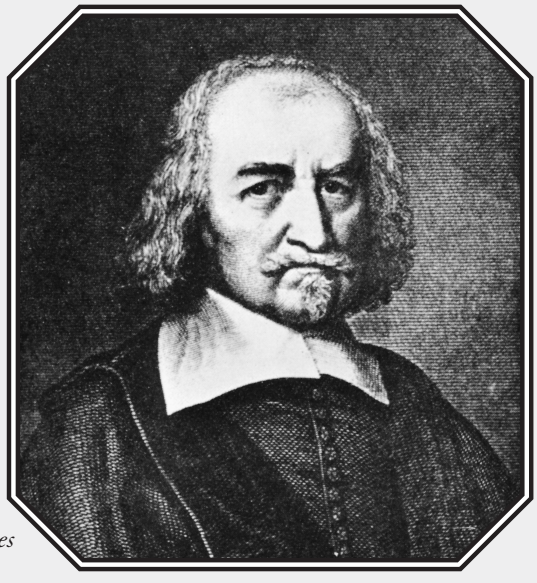
How Hobbes' Mathematics Misshaped Modern

by Lyndon H. LaRouche, Jr.



Thomas Hobbes

Putting to one side, as diversionary, the topic of today's aggressive fungus of trash curricula[1]: There is virtually no academic subject-matter currently taught in universities, which is not derived from the root of that specific strain of mathematics associated with Galileo Galilei, Thomas Hobbes, René Descartes, Isaac Newton, Leonhard Euler, the Marquis Laplace, or Augustin Cauchy. The significance of Dr. Jonathan Tennenbaum's Dec. 3, Eltville presentation on the subject of Paolo Sarpi's influence, from the standpoint of mathematics, is to be located accordingly.*

Typical are the varieties of social theory spun out of the common root of Thomas Hobbes and such among his successors as John Locke, Bernard de Mandeville, François Quesnay, Pierre-Louis Maupertuis, Giammaria Ortes, Adam Smith, Jeremy Bentham, Bentham's James Mill, and Mill's nephew, and godfather of Bertrand Russell, John Stuart Mill. All of these belong to the type frequently described by mid-Eighteenth-century specialists as "Newtonian social theory," or what Bentham identified as a "felicific calculus,"[2] and J.S. Mill, *et al.,* as a general theory of utility. All modern empiricist (e.g., behaviorist, positivist, existentialist, American-pragmatist) versions of modern academic social theory, is derived from the same mechanistic dogma of society—as a many-particle, "kinematic" interaction—which was presented as the social theory of Galileo's mathematics pupil, Thomas Hobbes.[3]

No area of the traditional academic curriculum, has been left untouched by the influence of Galileo's mechanistic thinking. For example, during the mid-Seventeenth century, Hobbes and his circle launched an attempt, virtually to outlaw the use of metaphor and the subjunctive from the English language. Although that effort was not completely

* Jonathan Tennenbaum, "Why 'Standard Classroom Mathematics' Makes People Stupid: Paolo Sarpi and the Fraud of the Enlightenment," speech to a conference sponsored by the International Caucus of Labor Committees and the Schiller Institute, Eltville, Germany, Dec. 2-3, 1995; *21st Century Science & Technology,* Vol. 9, No. 1, Spring 1996 (to be published).

1. Sometimes referenced as "socially significant basket-weaving."
2. The generic term is "hedonistic calculus."

History

January 19, 1996

'Prometheus Brings Fire from the Heavens to Mankind': The Greek god's name means 'forethought'—a synonym for the creative reason despised by Hobbesian empiricists.

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successful, the result of the continuation of that, and kindred, empiricist influences, upon the modern language curriculum, is, that relatively very few university graduates among English speakers today, including some prominent members of Congress and Federal judges, exhibit the developed cognitive powers of literacy sufficient to comprehend those published writings by aid of which a majority of the ordinary U.S. citizenry was rallied to support the adoption of the 1787-1789 drafting of the Federal Constitution of the United States.[4]

Again, overlooking the trivial course-topics proliferat-

3. For example, some quiddling victim of indoctrination in empiricism, might propose the correction of our text: that instead of, "All modern empiricist . . . versions of modern academic social theory, is derived . . .," the plural of the verb, "are derived," should be employed. In defense of that critic, we concede, that a spokesman for the relevant, pathological standpoint in method, such as Aristotle, or the Ockhamite Aristoteleanism known as "empiricism," would be inconsistent with his own deepest principle, if he neglected to demand that grammatical "correction." As Dr. Tennenbaum pointed out on an earlier occasion, that is the import of Aristotle's lunatic *Metaphysics,* a book which is essentially a maenad's rant against Plato's *Parmenides* dialogue.

4. *Cf.* H. Graham Lowry, *How the Nation Was Won: America's Untold Story (Vol I: 1630-1745)* (Washington, D.C.: Executive Intelligence Review, 1987), p. 50: quotation from Cotton Mather on the distressed state of the intellect and morals of the 1696 Massachusetts Bay Colony, after the capitulation to the "reforms" imposed by William of Orange: "There seems to be a shameful *Shrink,* in all sorts of men among us, from that *Greatness,* and *Goodness,* which adorned our ancestors: We grow *Little* every way; *Little* in our Civil Matters, *Little* in our Military Matters, *Little* in our Ecclesiastical Matters; we dwindle away, to *Nothing.*" The present writer knew his grandparents, who were born during the 1860's, and had bare acquaintance with one great-grandparent, born a generation earlier. He knew, of course, his parents' generation, born at the end of the last century, and, also, his own generation of young veterans of World War II. He knew each of these four generations better, by knowing the literature and art which informed the opinion of relevant strata in each. He considers the "baby-boomer" generation, and its progeny, now entering adult occupations, in similar terms. Relative to the degree to which the American people have descended in cultural level over the course of these six generations, bridging the 1840's to the present, closing decade of the century, the *Little* Massachusetts citizens of 1696 were as intellectual and moral giants, relative to the level to which we have descended, as a people, over the course of the present century.

ing in today's politically-correct academic curriculum, the fact is: *There is no area of prevailing opinion in the fine arts, the so-called "social sciences," in political-economy, in the teaching of theology, in doctrines of historiography, within the departments of philosophy, and so on, which is not premised upon the same, false, axiomatic assumptions which are derived from the mathematical-physics presumptions of the mathematicians Sarpi, Galileo, Hobbes, et al.*

The topic we are addressing here, the role of so-called "Enlightenment" mathematics, in misshaping the teaching of non-mathematical learnings, is not an exotic sort of topic, relevