by the relevant work on this subject by Gottfried Leibniz, must now be redefined in its function, to become the basis for a working physical system of a world economy based upon systemic modes of cooperation, of a dynamic, rather than mechanistic form, among what are, respectively, perfectly sovereign nation-states. The principles associated with Leibniz's influence, must now be taken, in practice, to deeper levels of scientific understanding than had been considered even by its advocates during the recent two-and-a-half centuries.

The change to be made, is feasible today, despite the loss of entire categories of technologies, skills, resources, and capacities over the recent four decades, especially since the savage, 1977–1981 destruction of our economy under the direction of National Security Advisor Zbigniew Brzezinski. Nonetheless, in principle, an urgently needed reform of our bankrupt present monetary systems, expressed in the methods associated with Harry Hopkins and

Harold Ickes under President Franklin Roosevelt, during the 1930s, are applicable models of reference for our republic now. The most important requirement would be a change in the way nations think about economy, a change in thinking which would prompt an upward leap in quality of standards of technology, as the U.S. was compelled, in its economic role as "an arsenal of democracy," to do in preparation for what was already an inevitable war against Adolf Hitler on that day President Franklin Roosevelt first entered office, looking for a pencil and paper with which to begin actually governing that day.

Return to the American System!

If we are to succeed in mobilizing political forces for those urgently needed changes upon which survival of what we would not be ashamed to name "civilization" now depends, it is essential that we make clear the fundamental principle of financial organization of and among nations under the American System of political-economy upon which our republic and all its economic successes were premised, a public credit system, an American principle of organization, as distinct from the neo-Venetian model represented today by the Anglo-Dutch Liberal monetarist system.

In a world monetarist system, such as that of the post-August 1971 interval to date, the power of credit is controlled by the methods which are the intrinsically usurious practice of predatory financier cartels. Under a monetarist system, the power to create, and to regulate the price of credit, even for so-called sovereign national governments, is in the dictatorial hands of a usurious money-interest which operates outside, and often largely independent of the control by governments, as under the form of usury intrinsic to a so-called "free trade" system.

For example, we have now entered an implicitly hyperinflationary-spiralling condition of the present world monetary-financial system, the current IMF system, in which there is no adequate source of credit within the limits set by the monetarist system's ruling private financier circles, credit sufficient to bring the implicitly bankrupted nations of the Americas, Europe, and so forth, to levels of productive physical activity which correspond to operating above financial break-even levels.

Under such conditions, President Franklin Roosevelt liberated a U.S.A. which had been bankrupted, under President Herbert Hoover. The collapse of the U.S. economy by about one-half, during the interval following the 1929 crash, was caused, not by the 1929 stock-market crash, but by the way in which Hoover and Andrew Mellon reacted, brutally, and insanely, as Germany's minister Brüning did in preparing the way for Hitler's rise to power. In both cases, under Hoover and Brüning, the wrecking of the economy was done through the kind of austerity measures demanded by slime-mold-like concerts of rapacious private

financier interests' usurious reaction to the 1929 stock-market crash, under the kinds of policies carried out under the George W. Bush, Jr. Presidency.

Roosevelt used the power of the state, as expressed by the relevant provisions of the U.S. Federal Constitution, to generate long-term, low-cost credit for building the sinews of what rose to be the greatest economy the world had ever known, an achievement which could never have occurred had Roosevelt not beaten back the predatory, neo-Venetian financier cabals of, chiefly, Wall Street and London.

Today, we, in the U.S.A., as in Europe, face an analogous, but more depraved version of the kind of situation Roosevelt faced on entering office a few weeks after the Bank of England's favorite of that time, Adolf Hitler, had been awarded dictatorial powers in Germany. Now, as in 1933, only the vast expansion of the flow of long-term state-backed national credit at nominal interest-rates, could expand the production of durable physical values to levels of relevant general employment in basic economic infrastructure, agriculture, and industry at which the nation-state economy is in balance and rising prosperity on current account, and also building physical assets which ensure financial security of the state and banking systems on long-term account.

We must scrap the mode of the International Monetary Fund introduced under U.S. President Nixon *et al.*, during 1971–1972, when the Nixon Administration and its accomplices turned even the U.S.A. over to the alien sharks of a global, essentially inflationary, monetarist system.

Economy and the Nation-State

To produce that needed technology which the return from a monetarist to a constitutional credit and fair-trade system signifies, we must begin now with a return to emphasis upon the relevant principles of science, and with the methods of training the leadership of a new generation in that science. That must begin with *Sphaerics*.

The relatively elementary geometric constructions on which the early Classical Greek developments in *Sphaerics* depended, are the key to founding what we shall show here, presently, to be the only possible, known, contemporary mode in the science of physical economy, the only mode which would be adequate for dealing with the principled quality of the global economic crisis of both the immediate situation, and also for decades yet to come.

The physical characteristics of physical-economic growth of a modern economy at current levels of world population, demand that more than half of the total investment of the economy must be in the form of capital and related improvements which have a physical life-cycle of approximately between one and two generations, between a quarter- and a half-century span. To a relatively large degree, as I shall show the reason for that within the body

of this report, these investments must be chiefly economic functions of government, rather than private enterprise. These functions of government are those assorted, as a more or less natural division of labor, at the national, regional, and municipal levels; but the credit for such an urgently needed initiative for both the public and private sectors, respectively, must flow, primarily, not from private financial capital, but from the expression of those natural sovereign powers of the government of the nation-state as a whole, powers expressed in the form of a *public system of national credit*, as under the American System of political-economy.

For this and related reasons, it would be insane, as to be seen in consequence of practice, to continue to act on the mistaken, and ruinous presumption, that real economic growth could be based primarily on management doctrines for the local individual business enterprise. That false presumption would be akin, in effect, to seeking safety within the single, securely locked occupied cabin of a sinking cruise liner. *It is now way past time to recognize, at last, that we live in a world economy in and among nations, a situation in which national populations and their international physical-economic relations, must be conceived as integrated, dynamic, not mechanical processes, processes defined by their continuing function over immediate terms of approximately two generations in the coming life of the planet as a whole.*

However, while it is the improvement of the world's economy which must be our objective, the idea of "globalization" remains intolerable. "Globalization" would be even a criminally insane practice, as this is to be seen in its inevitable effects on humanity at large. For reasons which I shall stress at appropriate locations in the body of this report, no world economy today could be practically tolerable for the present size of the human population, except as a global community of informed cooperation among a leading combination of perfectly sovereign individual nation-state republics. Some dangerously misguided people have been drilled into adopting the view that "globalization is the way to the future;" they are sadly, sadly mistaken, even to the point of functional insanity under today's immediate threats of a global breakdown-crisis of the entirety of the world's present monetary-financial systems. For those who recognize what they are seeing in terms of global physical-economic effects, "globalization" is already a process of plunging into a dark age for all humanity.

The most essential fact of a science of physical economy, a fact whose physical-scientific premises have remained only rarely understood, is that while the generation of the ideas upon which physical progress depends, is spread through cooperation, the origin of the creation of valid ideas is found only within the sovereignty of the fulsome development of the potential scientific and related creative powers of the sovereign individual human mind.

It is also rarely understood, even today, that the necessity of the perfect sovereignty of the nation-state under a financier-ruled planetary system, rests on the inalterable fact of the inherent, unbreachable sovereignty of the creative processes whose existence is specific to the

development of the potential of the sovereign individual mind. This is in absolute opposition to all schemes for empire, whether Roman, *ultramontane*, or so-called "globalization." Progress in the human condition has always depended upon processes which do not exist among the apes, mental processes whose expression is manifestly lacking among today's greedy, globalizing, Synarchist and kindred cabals of private financier oligarchy.

The world's currently reigning generation in national economy, has now entered the closing decade or two of its reign in government and economy. The kinds of ideas which have become, heretofore, the habits of that generation in management of the economy, must now be discarded, if nations are to survive even over the relatively short term ahead. The physical capital investments on which current recovery from the threat of a presently onrushing hurricane of world depression depends, would represent a greatly increased, strictly regulated capital debt for up to two generations of approximately a quarter-century, each, to come. The fate of the world's national economies will depend upon both the creation and maintenance of the relatively vast new debt-balances to be incurred for the purpose of physical-economic recovery, on capital account, over the course of those two coming generations of a world population which already exceeds six billion souls.

So, the choices which must be made, most urgently, today, must be crafted with relevant foresight into those consequences of the present range of choices which our decisions now will determine, for no less than two generations to come. To handle the mass of long-term financial debt which governments must generate as credit, we must foresee and regulate the management of that debt and its timely future repayment in appropriate ways. On that account, we must now take into consideration the kind of immediate and revolutionary changes which now confront the nations and the world as a whole under the present conditions of existential planetary crisis over a span of approximately two generations to come.

In short, the U.S. dollar, for example, will not undergo inflationary depreciation under those reforms. Barring the wasteful burden of great wars, such as that of 1939–1945, the U.S. dollar, as I envisage the U.S.'s long-term economic recovery and growth, will become increasingly harder over the course of the coming two generations, provided that the principles which I address in this report are taken fully into account.

The Present Systemic Error in Policy

The usual source of the incompetent conceptions of economy infecting the ranks of trained professional economists and related others today, is the corrupting influence of the methods of what is precisely defined as *the systemic error of epistemological reductionism*. This includes replacing incompetent governmental policies, which manage economies in the interest of money, with a return to competent policies, policies under which nations regulate the value

of money created as long-term credit, credit created for producing the physical benefits which can be promoted in only this way.

To assist this effort to rescue the world's economy from the present peril, it must be made clear that the fault which has been chiefly responsible for the failure of the world economy today, lies with virtually all of those presently favored doctrines of economics taught and practiced by governments and supranational institutions, as practiced within the provinces of today's globally extended European civilization, but also other places. While there are leading economists and others, who represent a selectable body of competence by virtue of experience and intelligence, the needed theoretical-scientific basis for their work has been lacking in some crucial fundamentals of economics as a branch of physical science.

On this account, all of the relevant such commonplace economic and related technological practices, what are classed formally, "genetically," as *reductionist* types of systems, must be replaced. These latter are, chiefly, systems which Europe derived from those pre-civilized types of pagan systems of religious beliefs which are typified as the Babylonian varieties. These were religions, or beliefs tantamount to religious beliefs, which viewed the mass of their societies, their human subjects, as John Locke did. These dogmas defined people as Physiocrat Dr. François Quesnay presented that same, inhuman conception of the feudal estate's serfs as the cornerstone of his doctrine of *laissez-faire*: the Physiocratic doctrine, from which Adam Smith plagiarized his "invisible hand." Locke, Mandeville, Quesnay, Turgot, and Adam Smith defined most people, implicitly, as virtual cattle.

That kind of generalization associated with Locke and others, is fairly identified, historically, as "Babylonian." That generalization is efficiently identified for discussion by the case of the Olympian Zeus of Aeschylus' *Prometheus Bound*, who prescribed the banning of knowledge of the use of "fire" from the practice of ordinary mankind.

As the celebrated freedom-fighter of U.S. history, Frederick Douglass, emphasized, freedom from slavery begins with the slave's freedom within his or her own mind, a freedom which is expressed only as the conscious development of the scientific and related creative powers of the sovereign individual mind. A slave, or peasant, freed thus within himself or herself, can not be kept in a state of servitude indefinitely. A freed slave who has not become free in his or her mind in this way, will not be able to defend his or her freedom efficiently, when that right is challenged afresh, as we have witnessed this fresh enshackling of the human mind by the lure of money, even within the U.S.A. itself, and notably among descendants of those whose ancestors had been enslaved, increasingly, during the most recent decades. To reduce men and women to acceptance of some guise of servitude, it is sufficient to degrade their mental life to forms of cultural practices which imitate the brutes, as this was done to much of the post-World War II "Baby Boomer" generation by the satanic cult associated with the

axiomatic bestiality of the existentialist and kindred sophist dogmas of the Congress for Cultural Freedom (CCF).

Of the various known systems consistent with the prescription against science by the Olympian Zeus of Aeschylus' drama, the most notable forms, clinically, are the complementary, quasi-Babylonian systems of those opponents of Plato's tradition, which are typified in European history by the work of the model reductionists of the sophist cults in the Delphi Apollo-cult tradition, those of Aristotle and Euclid. The latter are typified by the Aristotelian legacy of the Roman Imperial culture's Claudius Ptolemy, and by the more radical expression of that same legacy, William of Ockham and such among his modern followers, the empiricists, positivists, and existentialists. These are expressions of the method, such as the corruption of the so-called "faith-based initiative," by which a once-freed people is induced to return the mental shackles of the slave to its own wrists and ankles of the mind.

The elementary point of departure for the venture presented in this report, is my emphasis, here, on those constructions by the Pythagoreans and their faithful students, which generate a proof of universal principle, such as the systemic distinction as *powers*, the relatively rudimentary distinctions among what are distinguished in mathematics as categorically rational, irrational, and transcendental series. These cases also point directly toward what are, in fact, the scientifically intrinsic incompetence of all contemporary fads of accounting practice in the name of so-called mathematical economics, including those British and related reductionist systems which are merely typified by the empiricist and positivist models of Locke, Mandeville, Quesnay, Adam Smith, Jeremy Bentham, and their Marxist and other derivatives, and carried to the lunatic extremes of "information theory" and "artificial intelligence," by such fanatical acolytes of the late Bertrand Russell as Norbert Wiener and John von Neumann.

By referring to "reductionist," or "Babylonian," systems in mathematics, we have intended to point out those "flat Earth" doctrines of physical science, which are implicitly premised on a system akin to the "Babylonian," or similar corruptions of previously known discoveries which had been made by those earlier Greeks who had been followers of the Egyptian practice of *Sphaerics*. *Sphaerics* embodied a practice associated with such ancient Greeks as the Pythagoreans, Socrates, Plato, and their school of physical, rather than schoolbook varieties of "ivory tower" geometry commonly taught as "Euclidean geometry" and its derivatives today.

The characterization of systems such as Euclidean geometry and its derivatives, as "flat Earth" dogmas, is literal, rigorous, and precise.

The rectilinear system which is characteristic of the definitions, axioms, and postulates of the Euclidean dogma, and the mechanistic method of Descartes and the leading Eighteenth-

Century "Newtonians," took its origins from the imageries of the Babylonian priestcraft. What had been, otherwise, valid formulations, which were later incorporated within the quasi-eclectic body of Euclid's system, were tortured into conformity with the superimposed, axiomatic premises of a Babylonian-like religious cult. That system of definitions, axioms, and postulates presumes, that a universal is limited, bounded, as if by extension of a point into a line, to an extension of an aprioristic, ostensibly original, rectilinear cross-section, which is, thus, primarily flattened. That is to say, in other words, that the standard Euclidean sets of definitions, axioms, and postulates which have supplied the logically "hereditary" basis for usually taught mathematics today, include "traditional" sets of *aprioristic* assumptions which are implicitly, functionally assumptions that the natural state of the physical universe is the quality of "flatness," and that curved systems must be explained from the starting point of flatness, as all of the earlier parts of Euclid's Elements do.[1]

The frequently encountered effort to trace the roots of European civilization to Mesopotamian, rather than what were, in fact, principally Egyptian proximate origins, is the "red dye" marking of a dangerously infectious, lunatic cult.

Whereas, the scientific system which Greeks such as the Pythagoreans adopted, as *Sphaerics*, from Egyptian astrophysically-oriented science, plots all relevant observations of what might be assumed to be universal phenomena, as observations of a spherical space of uncertain depth, such as the apparent form of the night-time sky: *Sphaerics*.

Johannes Kepler's uniquely original discovery of universal gravitation, is the classical model of the way in which consummate exhaustion of relevant evidence defines the efficient existence of a universal physical principle beyond the reach of the assumption, as by reductionists Aristotle, Euclid, Claudius Ptolemy, Copernicus, and Brahe, of simply repeated, ruling action in the universe. Thus, the *Sphaerics* upon which Cardinal Nicholas of Cusa and such followers as Kepler, Fermat, and Leibniz premised the emergence of competent modern physical scientific method, marks the distinction between the practice of mere copy-cat observation and physical science.

Riemann and Economic Science

The essential cure of those failures caused by the influence of Euclid and related expressions of reductionism, has been summarized by the work of the greatest of the immediate followers of Carl F. Gauss and Bernhard Riemann, beginning as Riemann's revolutionary 1854 habilitation dissertation. The work of Russia's V.I. Vernadsky, in defining the *Biosphere* and *Noösphere*, now provides the point of departure which will be appropriate for successful modes of physical-economic management over the course of the present, young century. To

[1] If, under his hair, the top of your favorite professor's head was flat, he was probably a mathematician. Probably, in today's world, a modern positivist variety.

transform that contribution into the required manageable form of political-economic practice, we must return to the roots of all modern European civilization, roots associated with a central role by the circles associated with the Pythagoreans and Plato, to the implications of *Sphaerics*.

As I have just stated here, above, typical of the application of *Sphaerics* to astronomy, was the later discovery of a principle of universal gravitation, as made with unique originality by Johannes Kepler, a discovery which not only refuted the method of Aristotle, of Euclid, and of Claudius Ptolemy, but also that of Copernicus and Tycho Brahe.

The crucial distinction, on which I focus attention centrally in this present report, is that: within the bounds of Babylonian and related reductionist systems, such as those of Aristotle and Euclid, actual creativity, actual discovery of a universal physical principle, is prohibited by the Euclidean or kindred varieties of reductionist schemes. What is thus also prohibited, is any rational form of the recognition of the absolute distinction between man and beast as famously stated by the concluding verses of *Genesis* 1.

For example, in the pre-Euclidean Greek scientific thought of such as the Pythagoreans, Socrates, and Plato, all mathematical-physical orderings are defined by the method of *Sphaerics*, as illustrated by their treatment of such elementary topics as the spherical qualitative distinctions among rational, irrational, and transcendental magnitudes. These topics include, the generation of the doubling of the square, the Theaetetus-Plato system of regular solids, and, implicitly, the extension of this study to the more populous class of Archimedean system of quasi-regular solids. These latter are of relevance for modern physical chemistry, as the significance of this mission of discovery of fundamental principle was addressed in the relevant work of the late Professor Robert Moon. Moon's work on this account, as I have referred to this in other locations, points to some of the implications of my defense of the importance of these studies in light of the implications of the work of V.I. Vernadsky.

The works of the relevant ancient Greek thinkers associated with the scientific methods of the Pythagoreans, have often been described by relevant scholars as "murky waters." To a qualified scientific thinker, this should not be so. The relevant habituated problem today is, that people who do not wish to replicate the quality of creative mental activity which those ancient Greeks employed, have relied on methods borrowed from the Romanticists' modes of practice of literary interpretation, rather than the method of actually repeating the original experiment. Since most of such literary commentators of recent centuries have been trained in reductionist methods of scholarship, they are obliged by their ignorance of the historical and related implications of the scientific method of *Sphaerics*, either to claim ignorance of the

meaning of relevant, surviving ancient evidence, or to engage in the Sophist's sport of "what he really meant to say, was..."

The reason such people often find the intellectual waters of *Sphaerics* murky, or "unknowable," is that they simply do not wish to swim. So, the Clerk Maxwell who falsified the earlier history of what we call electronics, stated in defense of that acknowledged fraud, in a moment of candor, that he simply refused to acknowledge the existence of "any geometry other than our own," signifying British empiricist prejudices of that time. Since *Sphaerics* is not only a method of physical science, but a method which can be re-experienced by reliving the relevant known experiments, there is nothing as intrinsically murky about the surviving evidence as most scholarly and other commentators have, often wishfully, presumed.

The source of the typical blunders of such scholars, is that they share the intrinsic incompetence of all reductionist models. They refuse to take into account the essential, principled nature of the functional distinction between ape and man, and, thus, so to speak, share beliefs which would tend to induce the behavior of a virtual monkey in their believer. Therefore, they sell shoes to fit the wrong species. That distinction which such commentators have failed to make, is of the type of species-distinction expressed by the method of the Pythagoreans and by such followers and collaborators of the Pythagoreans as Socrates and Plato.

If you work to replicate the experimental discoveries in the way the known method of *Sphaerics* requires, you will get the same, or very similar results consistent with the results they report. Then, you will understand them clearly, even if you have virtually no knowledge of the existence of the Greek they spoke. There is absolutely nothing murky about the method of *Sphaerics*; all competent practice of discoveries of principle in science since that time has been based on replicating their reported experiments, and their method.

The functional meaning of "physical" in geometry, was defined for ancient Greek scientific thought, by the Pythagoreans' use of that notion of *dynamis* as associated with modern European use of the term *dynamics*, a use introduced by Leibniz to correct the incompetence of the work of Descartes. It was emphasis on that fact, introduced by Leibniz, which was crucial in his exposing the incompetence of Descartes, Newton, and their followers during his lifetime, and by those who followed Leibniz's method in later centuries. The Classical term *dynamis*, is a term associated with Leibniz's use of the German term *Kraft*, as in his founding of the science of physical economy, and as the same meaning is rightly assigned to related uses of the English term *power*. As I have emphasized in my "Vernadsky and Dirichlet's Principle," Vernadsky emphasizes that the organization of the functions of the

Biosphere are dynamic, and Riemannian in this sense, as opposed to the mind-deadening damage done to the mind of believers by a Cartesian system.

For example, where scientists in the tradition of Plato and Leibniz deploy the concept of "power," a cause of an axiomatic-like change of state within a process, the modern reductionists use the term "energy," which is merely the name for an "effect," not a physical principle.

So, let us proceed. We must begin, for the sake of the young-adult generation which must be prepared to lead the future, with certain crucial steps of an elementary nature, as I do now, in the following chapter of this report.

1. A Crucial Difference in Cubes

In our customary modern secondary school instruction in algebra and geometry as adolescents, we were confronted with two ways of defining the differences in physical meaning among three elementary topics of mathematics: the distinction among what are termed, respectively, *rational*, *irrational*, and *transcendental* series of numbers. The less frequent, but correct choice of way of defining these distinctions, is to proceed from the standpoint of constructive physical geometry represented by the ancient Pythagoreans, to uncover the physical meaning of these categorical distinctions. In this, preferable case, we are using a geometry in which there is no systemic agreement with the axiomatically rectilinear standpoint of reductionists such as Euclid and his followers.

For the thoughtful student, studying this conflict, the implication of that difference should be immediately clear. Contrast that method of instruction, which is associated with the standpoint of the more popular, more conventional practice by secondary schools and university algebraic methods, in which the definitions are awkward, and the definition of the third category, transcendentals, was not considered solved until the work of Hermite and Lindemann at a point relatively late during the Nineteenth Century; even those latter, formalistic claims, were of an epistemologically doubtful character, especially when reexamined in a relevant broader context of higher physical geometries, such as those of Riemann. (See **Box 1**.)

Right answers are desirable, like healthy babies, but making a baby, as the Pythagoreans made their discoveries, and adopting one, as cookbook varieties of textbook methods of the reductionists usually do, are not the same thing. The act of creating a previously unknown discovery of a universal principle, or recreating the experience of the discovery by another, is the only way in which the acquisition of scientific or Classical artistic knowledge of a principle can be made one's own "child."

The pivotal example which I shall emphasize in this first chapter of the report, is the most general implication for the practice of science as a whole, of Archytas' construction of the doubling of the cube by the methods of *Sphaerics*. Now, think of the water which a given cube could contain, as compared with the relevant sphere or torus of the same capacity. Now, use a cylinder and cone, each able either to contain that amount of water, or to double that amount in the cylinder to observe the geometry of effect of transferring the same quantity into a conical vessel. *In attacking this challenge, it is important to convey to oneself, as to others, a sense of the physical content of the operation, rather than merely the procedure employed in making that descriptive comparison.* What must be avoided in the mathematical-physics practice of a science of economy in particular, is the fallacy of substituting the non-physical, merely formally arithmetic algebra of a physics subject-matter for the relevant action performed by a physical principle which is never, and can never be contained within a mathematical formula.

The function of competent uses of mathematics in physical science, and shaping policies of nations, is to define the shape of the walls of that virtual aquarium within which the non-mathematical fish of reality swim. Competent mathematics, which is based on constructive geometry, not arithmetic, would never defend the blunder of seeking to define those fish explicitly, but only the mathematical container which the activity of those fish expresses. It is the crucial physical experiment itself, or the equivalent in Classical artistic composition, which addresses the physical reality itself. This point is demonstrated most forcefully in any competent approach to the study of social processes in general, especially with respect to the economies they represent. Nothing points out that set of relations more simply and clearly than the discovery which occupies this present chapter, Archytas' solution for the geometrical construction of the doubling of the cube.

Such was the genius expressed by the Pythagoreans and Plato, by Eratosthenes, Nicholas of Cusa, Kepler, Fermat, Leibniz, Kästner, Gauss, and Riemann, among others of kindred disposition.

This method of constructive geometry, which Europe has derived from the Pythagoreans' practice of the method known as *Sphaerics*, is crucial in the modern discovery of a universal physical principle, as this is illustrated by Johannes Kepler's uniquely original discovery of universal gravitation. The notion of the way in which a discovered universal physical principle has a specific type of object-like effect, can not be made fully clear until the student has mastered Bernhard Riemann's insight into what he identifies as "Dirichlet's Principle," in its application within the domain of Riemannian hypergeometries. Pending the experience of discovering that principle, it is useful to cultivate the joyfully impassioned desire to reach the point of intellectual self-development, at which one could experience that discovery in one's own mind.

Now, those words of caution stated, construct a solution which correlates these discoveries of principles in the form they appear in the various containers. *For each case, adduce the single principle of action, a physical principle, which underlies the constructed demonstration.* (See **Box 2**.)

Discuss this with a class of between fifteen and twenty-five adult youth of between eighteen and twenty-five years of age. Give them the listed "ingredients" specified above. Have them, rather than a teacher, generate the proposed construction and its implications. (See **Box 3**.)

As the great representative of the school of the Athens Platonic Academy, Eratosthenes, emphasized, the importance of Archytas' solution for this, the so-called Delian paradox, was crucial in the development of both mathematics and physics from the time of Pythagoreans such as Plato's friend and collaborator Archytas, into modern times. This also represents the method resurrected for the founding of modern experimental physical science by the Fifteenth Century's Cardinal Nicholas of Cusa's *De Docta Ignorantia*. This present chapter of our report is devoted to making clear those historical implications of the debate over cubic functions.

For related reasons, the implications of the doubling of the cube by the method of Archytas, became the most crucial of the formal political issues fought out within modern European mathematics and related physics matters, from the Sixteenth Century to the present day.

This same challenge, of the doubling of the cube by no means other than construction, cropped up in the attempt to define an algebraic solution for the doubling of the cube, and deriving cubic roots, by Cardano and others, during the the Sixteenth Century, which prompted great consternation among empiricists such as D'Alembert, de Moivre, Euler, Lagrange, and other professed followers of Descartes or Isaac Newton, during the Eighteenth Century. Cardano and his associates had been confronted with what D'Alembert's advisor de Moivre identified falsely as "imaginary" numbers, which turned up as formal mathematical solutions for the errors arising in the attempt to define cubic roots only algebraically.

The empiricists, the Seventeenth and Eighteenth centuries' followers of the medieval William of Ockham called either Cartesians or Newtonians, reacted to this experience by insisting on locating the physical reality expressed within the bounds of their axiomatic system of mathematics, and therefore libelled, as "imaginary," the physical action which actually produced observed effects such as the calculated cubic roots.

This is the challenge which led to the 1799 publication of Carl F. Gauss's doctoral dissertation, in which he developed a physical conception of geometry which he later renamed The Fundamental Theorem of Algebra. In their work in this topical area,

empiricists such as Euler and Lagrange, and their followers Laplace and the neo-Cartesian and plagiarist of Abel, Cauchy, flunked the test. (See **Box 4**.)

In the meantime, a number of important developments by the followers of the work of Cusa had occurred. Most important was the discovery of modern astronomy by a faithful follower of Cusa, Johannes Kepler, and some important work by a friend of Kepler's, the Napier who developed his system of logarithms from the basis of the ancient Pythagorean principles of *Sphaerics*.[2] Of the several outstanding followers of Kepler who were also forerunners of the discoveries of Leibniz, Fermat, Pascal, and Huygens were outstanding contributors. Fermat's discovery of quickest time was the most important of the these contributions for defining the principles of a competent physical science. (See **Box 5**.)

The work of Huygens on the subject of quickest time, was not the right definition for the principle of quickest time, but it led the way toward the discovery of the solution by the joint effort of Leibniz and his collaborator Jean Bernoulli: Leibniz's fundamental principle of the physical calculus, *the universal, catenary-cued principle of universal physical least action*. The significance of Leibniz's discoveries, was kept among the active pursuits of science during the Eighteenth Century by, chiefly, a scientist who became a crucial promoter of the cause of American freedom, Franklin's one-time host Abraham Kästner. Kästner was also one of the two most significant teachers of the young Carl F. Gauss. Kästner was the first to prove in modern times, that a valid physical geometry must be not merely non-Euclidean, but must be recognized as anti-Euclidean, since the rectilinear kernel of assumptions of the Euclidean system, the rectilinear axiomatics, was provably absurd.[3] (See **Box 6**.)

The result of Kästner's influence on the youthful Gauss's own adoption of an anti-Euclidean physical geometry, was a discovery which Gauss suppressed from public view, throughout his later career as a leading physicist of Europe, for justified fear of political persecution on this account. It was Bernhard Riemann, a student of both Gauss and Lejeune Dirichlet, who broke science free from the mind-deadening slavery to Euclidean and non-Euclidean geometries alike, in his 1854 habilitation dissertation. (See **Box 7**.)

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[2] On the significance of the work of Napier, we shall return, at a later point in this report, to examine Gauss's reference to Napier's *Pentagramma Mirificum*, in Gauss's treatment of the subject of hypergeometry, and Riemann's continuation of that line of investigation as his own development of the principles of hypergeometry.

[3] As Gauss implicitly emphasized for the case of János Bolyai, neither of the famous so-called "non-Euclidean" geometries of Lobachevsky or Bolyai are equivalent to the anti-Euclidean geometry of Kästner and Riemann. Both Lobachevsky and Bolyai go only part-way in grasping the argument exposing the falseness of Euclidean geometry as shown earlier by Kästner. It was Riemann, following Gauss's own explorations of a physical hypergeometry, who threw the entire Euclidean and related baggage out of the window in 1854, and went on to develop a general physical hypergeometry. It is that notion of a physical hypergeometry which I absorbed for the generalization of my own discoveries in physical economy, from Riemann.

Thus, competent modern physical science is not only anti-Cartesian, but rests implicitly, and pervasively on an *anti-Euclidean* physical geometry which reflects the combined contributions, assembled by Riemann, of Leibniz, Gauss, Dirichlet, and Riemann himself, but which is traceable, explicitly, to the work and influence of Cardinal Nicholas of Cusa, and to Cusa's predecessors in science among the circles of the Pythagoreans, Socrates, and Plato. (See **Box 8**.)

Now, before turning, in the following chapter, to the crucial historical role of Gauss's 1799 doctoral dissertation, consider *the historical political process* through which the situation in which the issue addressed there by Gauss came into being.

The 'Enlightenment': Politics and Science

The 1714 accession of King George I to the newly established throne of the United Kingdom, and the death of Leibniz in 1716, three years before the birth of Leibniz's fellow-Saxon, Abraham Kästner (1719–1800), mark a crucial dividing-line within the history of Europe's Eighteenth Century as a whole.[4] The division which generated the conflict between the Gauss of 1799 and the Newtonian reductionists, was essentially political first, and mathematical only second, a political issue which had much to do with the same causes which drove the patriots of the North American English colonies to revolt against the British monarchy, which had, in the colonists' eyes, betrayed them to the predatory lurches of British Lord Shelburne's ever-lecherous British East India Company.

The triumph of the Anglo-Dutch Liberalism of the British East India Company, was a cultural and political, as much as moral catastrophe for the national interests of England, Scotland, and Ireland. It was not Britain as a nation which triumphed under George I and his immediate successors; it was an international, Anglo-Dutch cabal which was then openly named "The Eighteenth-Century Venetian Party," an international slime-mold-like aggregation of private financier entities, rooted in Venice and continuing the Venetian tradition as the Venice-like, imperial maritime-financier power of the combined Atlantic, North Sea, and Baltic region, with the Indian Ocean soon to be added.

Earlier, during the reign of England's Queen Anne, Leibniz, in addition to being the leading scientist of his time, had become a very important and influential factor in the English politics of the opponents of the predatory Anglo-Dutch Liberal faction represented by the party of the monstrous William of Orange. The Orange party of that time used the followers of René Descartes, the Netherlands-trained opponent of Leibniz's sometime former sponsor,

[4] For the identification of these connections we remain actively indebted to the discoveries of our late collaborator and professional historian H. Graham Lowry, who tracked down the "missing link" in the continuity which underlies Leibniz's influence in shaping the conceptions of law expressed in the 1776 Declaration of Independence and 1789 Federal Constitution.

France's Jean-Baptiste Colbert, to synthesize a pseudo-genius, using as their synthetic stage-hero the black-magic faddist known as Isaac Newton. It can be conceded that Newton existed as a matter of a living piece of flesh, but, the Newton of the classroom myth was only, so to speak, a synthetic personality created by a committee.[5]

The operation to create the synthetic scientific personality of Newton, was sparked by a sly Venetian abbot, Antonio Conti, operating from Paris, who coordinated the sly crafting of the public reputation of the synthetic Newton. In cooperation with the notorious Voltaire, Conti, until his death in 1749, built up a network of Leibniz-hating, virtual Newton clubs on the map of the continent of Europe, clubs which included the gaggle at Berlin around Maupertuis, Euler, and Lagrange, during a relevant period of time. Conti, an avowed devotee of the teachings of Descartes, used the Cartesian model to build up a cult of avowed followers of the synthetic figure of Newton, as the synthetic, English "Descartes," both in Britain and on the continent.

The resulting division of both scientific and pseudo-scientific opinion throughout post-1714 Europe, between the factions of the Newton cult and the work of Leibniz, has been the source of the principal continuing controversy in nominally scientific circles from that time to the present day. Nothing better demonstrates the true nature of this scientific controversy, than shifting the discussion of the issues of method from the domain of abstract, virtually Laputan disputes within the ivory-tower domain of academic algebra, to the real-world subject of economic history studied from the standpoint of what Leibniz first established as the science of physical economy.

The subject of any sane study of economy, is human behavior, not a mechanistic Cartesian's fantasy-world based on throwing a child's marbles into Euclidean empty space. Human behavior is a reflection of the role of the creative powers of the individual mind in recreating man's relationship to man and nature on a higher level. Cartesian behavior, on which the method of the arguments of the empiricists, Marxists, positivists, and existentialists depend, is mechanical. When the idea of science is shifted in its implicitly employed definition, from Cartesian to dynamic forms of mathematical-physical space, the issues of the Newton cult became axiomatically clear; from that standpoint, the attempt to explain a dynamic system, such as human behavior, from the standpoint of mental marbles lost in empty space, the essential fraud of the Cartesian (e.g., "Newtonian") dogma becomes immediately clear. Since the practice and practical outcome of physical science, is also human social behavior, nothing is lost to science if the spectre of Newton is prudently released to play his more appropriate,

[5] The exposure of Newton as a black magic faddist was made by John Maynard Keynes, who had been entrusted with opening what Britain's superstitious set had much sought as the wondrous content of Newton's chest of papers. Keynes' proffered conclusion was, in effect, shut the chest, and keep it closed, all for the sake of Newton's reputation.

native role in the dramatic company of Marat and de Sade—and of that would-be Mephistopheles of the Eighteenth Century, Voltaire.

The effect of the children's trick games played upon the credulities of the duped followers of the Descartes-Newton cults, was actually intended to be essentially political, rather than expressing any genuine concerns with the issues specific to a formal scientific debate.

That political issue of the Eighteenth Century was not exactly new; we find its origins within European civilization in ancient Greece, as echoes of the celebrated division between the Athens of the famous Solon and the Lycurgus code of Sparta, a Spartan code which had been designed by the notorious cult of the Delphi Apollo. The political issue of that division was fairly summed up in the middle section, *Prometheus Bound*, of Aeschylus' *Prometheus* trilogy, in which the evil head of the polytheist cult of Olympus, Zeus, condemns Prometheus to perpetual torment, rather like the procedures enjoyed at Cheney's and Rumsfeld's pens at Guantanamo and Abu Ghraib in spirit, on the charge that Prometheus had committed the crime of having disclosed the use of fire to ordinary human beings.

The purpose of such reactionary political games as that of the mythical Zeus or the neo-Roman Empire and medieval, *ultramontane*, Crusader coalition of Venetian bankers and Norman chivalry, was to reduce the mass of human beings to a cattle-like political and intellectual condition, in which the many of society could be herded as tamed cattle are herded, according to the pleasure of the relevant Lockean shareholder, or the Physiocratic dogma of Quesnay and Turgot. To maintain the largest portion of the population of some section of the world in cattle-like subjugation, it is necessary to suppress that spark of creativity which is peculiarly characteristic of the potential of the human individual, but not the beasts. Under that condition, great masses of people can be herded like cattle, especially with the aid of a corrupt mass-media of the sort encumbering societies today. Such methods of virtual cattle-herding of masses of human beings, have been customary throughout long periods of known history to date.

Freedom for human beings, is not a state of affairs in which all pigs might seek to become equal, but rather a state in which men and women in general consciously practice the *natural-lawful* use of those powers which distinguish man and woman as in the likeness of the Creator, as creative beings in the sense of the leading Pythagoreans, Socrates, and Plato, and of Nicholas of Cusa, Kepler, Fermat, Leibniz, J.S. Bach, and so on. These powers express the essential qualities of true human beings in their practice, as their naturally given potential. Permit the individual's knowledge of that potential within himself or herself, and he can not be kept in servitude for long. Implicitly, the Olympian Zeus of Aeschylus' drama understood this, as did the priests of the Delphi Apollo's loan-sharking cults of sophistry and

helotry, and the heirs of that latter cult today. This potential within the typical individual member of society, is what prompts the oligarch's most dreadful fears.

Those and related political implications of competent physical science, are inextricably associated with the idea and relevancies of the mathematical-physical concept of power, a concept associated with the legacy of the physical science of Sphaerics practiced by the Pythagoreans, Socrates, and Plato. The political issues underlying the devastating 1799 attack by Carl F. Gauss on the hoaxes of such followers of the Cartesian reductionist de Moivre, as the Newton cultists D'Alembert, Euler, and Lagrange, are a direct, modern reflection of the issue of the ancient quarrel of the science of the Pythagoreans, Socrates, and Plato, with the legacy of our ancient reductionists such as Aristotle and the Euclideans. Now, as then, as Eratosthenes would agree, the pivot of the controversy has been the Delian paradox addressed by Archytas' constructive-geometric doubling of the cube according to the essential principle of *Sphaerics*.

The efforts to wreck the progress which had been resurgent in the aftermath of the 1648 Treaty of Westphalia, became known as "The Enlightenment": the illumination of European society by the burning of its cities, towns, and farms in wars. To understand how this has affected the history of modern science and economy to the present moment, a relevant, crucial aspect of modern history must be taken summarily into account at this point in our report.

A Dividing Line in Culture

The significance of the 1714–1716 interval as a singularity of Eighteenth-Century European development, was made emphatically clear, in the form of a kind of shameless confession, with the appearance of the celebrated *Decline and Fall of the Roman Empire*, written by Lord Shelburne's lackey Gibbon. The intention which Gibbon expressed was already the intention of the financier interest represented by his employer, Lord Shelburne. Gibbon's task was to craft a rationalization for what his employer's association, the Anglo-Dutch, British East India Company, was already in the process of doing.

The underlying issue was the same expressed by France's Louis XIV, in allying with France's traditional enemy, the Fronde, against the heir of Cardinal Mazarin, Jean-Baptiste Colbert. "Sun King" Louis XIV, the model for the state-church-based imperialism of the Emperor Napoleon Bonaparte later, was not merely the enemy of the Anglo-Dutch Liberal forces of Europe. The precise fact of the matter, is that, whereas Mazarin and Colbert, like Nicholas of Cusa, Jeanne d'Arc, and France's Louis XI, were dedicated to establishing a system of sovereign nation-state republics, called *commonwealths*, based upon the natural-law principle of the general welfare, both Louis XIV and his Anglo-Dutch Liberal foe were quarreling over which of the two would become the Venetian-style imperial successor of the ancient Roman Empire.

This war set a pattern which has been the dominant feature of the military and related conflicts within Europe from that time to the present moment of writing: the struggle by the Anglo-Dutch Liberal forces and their imperial maritime tradition, to preempt any challenge to the City of London's financial-imperial authority, by organizing wars, chiefly, among the potential continental rivals of that British imperial power based in London's imperial domination of the world's monetary-financial system.

This was the meaning of the British East India Company's orchestration of the so-called "Seven Years' War," which weakened not only Britain's rival France, but all continental Europe, to the degree London could seize, and absorb the earlier French monarchy's claims to imperial power.

This experience of the war of the Netherlands with Louis XIV, and the power London grabbed as its share of the spoils of the Seven Years' War, served as the precedent for London's willful orchestration of the career of London's nominal enemy, the Emperor Napoleon Bonaparte, to destroy continental Europe, through Napoleon's wars, in such a degree that London, as it had intended, emerged in 1815 as the dominant partner of the world, temporarily sharing claims to world imperial power with Metternich's already decaying Habsburg regime.

This was the same thinking behind Lord Palmerston's sponsorship of, and continuing control over the revolutionary Young Europe organization of such assets as Mazzini, and such protégés of Mazzini as Karl Marx and Marx's rival Bakunin.

This was the policy guiding London's role, under Lord Palmerston, in putting Lord Palmerston's choice, Napoleon III, on the French imperial throne; but, then came Britain's orchestration of the wars of Prussia in Bismarck's favor, to, then, prepare to destroy Bismarck and his Germany with preparations for a new general war, like the Seven Years' War, throughout continental Europe: World Wars I and II.

So, at the moment of President Franklin Roosevelt's death, London took increasing control over the shaping of U.S. pro-colonialist foreign policy under Truman, to such effect that from the mid-1960s on, what had been the greatest nation-state power the world had ever known, has been systematically self-destroyed by the influence of London and its Wall Street allies, to an effect like that which Cotton Mather described, "We are shrunk," almost to nothing, in viewing his London-ruined Massachusetts at the beginning of the Eighteenth Century.

Focus on the key methods which the Anglo-Dutch Liberals and their U.S. accomplices employed to attempt to destroy the U.S.A., in the way they have nearly succeeded in that during the recent forty-odd years since the assassination of President John F. Kennedy. The

most typical instruments of the process of destroying the U.S.A. over the long term, from within, were the methods of the Congress for Cultural Freedom in not only destroying the culture of the U.S.A., but in focussing that attack on what was intellectually the most vulnerable section of the population, the generation represented by the children born (chiefly) during the 1945–1950 post-war interval.

That operation against the U.S.A.'s "Baby Boomer" generation, and, also, similarly, the comparable portion of the populations of Europe, has been, in essential respects, a copy of the methods which the Babylonian priesthood deployed, through its agent, the Delphi Apollo cult, to transform the relevant upper social layer of the "Baby Boomer" generation of ancient Athens into a writhing mass of sophistry which plunged itself into the self-destructive process of the Peloponnesian War. Today, so, the faction behind U.S. Vice-President Cheney has used the most brutish sophists of the United States of our time, the "religious right" and its like among the secularist "neo-conservatives," to engage the United States in spreading endless, futile warfare through which the U.S.A. destroys itself and its influence within the world at large.[6]

The recently urgent need of the United States to free itself from the shameful obscenity of Lynne Cheney's oafish husband, with his numerous military-service deferments, one for pregnancy, does not imply that he should be regarded in any sense as either a great warrior, or an independent force within our nation's life. He is merely a lackey of the interests associated with former U.S. Secretary of State and familiar of Pinochet and Henry A. Kissinger, George Shultz, and the circle behind London's Tony Blair, which have deployed him. It is those Venetian-style financier interests which own him, which are the true enemy of our republic. Therefore, we should not regard him as a warrior, but simply the brutish mere tool of a financier cabal, a figure who substitutes the quality of mad-dog viciousness for intelligence; but, thereby, he does precisely what his masters have expected of him in the process of his destroying himself.

Such are those traditional ways which the greatest fools of the Eighteenth Century, and their later admirers, named, so perversely, "The Enlightenment."

In the case of the Peloponnesian War, the root of those wars which destroyed the power of Athens, can be traced, as Plato traces this implicitly in his *Parmenides* dialogue. From the high points of Ionian culture as expressed or reflected by Thales and Heraclitus, to the rise of the Delphic sophists and their aftermath as Aristotelianism and Euclid's program, there was a constant thrust, aimed always against the influence of the Pythagoreans and their co-

[6] As a British wag might say of Vice-President Dick Cheney's war in Iraq, this time, "The Star-Spangled Banner went down to the tune of the Strumpet's Red Blair."

thinkers, and always focussed, as from Delphi and the Eleatics through Aristotle, against the scientific method of *Sphaerics*.

There is a later parallel for this in the aftermath of the reform of the Roman Empire by the Emperor Diocletian. When it was finally recognized by Diocletian and his protégé Constantine, that Christianity could not be stamped out among the Greek-speaking population by forceful methods later emulated by Spain's Grand Inquisitor, the religious wars of 1492–1648, and the revival of the terrorist methods of Spain's Grand Inquisitor Tomás de Torquemada, by the seminal Martinist-Synarchist Count Joseph de Maistre, and by Mussolini, Hitler, and Franco. This modern legacy of terrorist methods represented the use of the same Delphic methods incorporated in the creation of the ancient Roman republic. It was the methods of the Delphic imperial Pantheon, the methods of President George W. Bush's "faith-based initiative" mode of corruption, which were applied, as by the Emperor Constantine, against a Christianity which the Roman Empire had failed to crush by fascist force.[7]

The Power of Natural Law

Since Solon of Athens, the positive thrust within the history of European civilization, has been toward a system of government under a principle known in the Classical Greek of Plato's Republic and the Apostle Paul's *I Corinthians* 13 as *agapē*. The modern English usage in law identifies this as the "general welfare" clause, which is integral to the supreme constitutional law set forth in the Preamble of the U.S. Federal Constitution. This notion of

[7] The great ecumenical Council of Florence was the occasion for exposing that hoax of the fraudulent "Donation of Constantine" which had been the pretext employed by the imperial forces of Rome, since Constantine, for attempting to control the Christian churches. Not accidentally, the conduct of the scrutiny of relevant ancient documents in possession of the Byzantine archives was done, as this Council development was presented to a relevant Rome Church body by Helga Zepp-LaRouche, by the same Nicholas of Cusa whose *Concordantia Catholica* served the relevant forces of the Council in launching the first modern, commonwealth form of nation-states, that of Louis XI's France and Henry VII's England, thus superseding a similar intention expressed by Dante Alighieri's *De Monarchia*. This refuted "Donation" was, as Charlemagne had protested, a concocted hoax, but it had dominated Europe, until the Council of Florence, under Venice's grasping the power of its alliance with the Norman chivalry from the decadent Byzantine system. Essentially, the "Donation" hoax was intended to place Christianity, through imperial control over the bishops, under the management of the pagan Roman Imperial Pantheon. This "Donation of Constantine" hoax served the Venetian-Norman partnership as the imperial legal doctrine of the *ultramontane* form of imperial system. The meaning of the term "imperial system" is a form of government over a collection of subject peoples under whose law all power to make law throughout that realm lies within the personality of either an emperor, or a person or oligarchy functioning in the law-making capacity of an emperor. Under an imperial system, subordinate authorities, such as kings of nations, can not make law, but only make rules within the bounds set by the imperial law-making personality. The Venetian *ultramontane* system's policy was to assign this power of law-making to the Pope, on the condition that the Pope was literally, or virtually owned by the Venetian financier-oligarchy. Popes who displeased the Venetian oligarchy tended to be quickly replaced; this type of paganist corruption of religious bodies was the model for what became known more recently as "the integrist system."

constitutional law, as rooted in *natural law*, is in direct opposition to widespread, contrary notions of the authority of positive law, such as those of "common law."

So, the first modern European nation-states, those of Louis XI's France and Henry VII's England, were of a distinct, new quality termed *commonwealth* societies, in which the highest authority in law is bound to submit to the authority implicit in the natural-law principle of the general welfare of all of the members of that society, including its posterity.

Thus, since Solon of Athens to the present, the essential conflict in principles of law and government within now globally-extended European civilization, has been the conflict between imperial law, as a form of the merely positive law, and the conception of natural law.

So, as historian Graham Lowry brought this into focus, the emerging conflict within England under Queen Anne was that between the notion of the commonwealth, which the Tory circles of Jonathan Swift and Gottfried Leibniz typified, against the Anglo-Dutch Liberal, imperialist faction associated with the brutish William of Orange. In light of the negotiated succession, from Stuart to Hannover, the fate of England under Queen Anne would be decided by which policy would be represented by Anne's successor to the throne. Leibniz was personally at the center of this conflict. George I succeeded, and England went against its loyal nationalists, and so the British, or should we not prefer "brutish," Empire was born.

This development which was secured in the closing moments of the life of Queen Anne, marked a reversal of a general upward turn in Europe's science and government marked by the interval from the 1648 Treaty of Westphalia through the accession of England's George I, and the plunge of Europe into the hellish cauldron of Eighteenth-Century neo-Venetian Liberalism. This political development became the dividing-line within modern European civilization from that moment to the present day.

It is from that vantage-point that the cultural down-slide of the culture of Europe, from the death of Anne until the rise of the Classical revival around Kästner's protégé Gotthold Lessing and Lessing's friend Moses Mendelssohn, is to be understood. With the latter Classical renaissance spreading from Germany, and the wave of optimism associated with the cause of American freedom from brutish tyranny, a great partial victory for the cause of global civilization based upon the commonwealth principle, was struck. Since those Eighteeenth-Century developments, there has been a presently continuing central, global conflict between the opposing causes of national sovereignty and empire, as empire is typified today by the neo-Venetian, Liberal imperialist obscenity called "globalization."

Science and Identity: A Tale of Two Jews

Now, consider a tale of two Jews, the Christian Apostle Peter and his friend Philo of Alexandria, which I have retold several times for its scientific, as well as theological relevance, as the occasion warranted this reference.

Philo is justly famous for, among other accomplishments, his salutary ridicule of those of his time who attempted to bring the dogma of the then long-deceased, and better forgotten reductionist, Aristotle, into play within the domain of theology. The silly Aristotelians of Philo's time, had adopted the sophistry of their word-play on the use of the term "Perfection," to make the same foolish argument which the most rabid of our sundry contemporary varieties of cults of religious "fundamentalists" chant today, without any of the relatively scholarly elegance of Aristotle's refined sophistry. The significance of Philo's attack on the core of Aristotle's reductionist method for us here, in this discussion, is that Aristotle's error is typical of the prevalent pathological core assumptions of belief in science, politics, religion, and otherwise, among today's globally extended influence of European culture.

The scientific world-view of the Pythagorean tradition knows the universality of sense-phenomena, as existing within the bounds of a universe of those efficient universal physical principles which exist beyond the domain of sense-perceptual objects; whereas, the ignorant man imagines an irrational sort of spiritual universe, one existing outside the reality of universal physical principles, a reality which is known to a competent modern European physical science derived from *Sphaerics*. This is the underlying, theological issue posed by Philo's attack on Aristotle.

For those in the Classical Greek tradition, such as the Apostles John and Paul, or the Apostle Peter's friend, Philo of Alexandria, the spiritual world of immortality is the efficiently existing universe, wherein the human mind may discover the immortal universal principles which are reflected imperfectly, as Paul insists that we see as "through a glass darkly," as we see phenomena within the inferior domain of the mortal human individual's sense-perceptual experience. For competent science, it is the unseen principle which peers at us when it is reflected among the shadows of reality which we perceive as phenomena.

Thus, for the purblind mind, a mind still inclined to seek out the bestial state of experience, it is the completed experience of the perceived phenomenon of sense-certainty which is reality, rather than the actually ruling principles of the universe which generate perceived effects of principles. These principles are the effects which such feeble intellects regard as merely the imperfect, haunting shadows cast by the distant light of a different universe than the one which the mortal individual inhabits. That purblind mind of the feeble intellect, is the commonly characteristic feature of all systematic reductionism, in the practice of physical science, otherwise. Thus, for all dolts of the reductionist persuasions, the word "perfect"

signifies "completed." This was, of course, the view of the physical universe as portrayed by the devotees of pagan superstitions as taught by the Roman hoaxster of astronomy, Claudius Ptolemy.

So, for those Aristotelians among his contemporaries whose follies were denounced by Philo, the act of universal Creation was a *completed* action, in the sense of being unchangeable. Hence the gnostic's blind reliance on prophecy among such ignorant people. For Claudius Ptolemy's explicitly Aristotelean notion of the universe of that type, if God were Perfect, He could never change the habitual way in which the universe showed itself to man. In contrast, the implied view of Creation in the mind of the Pythagorean, is the universality of a principle of a continuing process of Creation.

In the case of human behavior, the universe of those hypotheses which are validated experimentally as universal principles, the universality of that process of such development is dominated by higher orders of the continuing generation of hypotheses, as V.I. Vernadsky's portrayal of the growth of the Biosphere and Noösphere, relative to the abiotic domain, illustrates the point. The higher hypothesis, that of hypothesizing the higher hypothesis, is, in turn, the subject of a unifying principle of universal creation. This universe, as Albert Einstein, with his notion of a "finite but unbounded universe," approximated a Riemannian conception of a finitely self-bounded universe, is defined ontologically as an existent process of constantly ongoing creation, as defined in these terms of reference.[8]

Look at Philo's objection to Aristotle in terms of the equivalence of the way in which Claudius Ptolemy was to follow the same argument of Aristotle's later. Aristotle's and Ptolemy's is a universe as would have been designed for man by the Olympian Zeus of Aeschylus' *Prometheus Bound*. For Ptolemy as for Aristotle, "perfected" is "completed" in the sense of an unchanging, unchangeably fixed order of events in the universality within which man's experience is situated. Indeed Ptolemy relied on Aristotle's attributed authority on this specific point. No creative innovation, comparable to knowledge of the use of "fire," is permitted to lie in man's willful hands, or, for Aristotle, the Creator's. Hence, the door was left open for Satan, as gnostic, to play.

This is, in its bare-bones version, almost exactly the axiomatic assumption of the mathematical-physical system of the empiricists Hobbes, Descartes, Locke, Mandeville, Quesnay, and the argument of the empiricists D'Alembert, Euler, and Lagrange against Kepler, Leibniz, *et al.* There is no provision in empiricism for a principled kind of change in a pre-fixed system.

[8] The extent of the finite universe is the reach of its universal principles. The implications of this are made clearer within the bounds of Riemann's grasp of what he termed "Dirichlet's Principle."

So, Aristotle's system requires that once the Creator, were He perfect, had acted perfectly in the act of Creation, He could never change, by His own will, what He had once set into motion. Hence, the fraudulent astronomy of the Roman imperial ideologue Claudius Ptolemy.

As a matter of illustration, consider the typical gnostic religious nut of the U.S.A. today. He avows that "God has predetermined 'the coming of the end days' " to some definite date allegedly built into some "Biblical prophecy." God is not permitted to make up His own mind, and, perhaps, change that date! "Neither man, nor God will ever be permitted to change anything from a predetermined, fixed order of things" in what religious fanatics prescribe as the rectilinear universe. "Please Zeus! Neither God nor man's free will can change anything to alter the predetermined order of things."

Philo objected, as do I.

The issue which I have just outlined here, is almost the same as that argument made by the empiricists D'Alembert, Euler, Lagrange, *et al.* against Leibniz—*almost*.

Enter, Paolo Sarpi

From Diocletian until the Fifteenth-Century European Renaissance, the prevalent imperial orders in Europe prescribed a relatively fixed order of affairs in the life of the ordinary persons, an order in which the ruling social strata, imitating the gods of Olympus, played their capricious pranks on the masses of a subject people who were assigned to maintain an essential monotony in the form of their life-long practice.

That was changed in a radical way by the great reforms of Europe's Fifteenth-Century Renaissance. Brunelleschi and Nicholas of Cusa, and such among his avowed followers as Luca Pacioli and Leonardo da Vinci, in the unleashing of modern experimental physical science, changed history radically. Despite the efforts of a resurgent Venice to suppress the development of science and the nation-state by means of the religious warfare of 1492–1648, progress led by France and England unleashed an unstoppable flourishing of scientific, technological, and related economic and social progress.

In this setting, where the military and related potentials of national cultures and their factions must adapt to the increase in military and related power introduced by the combination of scientific progress and the upgrading of the intellectual and moral quality of the general population, the old faction of Venice was gradually forced to make way for the rising new faction led by Paolo Sarpi, the founder of empiricism. Sarpi's faction was as opposed to the science of the Pythagoreans, Plato, Cusa, Leonardo da Vinci, and Kepler as the old faction of the Venetian oligarchy, but Sarpi was not prepared to be so stubbornly opposed to the products of science, as to lose the wars thereby.

So, the military-strategic and related changes in the order of modern military and related affairs persuaded Sarpi's new party of Venice to loosen the barriers to acceptance of some degree of scientific-technological progress. Sarpi house-lackey Galileo's awkward plagiarizing of the work of Kepler, on the issue of the motion of the planets about the Sun, was typical of the new spirit of empiricism unleashed by Sarpi's revival of the precedents of the medieval William of Ockham. In effect, in Sarpi's bedroom, the Olympian Zeus unbuttoned himself. (See **Box 9**.)

Thus, under empiricism, change was tolerated within limits, but the principles of science were not to be shared with the underlying mass of the population. A modified Aristotelianism, Ockham-style, was adopted, based on the model of a Euclidean form of Aristotelian doctrine. This was known as empiricism, a name which was interchangeable with what became Anglo-Dutch Liberalism. In the resulting combat between the reborn Pythagorean-Platonic tradition in science, and the opposing empiricists, the issue of the Delian paradox came to the fore as the leading edge of the empiricists' combat against the influence of Leibniz.

In the history of European civilization since the time of Classical Greece, the principal division among categories of factions has been, as Friedrich Schiller crafted this view, the conflict between the principle of natural law of Solon of Athens, and the oligarchical principle which the Delphi cult had introduced as the code of Lycurgus' Sparta. In the time of Plato's faction in Athens, the oligarchical faction was also known as "the Persian model," or heritage of the Babylonian priesthood which still controlled the Persian Empire from inside. Schiller's formulation thus defines, still today, the entire sweep of globally extended European history from the time of the Pythagoreans, and earlier, to the present moment. The oligarchical models included the Achaemenid Empire; the ambitions of such enemies of Alexander the Great as his father, King Philip of Macedon, and Aristotle; the Roman Empire; the Byzantine Empire; the *ultramontane* imperialism of Crusading Venice and its partner the Norman chivalry; and the Anglo-Dutch Liberal system which is entirely an outgrowth of the programmatic approach of Venice's Paolo Sarpi.

Put the intention of Sarpi inside a more up-to-date version of the Olympian Zeus of Aeschylus' drama.

How could that better-informed Zeus control the mass of humanity as virtually mere cattle, while adapting to the immediately unavoidable reality of the unleashing of the general population for participation in technological progress? The way in which Sarpi's crew, including, notably, Sarpi's house-lackey Galileo, reacted against the mammoth outpouring of scientific creativity produced by the Kepler who was the faithful and prolific follower of Nicholas of Cusa and Leonardo da Vinci.

Sarpi kept the essential intention of Aristotle's system, but cut a small chink in the system, to permit some unavoidable adaptations to scientific and related progress to leak through. In this respect, Sarpi, by resurrecting the dogma of William of Ockham, corrected Aristotle by returning directly to the original sophistry of the Delphi Apollo cult. Technological progress must sometimes be permitted, under the stipulated restriction, that the principles of discovery of universal physical and related principles were either simply suppressed, as in the mammoth effort to suppress most of the work of Kepler, or buried in superstition, as the followers of Descartes, Conti, Conti's synthetic Newton, and Voltaire, prescribed.

Inevitably, as the Platonic Academy's Eratosthenes foresaw, Archytas' construction of the solution for the Delian paradox became the pivotal feature of the greatest controversies, such as the Descartes-Leibniz division, in the modern practice of science, culture, and statecraft. The continuing conflict since 1763, between the emerging American System of political-economy, and that British Empire more precisely described as the imperial expression of the Venetian financier-oligarchical system as the Anglo-Dutch Liberal system of globalization today, is the pivot of ongoing world history, still today. It is still, today, the ongoing conflict between the heirs of Paolo Sarpi and the role of Gottfried Leibniz. What is new in this conflict, is that we have reached the threshold at which, finally, one of the two combatants must lose absolutely, with the qualification, that if the Leibniz legacy loses, all mankind would be plunged into a global new dark age.

That setting now provided, consider the significance of the issue of Gauss's 1799 doctoral dissertation accordingly.

2. Gauss's Power

Gottfried Leibniz's exposure of the intrinsic incompetence of René Descartes' sterile, mechanistic approach to physical science, and, also, Leibniz's founding of economics as a science (the science of physical economy on which the American System of political-economy was premised), were centered on Leibniz's premising all competent scientific practice on the specific notion of power which he traced to the Pythagorean concept of *dynamis*, which he defined as the modern term *dynamics*.

This notion of *power* and *dynamics*, as defined for modern science by Leibniz's exposure of the incompetence of Descartes, was not only the issue underlying Carl F. Gauss's attacks on the reductionists in his 1799 doctoral dissertation; it was the pivotal issue of all leading controversies in Nineteenth-Century and later science.

This pathway in Leibniz's development of the foundations of a general form of modern physical science, which was built upon the platform provided by the combined work of,

chiefly, Kepler and Fermat, had several implications which are most notable at this point in our report; but, all of these are pivoted on that concept of *power* which Leibniz brought forward from the legacy left by the Pythagoreans and Plato.

The relevant historical fact must be kept in view, that as Leibniz's development of a science of physical economy is traced over the interval from 1671 to the close of his life, his discovery of the existence of this branch of physical science, as a branch of physical science, was unique. The unique principle at the center and foundation of this discovery in physical science, was identical with Leibniz's attacks on the broader expression of the pervasive incompetence of Descartes' notion of physical science. It was also rooted in Leibniz's uniquely original founding of the calculus, as presented to a Paris printer in 1676, a branch of science which, together with the mastery of the implications of elliptical functions, had previously been assigned to future mathematicians by Kepler. The roots of Kepler's prescription had been the implications of the method which he had proven conclusively by the characteristic, internal features of his own absolute originality in his discovery of universal gravitation. (See **Box 10**.)

The general, relatively widespread knowledge of Kepler's discovery of universal gravitation among readers in England, had been made available prior to the misleading bowdlerization of Kepler's work by, ostensibly, Isaac Newton. To the extent of the relevant biographical evidence available, to the end of his life, Newton had no relevant knowledge of what a calculus is.

To situate the subject of the implied attacks, by D'Alembert, Euler, Lagrange, *et al.*, against the physical relevance of Archytas' solution not only for the Delian paradox, but that paradox's relevance for all competent modern science and statecraft, the highlights on this subject from Leibniz's work and its modern background must be brought into focus. (See **Box 11**.)

All competent forms of modern European science are outgrowths of the revolutionary revival of ancient Platonic science, from Pythagoras through Eratosthenes and Archimedes, by Cardinal Nicholas of Cusa.

Cusa's crucial discoveries on this account are embedded, in some significant part, among his sermons, but are otherwise associated in a series of his relevant writings which began with his ground-breaking statement of the principles of modern experimental physical science in his *De Docta Ignorantia*. From a Cusa working in the same environment as the celebrated, and literally towering employer of the catenary principle for construction, Filippo Brunelleschi, the development of the principal valid currents of modern physical science, runs through, most notably, Luca Pacioli, Leonardo da Vinci, Johannes Kepler, Fermat, Pascal, Huygens, and Leibniz, through the revival of Leibniz by such outstanding figures of France's École

Polytechnique as Gaspard Monge and Lazare Carnot and their anti-Lagrangian co-thinkers, and the protégés of the École Polytechnique's leading German member, and Lazare Carnot associate, Alexander von Humboldt.

With the seed of ruin of France's leading position in world science under Napoleon Bonaparte's choice of Euler's protégé Lagrange, and the continuation of that influence in the ruinous reform of the École by Laplace and the neo-Cartesian Cauchy, world leadership in science shifted, together with von Humboldt's protégé Lejeune Dirichlet, from France into Germany.

It was in this setting, that the Gauss who would be singled out, soon after, for special persecution by Napoleon's regime, wrote and published his 1799 doctoral dissertation exposing the fraud of the attacks by D'Alembert, Euler, Lagrange, *et al.* on Leibniz. Although the attacks on Gauss by Napoleon's regime occurred as part of Napoleon's attacks on certain leading circles of German science at what had been Abraham Kästner's Göttingen University, the attack on Gauss was more severe, and of special significance, apart from the incompetent attempted rebuttal of Gauss's dissertation by Napoleon's protégé Lagrange.

Gauss was rescued from this attack by the École circles of Carnot and Alexander von Humboldt, to continue to play his already leading role, from Germany, in world science. However, the continuing destruction of Jacobin and Napoleonic France's earlier leading role in world science, from 1789 and beyond, was continued by the British Duke of Wellington, who was the relevant Vienna Congress's occupation authority, who, in turn, placed Britain's tamed legitimist puppet-monarch on the restored throne of France, a monarch who then placed Lagrange followers Laplace and Cauchy in charge of the systematic ruin of the École Polytechnique.

After this experience, and now in a post-1813 Germany under the overreaching power represented by Bentham, Metternich, and Palmerston, in a Germany which had been, and remained largely under, successively, French and British thumbs, Gauss was more cautious about raising the crucial issues of physical geometry than he had been in the 1799 publication of his doctoral dissertation. Gauss's later correspondence with Janos and Farkas Bolyai, and others, makes the suppressed issue of anti-Euclidean geometry clear enough for the witting. In this circumstance, the fuller implications of Gauss's own achievements would not come to the surface until the work of Dirichlet and Riemann. Apart from the crucial contributions made by successive waves of significant progress in discovered principles of experimental physical science, there has been very little honest, net *epistemological* progress in the systemic foundations of mathematical physics world-wide, since the death of Riemann.

In this connection, it is essential to recognize that Laplace and Cauchy were a direct continuation, in every respect, of the D'Alembert, Euler, Lagrange, *et al.*, who were the

subject of the attack in Gauss's 1799 doctoral dissertation. It is important to take into account that the successors of Laplace, Cauchy *et al.* include the thermodynamics school of Clausius, Grassmann, and Kelvin, as also Helmholtz and Faraday, who only typify the leading effort to defame the work of Gauss, Wilhelm Weber, Dirichlet, and Riemann, efforts which are continued today, in the shift into a positivist form of extrapolation from the precedents of the earlier leading reductionists D'Alembert, Euler, Lagrange, Laplace, and Cauchy.

The Political Roots of That Attack

This ironical state of affairs should not surprise any thoughtful person who takes into account the fact that the preponderance of power over economic practice in globally extended European civilization since the accession of Britain's George I, has been largely concentrated in a London-centered, global monetary-financial faction whose combined power continues to strike terror into even leading governments still today. The relative hegemony has been maintained in the interest of "The New Venetian Party" represented by the Anglo-Dutch Liberal system of financier-oligarchy's hegemony over most of the traffic which that financier oligarchy's usual monetary-financial system has controlled, top-down, during most of modern history of the period since 1763–1789.

The only significant and durable exception to that global hegemony of the Liberals, has been during some periods of that U.S. conditional supremacy during the last century, such as the Presidency of Franklin Roosevelt and his launching of the Bretton Woods system, for which the European and Wall Street financier oligarchies have never forgiven Roosevelt, or my own, subsequent advocacy of that tradition, to the present day. Sometimes, technological innovations have been tolerated under the Anglo-Dutch Liberal system, or even temporarily desired in anticipation of warfare; but the "danger" to the financier-oligarchical interest which the legacy of the Pythagorean conception of science represents, is never tolerated more than reluctantly in customary practice of the Venetian tradition in international monetary-financial affairs.

Contrary to all childish rumors, excepting moments such as those under U.S. President Franklin Roosevelt, it is Venetian financier-oligarchical traditions which reign over the world's and nations' financial-monetary systems to the present day. The situation is not hopeless, but it is more than a little perilous, and requiring more courage to resist such tyranny than most pride-filled leaders of the potential opposition have shown in recent decades. This situation continued, since approximately the 1970s, until the recent shift back toward an "FDR" tradition within the U.S.A., since the Summer and Autumn of 2004, and, more emphatically, January of the present year 2005.

For such politically motivated reasons, all of the valid, or even relatively valid, principal contributions of Nineteenth-Century science, looked back for needed inspiration to the work of Gottfried Leibniz, and from there, to Leibniz's own modern predecessors, from Cusa through Kepler, Fermat, Pascal, and Huygens, and, in turn, back to the *Sphaerics* of the Pythagoreans and associates of the circles of Plato.

For example, as I have already noted here, the birth of the calculus, as it was originally developed only by Leibniz, and the development of the implications of elliptical functions, as by Gauss and Riemann most emphatically, date from Kepler's proposals of attacks on these challenges which arose from Kepler's own uniquely original discovery of universal gravitation. As distinct from viciously lunatic innovations such as those of Ernst Mach, Bertrand Russell, and their devotees, no actually fundamental, axiomatic advance in the subsuming, essential mathematical principles of physical science has been reported in the open literature, since the elaboration, as by Gauss, Dirichlet, Riemann, and their collaborators, of the implications of Leibniz's discovery of the role of the catenary function in defining natural logarithms and as expressed by Leibniz's *universal physical principle of universal least action*. It was this legacy, chiefly mediated through the work of Leibniz, which has provided the foundation for valid modern science since Leibniz's death, and provided me the indispensable foundations for my original, supplementary contributions to the field of Leibniz's original creation of the science of physical economy.

As I have already stressed in the preceding chapter of this report, the issues of mathematics as such which have been the motive for the reductionists' targetting of the legacy of Cusa, Kepler, Leibniz, *et al.*, have always been essentially political, rather than motives of physical science as such. These issues are associated most immediately with the same policies of political-economy which are at issue in the fight to prevent the obliteration of the roots of the former industrial power of the U.S.A. as the same international financier oligarchy has already virtually obliterated the former physical economic potential of what are called "The British Isles."

The same issue, the shift of the world economy toward globalization, was the stated intention of the Bertrand Russell and H.G. Wells who sponsored H.G. Wells' manifesto, his lunatic piece of sophistry, the 1928 *The Open Conspiracy*, which, coupled with the perversions of such Russell devotees as the Norbert Wiener of "information theory" lunacy and John von Neumann of economic and "artificial intelligence" lunacies, express the current *political intention* of the traditional Venetian financial-oligarchical mind. That is the intention to bring the existence of sovereign nation-states to an end, and to establish a certain form of world empire, called "globalization," today. The intention is now to eliminate the existence of the U.S.A., especially its already almost ruined economy.

This was already the pro-imperialist motive for the attacks on the work of Nicholas of Cusa, the author of the principle upon which the modern nation-state's original existence had been premised. It was the establishment of the first modern nation-states based on the commonwealth principle of our own Federal Constitution later, Louis XI's France and Henry VII's England, which had been targetted for destruction by a resurgent, financier-imperialist Venice. So, the spread of religious warfare among formerly cooperating nation-states of Europe, was launched in the time of the Venetian spymaster Francesco Zorzi who operated, together with Norman pretender Cardinal Pole, Thomas Cromwell, *et al.*, in the role of marriage counselor to England's King Henry VIII. (See **Box 12**.)

The same issue presented in Aeschylus' *Prometheus Bound*, is the continuing leading issue within the entire span of the history of now globally extended European civilization, from that time to the present day. The issue is the same oligarchical principle, the principle of reducing the great mass of the population to the condition of virtual cattle, which was otherwise characteristic of the Asian culture which the Delphi Apollo cult typified in the history of Europe from then to the present day.

That much said to keep our focus on the relevant, axiomatic background issues for this chapter's featured topics. To that end, I shall focus now, directly, on the feature of the matter of cubic roots which drew leading Eighteenth-Century reductionists into selecting this subject as the pivot on which to aim their attack against Leibniz then.

As I have already emphasized, repeatedly, earlier in this report, the central issue of this age-long controversy has been the notion of *power*. It was virtually inevitable, therefore, that the relevant science-hoaxsters of the so-called "Enlightenment" would choose the hoax perpetrated by D'Alembert, de Moivre, Euler, Lagrange, *et al.*, as the pivotal feature of their attempted fraud against the entirety of the modern Cusa-Kepler-Leibniz legacy.

It is, therefore, that issue of *power*, as that notion is associated with the Pythagorean practice of *Sphaerics*, which comes into play in a very special, crucially important way, in the approach which Gauss adopts for his attack on the reductionists in his 1799 doctoral dissertation.

The Shadow of 'Power'

Look at the way in which silly reductionists, such as de Moivre, D'Alembert, *et al.*, reacted to the encounter with what they called "imaginary" roots appearing within those cubic functions on which D'Alembert *et al.*, focussed their attack on Leibniz's discovery of the catenary-linked universal principle of universal least-action, the fundamental physical principle of the Leibniz calculus as a whole. (See **Box 13**.)

Now, consider the opening several elements of the expression of a "Fundamental Theorem of Algebra" in Gauss's 1799 doctoral dissertation. Compare this series of terms with the Pythagorean notion, defined in terms of *Sphaerics*, of the distinction we have already noted, in the preceding chapter, among rational, irrational, and transcendental number-series. It should be readily seen that Gauss's conception of algebra is not *ontologically* arithmetic, but a geometrical approach consistent with the principles of *Sphaerics*. (See **Box 14**.)

Therefore, define the set of cubic roots with which the Eighteenth-Century reductionist Leibniz-haters were wrestling in terms of the proof of the *ontological* implications, respecting cubic roots, for the related case of the geometrical construction of the doubling of the cube. Aha! There is now clearly something "in between" the algebraic elements of such a generalized cubic function, something which corresponds, *ontologically*, to the implications of Archytas' construction. If we generalize all of the algebraic forms of the set of cubic roots to include the "factor" of the so-called "imaginary" aspect, we have a composite picture of visible forms which are connected functionally by *a form of action* which is not visible, but we can nonetheless represent and treat as a geometrical action of a special kind. *It exists!* (See **Box 15**.)

To see more clearly what is going on in the mind of the relevant Eighteenth-Century Berlin gaggle using their reading of the cubic-roots case for an attempt to discredit Leibniz, look at a related production by Euler, which I had referenced more than a decade ago.

At this point, we are preparing to focus on the matter of the development of the concepts of the Biosphere and Noösphere by Russia's V.I. Vernadsky. Vernadsky's work revives, thus, but in a new approach, that traditional epistemological distinction among the categories of non-living, living, and human cognitive processes, which has been characteristic of European history since Thales, the Pythagoreans, Solon of Athens, Heraclitus, the Pythagoreans, Socrates, and Plato.

The opposition to this scientific outlook has been, as I have already stressed in the preceding chapter, the method of using a childish conception of arithmetic as a substitute for a physical geometry of the type associated with the Pythagoreans. The result of that substitution, whether in ancient Greece or modern society, has always been a certain specific type of mystification of the undeniable functional distinctions among so-called rational, irrational, and transcendental series, as the overview of these elementary series was defined for modern reference by Eratosthenes. His work should be read correctly from a geometric, rather than algebraic standpoint. (See **Box 16**.)

For the Pythagoreans and the circles of Socrates and Plato, as for Carl Gauss's refutation of D'Alembert, Euler, *et al.*, in Gauss's 1799 doctoral dissertation, categorical distinction among rational, irrational, and transcendental, was not a practical conceptual problem in a

competent view of science in general. For competent science, these differences are differences in species of the physical existence being measured. Numerology seeks to derive physical species from counting numbers; science seeks to perfect a mathematics reflecting the distinct species of physical composition in the universe as a whole. Exploring the elementary distinctions among point, line, surface, and solid is the anteroom of physical-scientific thinking as a whole. In this aspect of the subject, the nastiest of all problems has been the conception of the *point*. What, physically, is a *point*? That, Euler seems never to have understood, which is why he joined the reductionist horde in his savage, and also intellectually childish attack of 1761 on Leibniz. (See **Box 17**.)

Actually, a point is a kind of idea corresponding to an image of an anything which attempts to appear to be nothing. How does one point, then, differ from another point? Now, draw a perfect point, a point which pertains to nothing of length, area, or space. You will never succeed in making it small enough to be an actual point within an actual geometry. You must attack the idea of a point in an entirely different way than the poor, rattled Euler tried but failed to accomplish; you must appreciate its existence as that of *a singularity of a physical geometry*, a point which poor Euler missed entirely.

To refresh our discussion of this general type of problem, as we considered this in the preceding chapter of this report, the definition of a point within the framework of a formal Euclidean geometry, is self-evidently an absurdity comparable to the silliness of the general systemic features of the arbitrarily adopted rectilinear scheme which is the central characteristic of the formal Euclidean system.

Ah, as I had often cautioned my associates in the time I used to teach classes in economics at sundry campus and kindred locations: if you are walking along a woodland path, and find a strange object in the pathway, carefully probe it with a stick, and see what it does. To come to the point of this discussion: *The meaning of a point is what it does. The entirety of the working notion of a complex domain hangs upon that warning.* Points can not be measured as displacements; they are known only by what they can be provoked into doing.

That presents us with a traditional problem of axiomatics. Is a point a degree of smallness, or does it correspond, in the case at hand, to one among numerous, alternative distinct physical species of existence? It is not the axiomatically shrunken line which Euclid, in a silly moment, argued it to be. It is, ontologically, epistemologically, *a discontinuity in the assumed universe of the naive view of human sense-perception*. Any real point is an occurrence which is laughing at the dupes of Euclidean geometry, from outside the bounds of a naive faith in the self-evidence of mere sense-perception. De Moivre and D'Alembert, followed by Euler, who was followed by Lambert, Lagrange, *et al.*, thought they had concealed their ignorance of the subject of the point, by calling any points which happened to turn up "imaginary." What

they sought, thus, to conceal, were the restrictions imposed upon human behavior by the universe in which we exist.

The belief in a Euclidean "point" must therefore be an obsession best suited to the confines of pointed human heads! It is exactly that obsession, a nothing swallowed whole by credulous students of Euclidean and kindred geometry, which comes to the surface as the hidden target which is the victim struck repeatedly by Gauss's relentlessly thorough attacks in his 1799 dissertation.

Putting this nothing of importance aside for a moment, recognize the efficient reality, that these principles which the empiricist ideologues have associated with nothing more than an empty point, have been shown to be very efficient principles, powers in the sense of the Pythagoreans, Plato, Cusa, Kepler, Fermat, and Leibniz, for example.

Einstein's Point

Therefore, to avoid the trap of thinking about nothing but nothing, look at the "*universe*," instead of some assumed "point" of nothingness. What does the word "universe" mean in practice? What should it mean? What did it mean to Albert Einstein, for example, as opposed to the increasingly decadent opinion of his increasingly misled old friend Max Born, for example? *To discover what is very, very small, we must turn our attention to the very, very large: the universe as a unit of existence*. (See **Box 18**.)

What did Einstein mean by stating that the universe is *finite but unbounded*? What do I mean by insisting that the expression should have been *finite and self-bounded?* Answer all such questions from the vantage-point of *Sphaerics*.

Look at the starry universe as Kepler did. It is provable that the common error shared among Claudius Ptolemy, Copernicus, and Tycho Brahe, was a result of the implanting of the variety of sophistry practiced by Aristotle against the earlier, competent scientific method of such as the Pythagoreans and Plato. The experimental method of Kepler was, like that of Nicholas of Cusa, Luca Pacioli, Napier, Kepler, William Gilbert (*De Magnete*), and Fermat, a revival of the legacy of *Sphaerics*.

As I had insisted already decades ago, the spoor of the rise of historical civilization out of the immediate aftermath of the last prolonged glaciation in the northern Hemisphere, could only have occurred through a leading role by a transoceanic maritime culture, rather than from inland developments preceding major ancient riparian cultures of known history. This is to be seen in Mexico's archeology, where the maritime culture is represented, as it was to my own eyes, in the relatively oldest of the famous, relevant inland sites. It is reflected in the oldest of the Greek sites, which are cities of a maritime culture fortified against attacks from inland-dwelling barbarians. It is shown in some of the studies of ancient calendars which

were incorporated in Bal Gangadhar Tilak's *Orion* and *Arctic Home in the Vedas*. The case of ancient historical Egypt is crucial, in which the characteristics of the great pyramids mark the legacy of a transoceanic maritime culture, as this is otherwise indicated by the attribution of the method of *Sphaerics* to Egyptian origins by the Pythagoreans and others.

As I have emphasized in other published locations, the Euclidean system of rectilinear axiomatics is a product of the Babylonian priesthood's influence penetrating Greek culture through, most prominently, the Delphi Apollo cult of sophistry. The teaching of plane geometry from the vantage-point of Euclidean assumptions reveals its origins when we recognize that the Euclidean system is axiomatically an inherently "flat Earth" system, as Abraham Kästner emphasized this fact in defining an anti-Euclidean geometry in which young Gauss was experienced, and which came fully into its own with Riemann's 1854 habilitation dissertation.

The obvious way for a layman to approach the subject of astronomy, as the work of Kepler emphasizes, is to treat the night-time sky, or a day-time sky viewed from a deep pit in a dry climate, as a spherical domain of Earth-based perceptions. No axiomatic assumptions are made, except those empirically implicit in the action of observation. Map ostensibly regular and other, special cases, such as eclipses as by Thales, Aristarchus, and others, or Kepler's alignment of Sun, Earth, and Mars, and compare this with the compilations of astronomical evidence from Vedic calendars by Tilak. Astronomy, as passed down to the present in such ancient times, is based on the ironies of change, defined by reference to singularities, within regularity. *Nothing, then, is constant, except change.*

How large is the ostensibly, and possibly spheroidal universe so observed? Simple observation does not provide an answer. A different way of thinking about those observations provides us a hint as to what we should intend to signify by raising the question of "How big is the universe?" My answer is, that the universe is finite, but also self-bounded.

The theological implications of that point of physical science are fascinating. A finite and self-bounded universe which contains the efficient existence of human creativity within it, defines the universe as the expression of a willful Creator with the attributes of what we may identify as creativity in a human individual, "The Boss," who is capable of limiting his or her opinion to what may be described as scientifically truthful, but who is able, and inclined to create new states of the universe at will.

Therefore, I pose no absolute objection to Einstein's use of "unbounded," if we are speaking of the absence of any limits imposed upon the Creator's will. I merely insist that we must focus on the fact that the universe as it exists at any time, is *then* self-bounded. From the standpoint of human sense-perception's relevance, we draw our sense-perceptual opinion

about this universe as being a spherical one *in some sense*, that simply because we have yet no compelling reason of evidence to think otherwise.

Therefore, become for a moment an ancient transoceanic traveller in the image of Tilak's accounts in his *Orion* and *Arctic Home in the Vedas*. Think of that kind of traveller's experience, over many thousands of years of accumulated experience, in navigating the seas by aid of stars, Sun, Moon, and experiencing the cyclical changes in the magnetic compass's registration of the North magnetic pole. Think of the increased number of singularities appearing in the cumulative record of developments which had formerly seemed to have been fateful regularities. See the importance of the discovery of the Zodiac in enabling ancient sea-going cultures to bring a sense of order among the seeming regularities and well-marked singularities of their cumulative experience, as Tilak's European and other sources on the subject of traces of ancient astronomy attest for perhaps hundreds of thousands of years of development of relevant types of human culture.

At this point, our conception of the universe becomes explicitly Riemannian. The theological and cultural phenomena I have just summarized in the foregoing way, belong to a quality of hypergeometry which is specifically Riemannian, especially so when the role of what Riemann identifies as "Dirichlet's Principle" is taken into account. *Riemann's use of "Dirichlet's Principle" implicitly defines the epistemological basis for the mathematical physics of a finite but self-bounded universe.*

What bounds the universe is the dynamically interacting array of universal physical principles. Taking that into account, how might we expect to find a universal physical principle as an object of experience, an object recognized as such in the circumstance in which its effect is relevant to the situation we are considering? What form, as an object, does that principle assume in that setting?

The answer? *Try a point.*

At that point, how can we determine which universal principle, such as universal gravitation, is operating? The principle is, as Kepler emphasizes, acting efficiently at every imaginably small interval, and yet smaller. It is expressed, thus, as a true principle, a highly efficient apparent *nothing*, which we recognize as *a perfect singularity*.

There we might recognize the nature of Euler's wild-eyed hysteria on the matter of the "smallness of points," when a point is to be recognized as expressing a true singularity. It is an object which can not be perceived directly, precisely because it is efficiently universal, as the act of doubling a cube by construction is an expressed universal. What you can perceive is the way in which it acts upon the relevant set of phenomena. It appears mathematically in the form of the complex domain.

Take Leibniz's universal principle of physical least action. How does this appear as an efficient nothing? It has the characteristic of the catenary curvature, which is a well-defined curvature in the language of the complex domain. This function is also what Leibniz defined as the characteristic curvature of the natural logarithmic function. Such "nothings," which are always associated with points of singularity, run the universe. (See **Box 19**.)

The discovery of more and more among those apparent nothings which actually control the universe's behavior, proves, conclusively, that sense-perception is as the Apostle Paul writes in *I Corinthians* 13, a reflection of reality in a murky mirror. The world of so-called "sense certainty" is not the actual universe in which we exist, but a kind of shadow of that universe, which lurks beyond sense-perception, within the real universe which the sovereign cognitive powers of the individual human mind are able to discover, as within the complex domain which reductionist fools call "imaginary," and to employ efficiently to change the shadow-universe of sense-perception, by acting to change the reality which is reflected in our powers of sense-perception.

The case of the doubling of Archytas' cube, thus serves as the entry-point into the larger complex domain which is the universe which lies hidden behind what is apparently the absolutely nothing called a "point."

That is the universe which Leibniz recognized as being "the best of all possible worlds."

That is Gauss's *Power*.

3. Vernadsky's Contribution

In my "Vernadsky and Dirichlet's Principle," I pointed out those characteristic features of V.I. Vernadsky's presentations of the Biosphere and Noösphere, which compel us to radically redefine the notions of political-economy to conform with the import of that evidence.[9] As I had already done since 1953, I defined the productive powers of labor in terms of *physical output per capita of total production of a society per capita and per square kilometer.* This approach included emphasis on the functional relationship of the categorical components of the total throughput, with principal emphasis on the crucial distinction between *basic economic infrastructure, which defines the physical state of an area, and production which fits within the set of relationships characteristic of the so-called "private sector."* The standard which I adopted for this process was *potential relative population-density*. I have employed those standards, adopted then, to the present day. Now, recently, the implications of Vernadsky's discoveries have been appropriately assimilated into my original design launched in 1953.

[9] Lyndon H. LaRouche, Jr., "Vernadsky and Dirichlet's Principle," *EIR*, Vol. 32, No. 22, June 3, 2005.

When we take into account what must be today's relevant appreciation of the physical-economic implications of Vernadsky's indicated contributions to the concepts of Biosphere and Noösphere, a critically significant improvement in our ability to treat an economy as a social process comes into play. This improvement is not only an advantage which Twentieth-Century developments in physical science had made accessible to an appropriate mode of practice; the combined rate of throughput and size of today's world population, make these refinements necessary for looking at the kind of economy we must have beyond the next two generations of a quarter-century, each, ahead.

I shall not repeat here the full scope of what I have already addressed in "Vernadsky and Dirichlet's Principle." That writing exists in print, and may be treated as integral to the argument set forth here. There are, however, certain conclusions which are only implicit in what I wrote for a different purpose, there. In today's world, we must take into account those special considerations which are of indispensable importance for any program capable of rescuing mankind from the mess which has been made of this planet as a whole, a mess building up during the recent four decades of drift toward the species of "Hell hole" which a "globalized," "post-industrial," "free trade" society would represent.

For the broad reasons to which I have just pointed, the recent changes in the character of the world situation as a whole, require that we now scrap all the generally accepted teachings in use by most governments, to understand the dynamic relations which actually underlie the feasibility of organizing a sustainable rescue of the planet from the awful mess we are making of it today. The significance of my report on that aspect of the matter of Vernadsky's discoveries, and the relationship of that to the topics addressed in the preceding chapters, will be clarified, with aid of some necessary interpolations, as we proceed in this chapter of the report as a whole.

To answer the questions which are implied in the notions of Biosphere and Noösphere, define man's physical-economic relationship to his environment according to four classifications of universal physical principles, principles which correspond to types of approximate phases within the conditions associated with that relationship. Bear in mind as we consider these four kinds of conditions on Earth on which we shall focus in this chapter, the comparable ideas which come to mind when we consider the challenge of approximate "Earth-forming" on some locality designated for human activity on Mars, or, in the more distant future, the possibility of "Earth-forming" in the presently atrocious state of affairs on the nearly Earth-sized Saturn moon of Titan. We must employ the general conception of "Earth-forming" which those cases imply, to impress upon us the importance of applying that thus-generalized concept of "Earth-forming" to our immediate situation here on Earth.

Meanwhile, back on Earth: we do not yet know enough of what we need to know about what the human system will tolerate in our stretching the environmental conditions of life toward some point beyond what might be the limits of toleration. However, in the meantime, we can let such speculative questions about needed conditions for human life in visiting other planets, assist us, in improving the way we think about the conditions required on Earth for not only the bare existence, but also the productive requirements of an increasing human population. Thinking about such things, sharpens the focus of our attention to relatively much more modest challenges than interplanetary prospects, the immediately important ways of thinking about the economic relationship of man to the way his environment might be developed, or lack development. Call it, if you will, "Terra-Forming of the Planet Earth." Nothing less dramatic than that, is implicit in the challenge presented to us when we give adequate consideration to the referenced discoveries of Vernadsky.

The four indicated states of man's relationship to environment, are approximately the following. Each among all the first three of these states, is defined by a state of organization among the elements of that category which are governed by an ordering-principle which is not one among those elements, but which is a principle subsuming the organized, interdependent existence of all of those subject elements. Each of these three, relatively lower states, is defined by a subsuming principle of experiment which assumes the existence of the condition of the characteristic of the elements of that state.

The notion of subsuming principle is, admittedly, strange to those who have been behaviorally conditioned to surrender their minds to the reductionist conceits of deductive/inductive method. Each of the states which I have indicated is not statistically implicit in the set of terms subsumed; rather, it is defined by the efficient manifestation of a singularity which represents an exception to any possible inductive assessment of the principle which defines that phase as distinct from the others. It is a universal physical principle whose authority is superimposed upon the array of relevant data, rather than being a formally consistent, mechanical sort of expression of the action within that domain,

The lowest of these states, represents materials which the relevant principle of experimental design assumes to have been generated as non-living in origin. As Vernadsky emphasizes in my citations from his work, living processes take materials, selectively, from the abiotic domain, process them in ways which do not occur normally within the abiotic domain, and ultimately will have spewed virtually all of the products of the earlier phases of this living process back into the abiotic domain.[10] Thus, we mine minerals we require chiefly from the Biosphere's concentrations left behind as excretions or sediments of living processes. This constitutes the Biosphere. Although chemical elements "recycled" in this way, came from the

[10] *Op. cit.*

abiotic domain, they now exist in an altered form of existence, no longer part of the pre-biotic domain, but as integral features (i.e., fossils) of the Biosphere, with characteristics which are an expression of that history.

What is, is what is produced as the result of the proximately preceding process. Without taking that "history" into account, any definition is an error of recklessness by virtue of omission. So, you, too, are an expression of your ancestry, and of the process of development of that ancestry's culture.

Thus, the next highest rank of state, the second rank, the Biosphere of Vernadsky, is that of living processes and their fossils.

The still next higher state, that specific in origin to human cognitive processes and its fossils, is the state which Vernadsky classed as the Noösphere.

The fourth domain, is the unifying principle which subsumes the existence of mankind as a class of creative beings, and which orders both the existing potentialities of that class of beings, and its specific fossils.

The class expressed by each state, and relations among the respective states, is treated as organized by both the *powers* characteristic of that domain, as I have defined powers in the preceding chapters of this report; and, the *powers* acting upon it from the higher domain, including, of course, what I have designated as the Fourth Domain. The interplay of these *powers*, within, and among their respective states, is, as Vernadsky specified for the Biosphere, *dynamic*, rather than mechanical (e.g., rather than Cartesian, Newtonian, or Euclidean).[11]

To illustrate what I have just written here, consider the following illustrative sampling from the recent physical-economic history of the U.S.A.

See How the U.S.A. Has Decayed!

During the recent year, my association has been producing animated summaries of available, county by county physical-economic data, on key changes in the physical conditions of the area of the U.S.A. Computer animation of relevant samples of this data, has been presented on various public website locations, public addresses, and in reporting directly to particular relevant officials and others. Although some longer-term studies of this sort have been published so far, attention has been concentrated on the accelerating decline in the physical economy of the U.S.A. as a whole, since 1971–1972. Two aspects of this total picture bear directly on the implications of the application of Vernadsky's categories to the decadence, and net economic decline of U.S. domestic economic practice, as measured per capita and

[11] *Op. cit.*

per square kilometer over the interval inclusive of the period from 1971–1972 to the present. (See **Figures 1–6**.)

The decline of the area of Louisiana around New Orleans hit recently by hurricane "Katrina," is one noteworthy example of the recent forty years of destruction which, despite the wonderfully successful impetus of the Kennedy Moon-Landing program in its own right, the other economic policies of the U.S. government have imposed, during the recent four decades, upon the United States as a whole.

Look at the history of this region since the New Orleans area was struck by "Betsy," for example. What was specified for repairs and improvement there, ordered by President Lyndon Johnson at that time, was never done to the present day! However, the worst effects on that area came as a result of continuing trends in U.S. policy of practice over the period since 1971–1972, and under, for example, National Security Advisors Henry A. Kissinger and Zbigniew Brzezinski. Kissinger's role in U.S. foreign policy did terrible damage to the U.S. economy, indirectly; but, the worst of the direct damage done directly to the interior of the U.S., was launched under the 1977–1981 direction of Brzezinski. It is those changes, under Brzezinski's direction, which must now be quickly reversed, if the national economy is to be saved.

However, as guilty as Brzezinski, in particular, is, there is a deeper issue of policy-outlook involved, the intention shared among certain wickedly utopian, private international financier circles which motivated that intentional wrecking of the economy under Brzezinski. It is that intention which must be removed, if the practical measures of reversing those 1977–1981 policy-changes are to succeed.

In fact, this terrible record of U.S. and other decline in economy since 1972, is not a reflection of some natural tendency; but, is the product of the intention of the powerful utopian financier circles, the intention to transform the planet from a system of increasingly prosperous nation-states, into a greatly depleted kind of empire, now called "globalization." It is their expressed intention, that in that arrangement, in which the nation-state, where it were allowed, by exception, to exist, such governments would be mere lackeys of a Venetian-style, *ultramontane* world-wide imperial system, a system sometimes called "universal fascism" by ideologue and Henry A. Kissinger-linked Michael Ledeen and his fascist cronies.

This current goal of that neo-Venetian financier interest, is to be recognized, and understood, as a modern outgrowth of the same intention expressed as the concluding proposal of Lord Shelburne's lackey Gibbon, a new, Anglo-Dutch Liberal version of the *ultramontane* imperialism of that Venetian-style financier oligarchy which had dominated medieval Europe under the alliance between Venice and the brutish Norman chivalry.

Unfortunately, there are still many who commit the same blunder as V.I. Lenin and most of the social-democratic intelligentsia of the early Twentieth Century, who understood imperialism as a product of modern industrial society's colonialism, rather than, as Rosa Luxemburg insisted correctly, and the U.S.'s Herbert Feis later outlined that part of modern history, a resurrection of a pre-capitalist, Venetian-like mode of international financier-oligarchical rule, as illustrated by the anti-industrial rampage of the purely parasitical financier slime-mold, called the global cancer of "hedge funds," today.

Such was the intention, the impetus behind the ruinous reforms made under the leadership of high-ranking modern *Leporellos* such as George Shultz, Henry Kissinger, and Brzezinski during the 1971–1981 interval.

The immediate impulse for Brzezinski's traumatic wrecking of the U.S. economy, was the outgrowth of his role in the design and leadership of the Trilateral Commission and its "Project 1980s" policy of "controlled disintegration of the U.S. economy." A careening abandonment of maintenance of U.S. national and regional basic economic infrastructure, combined with the deliberate wrecking of agriculture, transportation, and power supplies, combined with the effects of Federal Reserve Chairman Paul A. Volcker's 1979 launching of the Trilateral program of "controlled disintegration" through the financial measures of super-usurious interest-rates, typifies the relevant and ruinous developments of that time.

Look at these ruinous U.S. policy-changes of the 1970s in terms of their effects on the selected sample area including western Pennsylvania, western New York state, Michigan, Ohio, and Indiana. Look at the loss of basic economic infrastructure and shrinkage of population in formerly industrialized areas. See the willful destruction of mass transportation, other than highway transport; the collapse of the economic viability of the airline system and rails; power generation; catastrophic effects of down-shifts in incomes by substituting marginal wage-levels of make-work or quasi-make-work "services employment" for skilled industrial and related employment. The vanishing of health-care facilities and availability, together with a general deterioration in sanitation. Accelerated lowering of the standard of public education, such that no one is "left behind" in their participation in a plummeting quality of public and private education generally. Loss of revenues to contraction and outright loss of high-gain industries. General reduction in viability and relevant quantities in basic economic infrastructure, including the now critical degeneration of the quality of water supplies and river and canal transport.

Look at the net catastrophic decline, over the recent three decades, in physical standard of living, in terms of both private income and public services, per capita and per square kilometer of territory. Meanwhile, the collapse of mass transport has nearly destroyed our functional territorial integrity as a sovereign nation!

Michigan, for example, is now threatened with being plummeted, like the state of post-Katrina Louisiana, into the category of not a "failed state," but a "ghost state," unless we take appropriate action, very soon, to prevent that outcome.

Yet, many Americans have protested my forecasts of a new downturn in the economy. Every one of those forecasts has occurred within approximately the time-frame I had indicated. Yet, protests, "Where was the crash you talked about?" poured in repeatedly after the particular phase of collapse I had forecast had already happened. The reason those self-styled critics of mine could have blundered repeatedly in that way, is that they were simply refusing to see the clear evidence of physical collapse of the economy spreading so flagrantly under their noses.

One among the important reasons for those kinds of foolish protests against my forecasting, was the popularity of the idea of a "services economy" among the 68er generation. Since they, or some people with whom they wished to remain on friendly terms, were pleased by the replacement of an agro-industrial economy by a "services economy" (where people earn their shrinking net incomes by taking in one another's laundry), they refuse to see the loss of the factories, farms, and kindred places of employment as an economic downturn, even if the level of income of the employed members of the community has collapsed with the shift in employment from a producer, to a services economy. They refuse to see that the real inflation in the economy is also expressed by the deep deflation of the purchasing power and standard of living represented by use of public facilities, or the fact that the local water system, the power, the medical-care facilities, and other such systems are approaching collapse, if they have not already collapsed.

Since the rampages of George Shultz, Kissinger, and Brzezinski of 1969–1981, the economies of the Americas and Europe have been gripped by a long wave of physical decline. This decline has come in phases, one after the other, always primarily a physical collapse, but also expressed from time to time as a rude jolt to life inside or outside the U.S.A. expressed in the financial-monetary system, such as that next such about to strike soon.

Anyone who has lived as an adult during the recent years, who says that "the economy is looking good," is in a state of denial tantamount to clinical insanity. They could not actually believe that the economy is not very sick; but, what they wish to believe is that the way of life they are hoping to get, or even to keep, will not be denied to them. When they can no longer believe the reality they are experiencing, they flee into sheer fantasy, so that they might cling more fervently to what they desire might be so. Denial is about as thick on the ground of the U.S.A. today, as lava sat so long upon doomed Pompeii.

How Those Popular Delusions Work

Let us now, for just a moment, step aside from the objective side of the science of the Noösphere, to examine the subjective side, to say something which needs to be said. I am pointing out to you the importance of choosing a new pathway of policies, policies which you must adopt if we are to make our way successfully out of the immediately looming threat of what could become the worst global A crisis in modern experience: unless we suddenly change our ways.

Consider so, now, and for later additional reference in this chapter, both the official and the popular ideology which refuses to face the implications of what I have pointed toward as these and related indisputable physical facts about the recent decades changes in the economy. Focus special attention on the perverse ideology which argues that the shift to a "post-industrial services economy" is a beneficial change!

Do you remember, that it used to be said, that "an Englishman's home is his castle"? Be it a hovel or palace, it was his. It was something which he accepted as something which he was able to persuade himself to believe was "his own." Consoling oneself to one's apparent lot in life, is a delusion to which many cling fiercely, and often foolishly, a delusion often expressed by the magically Romantic slogan, "the way things are." If we are alert, observant, we often hear this, and see this expressed in various ways, but always with the same underlying meaning, every day, in almost every place.

Take, for example, the surge of the cult-like rage of dance-marathon competitions during the period of what has been called the 1930s Depression, or the surge of gambling manias over the course of the recent quarter-century. Essentially, gambling is a form of insanity.

Once upon a time, in Boston, Massachusetts, there was a National Baseball League team called the Boston Braves, which, at that time, was considered among the habituated underdogs of the League. During a period of time, this team had two first-rate pitchers, Spahn and Sain, of whom it was said by the would-be poets of the local sports pages, "Spahn and Sain, and pray for rain." The relevant fans took fierce pride in "Spahn and Sain." Fans, and other people, when caught in what are for them hard, or simply fearful times, tend to think like those fans.

The worse things get, it is said by some, the harder you must try to believe that they are becoming better. Mass manias, including the gambling mania which grips the U.S. population today, have their ebbs and flows, with the change of seasons. Today's financial market is almost purely a gambling mania, which, naturally, tends, in time, like Enron, to attract the impulses and trappings of a criminal class.

The time comes when one man says, "You can't beat City Hall," but the other man—I will not say I am quoting "Governor Jeb Bush"—replies, "Perhaps not; but you can sell it." Such are the mythologies regarded as common wisdom about human nature. After all, if you can not afford sanity, there is the option of living up to your lunacies, such as self-doomed political regimes of people who are willing to be paid to tolerate "hedge funds" today. "The last thing I remember him saying, was, 'There is no quicksand here!' " These varieties of morbid sentimentalities often seize the imaginations of frightened people today: "What economic crisis? I don't see one!" Alfred E. Neuman breaks out in one of his perpetual smiles.

The underlying fact expressed by most of the popular delusions about today's economy, is the desire to deny the fact, that the present world monetary-financial system is ruled, not by governments, but by the concerts of private financiers, who control what are called central banks of nations, central banks which, in turn, exert a virtually imperial kind of dictatorial reign over the governments of the world today. "Hovel or palace, 1 believe in the system which I hope would shelter me." I have never heard any actually rational defense of the present, "floating-exchange-rate" form of the international monetary system from anyone, even at the highest rank in power. Yet, the defense, or, the apologies for that system is rampant belief at virtually all levels in society. Nearly everyone worships the system, either by pretending to love, or hating it, as the slave hates the master to whose whip he dutifully submits. I am one who does not share that delusion, for which it is sometime said of me, "I bet you hate motherhood and Christmas, too!" Some people think nothing is more cruel than to take away their foolish, consoling delusions.

There was never anything "natural" about this decline in the economies of the Americas and Europe. The fact that despite the later abortion, under President Harry Truman, of crucial elements of President Franklin Roosevelt's intentions for the post-war world, the leading economies of North America and western Europe progressed, sometimes spectacularly, during the first two decades of the post-war period, and then began to collapse precisely during the late 1960s interval when those born during 1945–1950 came into young adulthood, is not a mere coincidence. The immediate post-war period was dominated, despite Truman's and other actions, by the fact that Roosevelt's reforms were the only available option for avoiding an economic disaster.

The possibility of destroying the U.S. economy required the emergence of a largely "brainwashed" new post-war adult generation, one systematically conditioned to the desire for a utopian "post-industrial" world. It was the rise of the so-called "68ers," especially the most rambunctious varieties of devotees of a "white collar" system, which made possible the way in which the U.S. and European economies began to be wrecked and ruined over the course of the 1970s and beyond. There is no mystery in this if you study the propaganda

output of the Congress for Cultural Freedom and the union of efforts of the Fabian networks of Bertrand Russell with the fascist imperial ideology expressed by H.G. Wells' *The Open Conspiracy*. We have been largely destroyed during the course of the recent forty years. As the corrosive spread of sophistry had brought about the self-destruction of Athens in the Peloponnesian War, we have been ruined by new sophists leading us into wars such as that in Indo-China and now Iraq.

The essence of competent economic thinking in the world today, is to begin to see things as they actually are, free of such popularized delusions as regarding the present Anglo-Dutch Liberal international monetary system as "inevitable," as the Roman Empire was seen to be in its time, and as Lord Shelburne's lackey and his soothsayer, Gibbon, promised the eternal victory of the attempted British world empire being launched at that time. Today's ruinous trends are not the expression of the wisdom of inevitable developments, but the consequence of the reign of the kind of fools who, today, welcome "globalization" as invincible trends to which we ought, therefore, to adapt.

See the real world in which we live, as it is outside the fishbowl of your popular delusion. For me, therefore, forecasting is not saying, "You are going to die tomorrow. Ha. Ha. Ha," but the more timely, friendlier suggestion, "Step back from the quicksand into which your feet are already sinking, while you still can," as I forecast for your benefit, once again, today, while you are already suffering the ills and torments against which I had forewarned you before. If you had wished to have someone read tea leaves to you, you should have found a gypsy: I do not make Delphic predictions.

See the Economy as Part of a Noösphere

The foolish fellows who believe that exporting production to cheap labor markets is either good, or merely the unavoidable consequence of an inevitable pursuit of a utopian world of free trade, assume that what the financial accountants tell us is the cost-advantage of the cheap labor found in nations which leave about seventy percent of their population, and the corresponding portions of territory, in a miserable state of ruin, are the wave of the future. Accountants and the like who would compose, or sign such reports, are either fakers or simply fools.

The most important factor in national physical productivity, and a nation's prospects for long-term survival, depends chiefly on development of its total area's infrastructure, and population. Simply add what should have been the paid costs of bringing the entire population of an outsource-nation and its territory up to a decent level of existence, to the price of the exports from that nation, and the cost of production in the U.S.A. and Europe suddenly becomes far cheaper than in the typical outsource-nation of today. The so-called

evidence in support of "globalization" is nothing better than a fraud imposed upon the credulities of our fools.

Similarly, there are people, still today, who actually believe the fairy-tale which says the wealth of the United States as a nation as a whole was built, in significant part, on slave labor. Some people profited from slavery, but certainly not the "poor whites" of the slave states, and not the nation as a whole. We were looted by European powers who looted us in the same way we loot so-called outsourcing economies, such as our neighbors Mexico and Central America. We loot them by buying their products at prices far below the actually incurred cost to that exporting nation and its people considered as a whole. We were looted, through the toleration of slavery, to the profit of, chiefly, the British Empire, as the financier interest backing the form of imperialism called "globalization" today, would degrade the citizenry of the U.S. chiefly to the levels of the vast sea of Third World poor. The world's leading economist of the middle of the Nineteenth Century, Henry C. Carey, exposed the truth about the effects of slavery on the economy. Indeed, it was the elimination of slavery, combined with a return to the protectionist policies of the original American System of political-economy, which made us the envy of the world over the course of the 1863–1876 interval.

Instead of following the empiricist method of tracking events as such, limit your concentrated attention to principled changes in state of a system considered as a whole. That said, then examine the principled character of the functional, physical-economic relationships among the three lower of the four domains I have referenced, in terms of functions which correspond to such changes in states.

In other words, mankind acts, at his best, on the initiatives of sovereign individuals, to practice a discovery of principle upon the domain of the Noösphere. The action upon the Noösphere, in turn, generates an action on the Biosphere, whose effect, in turn, acts to produce a change within the abiotic domain. Now, that said, tile the surface of the continental United States and also its coastal waters, as if county by county. Measure all appropriately selected, qualitative changes in state, county by county, or similarly, per capita and per square kilometer. In this way, assemble statistics which accomplish the following result.

It might appear, therefore, in taking the configuration I described as defining the top of the system whose changes in state are being measured, that it is the individuals action which is the apex of the pyramid, so to speak. Then, on reflection, we think, "But where does that acting adult individual come from? What produces him or her in the relevant state of capability?" Let us call that "standard of living in family and community life." It is the cultural, as much as simply physical standard of development of the member of society

which generates the variable level of potential, economically significant physical action which is the productive individual's action within and upon the pyramid as a whole.

But, hold that for a moment! The significant action of the economically productive individual of this pyramid, is creative mental activity, mental activity of the type which generates an experimentally validatable discovery of a universal physical principle. This requires not only a relevant standard of life within the community, but an integral orientation toward fostering what is equivalent to creative scientific discovery, or comparable Classical modes of artistic practice: preferably both.

However, this development of the social process on which the individual, so oriented, depends, demands also the orientation of social life in the community, and its productive practice, toward the effective equivalent of scientific and technological progress. This means not only the development, or replication of valid scientific and Classical artistic discoveries of principled action, but conditions associated with an effective orientation toward their principled application to improve the relative productive powers of the nation.

Throughout the mapping of the tiled surface of the nation, only changes of that quality are to be considered as primary determinants.

Recognize that the kinds of changes toward which we are pointing now, are of the quality we have identified as "powers," powers in the sense of the invisible, but real physical action accomplished in Archytas' doubling of the cube. Thus, we have the *powers* characteristic of the Noösphere acting on the *powers* within the Biosphere, which are acting, in turn, on the *powers* internal to the abiotic domain. The net result of the individual's creative action upon the Noösphere for the three-fold system as a whole, is expressed as the degree of amplification of human action within the Noösphere on the subordinate domains, the Biosphere and abiotic domains, respectively.

In practice, in today's modern economy, that means that about one half of the total output of society within the economic process must be devoted to creative work and maintaining basic economic infrastructure, largely infrastructure of the public, not the private sector. It is therefore instructive to re-read Treasury Secretary Alexander Hamilton's report to the U.S. Congress *On the Subject of Manufactures*, to compare it with what I have just summarized, immediately above.

The American System of political-economy is not a "capitalist system," either in the sense that the British have taught, or the credulous socialist movements have believed. It is, above all, never a "free trade" system, except in times in which it has preferred to drive itself into bankruptcy. It is a "fair trade" system, based upon a partnership between the private sector and the role of government in a.) Exerting a monopoly in the creation and management of

national credit, b.) of uttering a currency which is managed by the government to c.) ensure national goals for improvement of the standard of living and productivity of the population, and their general welfare as a whole, and to promote and to harness that true creativity in physical science and Classical art, which exists only as a sovereign capacity of the individual human mind.

Of late, the worst shortfalls in intellectual competence respecting our national economy have been in two general categories of failures. First, it is necessary to correct for the disastrous effects of the presently prevalent failure to understand the necessity of "fair trade," rather than "free trade" policies, and the importance of an aggressively capital-intensive mode of development of such basic economic infrastructure, as, most notably, sanitation and health-care, mass transportation, power generation and distribution, education, and developing and maintaining an integrated, public, water management system throughout the entirety of the national territory. Second, it is necessary to curb the spread of employment in unskilled, labor-intensive (and low-paid) modes of labor, and to concentrate employment more and more, away from unskilled or low-skilled services employment, into technologically high-gain physically productive output in infrastructure and private agriculture and industry.

On this account, look at such states as Ohio, Indiana, and so on, as cases in which we can see the effects of a shift from skilled agro-industrial productive employment, to low-skilled services employment, on the gross income and tax revenues of the state, and its counties and municipalities. The loss of tax revenues whose combined direct and indirect origins are technologically advanced, largely capital-intensive modes of output and employment, to services employment, has been a catastrophe for the state, and its population, at all levels. It is the level of useful physical output, per capita and per square kilometer of total and average territory, which determines the attainable possibilities for sovereignty and decent social life for the territory and its population. The shift to a "services economy" has been a mass-murderous act of rape of the nation and its population, a bestiality which must be ended and its effects reversed, if society is to survive now.

This needed emphasis on capital-intensive, science-driven productive development, should be seen as I have described the implications of the Noösphere above. Measure performance not simply in physical acts of production, but in the gains in quality and quantity of productivity through a constant emphasis on a rapid pace in development and application of fundamental science-driven progress, at all levels of the Noösphere, Biosphere, and abiotic domain. It is the improvements in net physical productivity contributed by application of science-driven discovery at all levels, which provide the impetus of *powers* in the Pythagoreans' sense, on which the multiplication of the average productive powers of labor and general improvement of the quality of human living are maintained.

To meet that requirement, we must not treat the presently accessible fossil deposit of so-called raw materials within the Biosphere as implicitly finite. We must reach beyond reliance upon fossils for either regeneration of the materials a growing and developing world population requires, or for the substitution of synthesizing vast quantities of alternatives. For the moment, the supply is still vast, provided we take the oceans into account. However, the rate of consumption of such requirements will rise; instead of robbing what some think of as "nature's bank," we must replenish the supply of deposits in that bank, either of types presently used, or excellent alternatives which we, through science, must create.

All of these requirements for reviving and improving the world's economies, demand a high and accelerating emphasis on fundamental scientific progress and its applications. This demands a shift from reliance on habits, to dependency upon powers as the Pythagoreans defined powers.

In short, it is urgent to emphasize the role of the principle of power, as I have emphasized the correct scientific significance of the term power here. The national and world economies must be managed by the respective, cooperating, sovereign authorities of what is consciously understood to be a Noösphere, as I have broadly outlined that definition's application here.

4. The Concept of Leadership

Economy is not something which happens to mankind. It is what mankind does to create economy. An ecology, as ecology was usefully defined as a term, is not an economy. Only the human species creates and develops an economy. Only pitiably superstitious folk, believe the contrary still today.

This action by mankind is brought into being as a product of the perfectly sovereign cognitive powers of the individual mind, which shares its knowledge of discoveries of principle and their appropriate use with the cognitive powers of other persons. This form of generating and sharing relevant cognitive experiences is the true leadership on which the continued existence of a healthy economy depends absolutely.

Science and the practice of Classical artistic composition, are, or should be, the prototypes of the quality of leadership. Thus, societies which tend toward the ugly persuasions of the evil Olympian Zeus, will tolerate scientists and Classical artists, only to the degree they make them silly, as the case of the malevolent Bertolt Brecht illustrates this fanatical devotion to satanic-like qualities of silliness, or herd them into compartmental refuges, such as academic ivory towers, outside what is considered the mainstream of efficient political life.

The question thus posed by the comparison of the relative success under Franklin Roosevelt's leadership, and the disastrous trend in U.S. and world economic affairs since about 1964–

1968, is, what is the nature and role of leadership in determining the fate of nations' economies? How was U.S. leadership lacking over the recent four decades, and what should be done about that? In part, we must blame the brainwashing of the relevant echelons of the "Baby Boomer" generation, who were indoctrinated, massively, by the influence of predatory institutions such as the Congress for Cultural Freedom which taught the Adorno-Arendt dogma of "the authoritarian personality."

The vitality of any nation, and of its physical economy in particular, depends largely upon the role of a certain quality of leadership, a leadership expressed in an indispensable manner and degree by the outstanding role of individual leaders, who are leaders in many aspects of national cultural and economic life. This quality of leadership, in whatever costume it is guised, is defined by the same principle of creativity which is expressed by the example of Archytas' solution for the Delian paradox. This is the essence of leadership in Classical artistic performance, in all facets of the practice of successful progress in physical science, and in the creative innovations such as those in the machine-tool sector of production, in creative management of enterprises' dedication to the products of scientific creativity, by the modern progressive farmer we have done so much to eliminate since the late 1970s, and often simply in the contents of the industrial factory suggestion-box.

Leadership is leading others to achievement through ideas which have the distinctly human quality of creativity which I have addressed in the two opening chapters of this report.

It is that element of creativity which has been eliminated to a very large degree by the social trends in behavior, and in education, and in novel parodies of ancient Greek sophism, called today "democracy," from its first set of victims, the so-called "Baby Boomers," on.

For example.

Back during the early 1960s, during one of my assignments as a consultant to a public corporation, an energetic sales manager gave way to an outburst in the course of sharing confidences personally with me, "Where are the tycoons?" That choice of term was inappropriate, because the U.S.A. had not yet run out of competent leaders in corporate and other business management, but, his feeling about the matter which prompted his outburst was fully justified, and the type of problem to which he was reacting, in what I knew was his immediate situation, was already widespread and increasingly so at that time.

The bane of my experience, and of the existence of otherwise healthy enterprises I met, during those days of consulting, was the accountants and finance departments, especially those who saw themselves in the role of Wall Street's assigned supercargo. The function which they should have been assigned to perform was necessary; but, they went much too far when their cultivated, often disgustingly pompous arrogance, went so far as to make the

totally unjustified assumption, that submission to accounting and related financial functions were the only way to generate, or ensure, economic progress. The needed competence, which tended to be focussed in the production management and related executive functions, was expressed in the efforts of such leaders to prevent the Wall Street representatives in the board room from ruining everything. What Mrs. Joan Robinson once denounced as the silliness of that refugee from accounting school, Milton Friedman's, *post hoc ergo propter hoc* alleged view of the future, typifies my encounters with the Wall Street types and their would-be lackeys. The opposition from the Wall Street-influenced accounting and financial management gang, was the biggest single cause of frustration, and the ever-looming threat of impending financial corporate disaster.

The lack of competence these trends express, is dominated by a loss of the capacity for truly human thinking—creative thinking of the type which the Archytas case illustrates, in more and more of those positions which function as institutional leadership. The substitution of trick accounting methods for actually thinking, is typical of the devastating loss of creativity in our business enterprises today. After that, for some people, "stealing," or other forms of cheating are considered popular styles in substituting for a lack of actually human qualities of personal creativity. Enron, for example.

The present rampage of hedge funds is essentially a mere amplification of the tendency which was already in gestation during the 1950s and early 1960s. Hedge funds, disguised as the knight errants of "shareholder's values," move in on a more or less viable corporation, slash programs for the purpose of accumulating cash in the short term, then dump that cash from asset-stripping of the firm down the memory hole of enhanced distributions to officers and stockholders, and then abandon the looted firm to ruin, while the Jolly Rogers of those hedge funds scamper away, looted cash in pocket, to practice the same act of sheer piracy on a next choice of victim of the day. In some circles, this sheer piracy is considered legal! It is considered the merry practice of "shareholder value"!

Currently, the challenge of saving the U.S. economy from a virtual breakdown caused by looting and closing down of key elements of the automotive industry, compels us to look back to certain "crash programs" of the past, such as the mobilization leading from the outbreak of the Civil War through the 1876 Centennial celebration, the mobilization for oncoming World War I, the mobilizations headed by Harry Hopkins and Harold Ickes back during the 1930s, and the economically brilliantly successful Kennedy manned Moon-landing project. To understand how those mobilizations succeeded in accomplishing seeming miracles, as they did, we have to look back to the roots of our national economic character in the pre-1688 Massachusetts Bay Colony, the role of Benjamin Franklin as an economics leader in the industrial development of England and in the U.S.A., and the Reports to the U.S. Congress by Treasury Secretary Alexander Hamilton.

Generally, although the Wall Street-controlled public stock company turned out to be an absolute, or relative disaster for our nation, sooner or later, some public corporations did succeed in performance for the national interest for a time, but, usually, these were enterprises which had begun their existence as relatively closely held entrepreneurships, or were compelled to act to that effect under law by governments which tended to tolerate no nonsense of the sort for which the Bush-Cheney Administration has been so monstrously notorious of late. "Entrepreneur" in that sense of the term was that toward which my interlocutor's intention was pointing in his use of "tycoon."

The use of the term "leadership" ought to be limited to one of several varieties of a certain common type of personality, the type of personality which the Frankfurt School's and Congress for Cultural Freedom's Theodor Adorno and Hannah Arendt hated and denounced as the type of the "authoritarian personality."

That was that pair's own leading contribution to the destruction of our United States, and also that of civilization for as far as their influence might possibly reach. What that pair was denouncing in that way, was the principle of leadership on which the success of any society and its economy depends absolutely. That perverse notion, as echoed in the perverted Samuel P. Huntington's notion of "democracy," is the essence of the influence which has led the United States virtually to destroy itself, economically and otherwise, over the course of approximately four recent decades. That goes to the justified outburst of my acquaintance the sales manager on the subject of "tycoons."

Apart from her relationship to her Nazi intimate Martin Heidegger, Arendt's leading contribution to the generality of intellectual depravity emitted by the "Frankfurt School" as a whole, was her association with fellow-existentialist Karl Jaspers in a convoluted argument against the existence of truth, which she premised on the *Critiques* of Immanuel Kant. Essentially, what Arendt and Adorno denounced as "the authoritarian personality," is simply a person who is both knowledgeable in relevant ways, and also truthful, as Arendt and Adorno were, most sincerely, not.

The opposite of such truthfulness, is called sophistry, an emulation of the same quality of sophistry by which ancient Athens was led to destroy itself in the Peloponnesian War. It has been that quality of sophistry inherent in the "authoritarian personality" dogma of the wretches Arendt, Adorno, Bertolt Brecht, *et al.*, which has been the induced leading characteristic of the upper twenty percentile of the income brackets of our so-called "Baby Boomer" generation, and has become the general characteristic of our leading "yellow" and other press, and also the entertainment media.

How To Build Leaders

There are three things which need to be done, to mobilize the present population of the U.S.A., and also Europe, for example, up and out of the prevalent morbid state of passion and intellect into which most have been dumped.

First, mobilize society, especially its economy, around the kind of mission-orientations in every useful field of activity which compel people to define achievement as improvements realized through cooperation in achieving goals which are clearly fruits of creativity as I have defined creativity here. Structure the institutions of which society is composed to prefer activities which are explicitly demands for creativity, as opposed to other goals-orientations.

Second, focus on needed reforms in the education of the young, with great emphasis on the critical segment of the population in the 18–25 young-adult age-interval which is associated with the idea of a professional trained in a university, as I have prescribed for the pioneering LaRouche Youth Movement, in the Americas, and within Europe. Education in science and Classical art, for fostering creativity more than mere learning, in that generation, is the hope of the world for the future.

Organize the economy as a whole around a great project-orientation, such as the integration of global scientific programs around the idea of space-exploration. Every branch of economy, and of learning, is brought together by thinking of mankind as creative beings presently dwelling on one planet of a Solar System over which our species must achieve, phase by phase, management-control for survival and progress over the generations to come.

We must change the image of man from the relatively poor conception prevalent today, to a notion of man in the image of the Creator, mankind with a mission in the universe, a mission in which persons should enjoy the right of a sense of participation in this great, universal mission. We require sovereign states, because that is the only way in which the effective cultural development of the new individual can occur; but we are otherwise one species with one unifying mission for all time to come. We must reflect that imparted sense of personal identity in each sovereign individual person. We must look upward to space, so that we are impelled, even within our daily missions, to see ourselves and one another in a better way than mankind generally has seen mankind in the past.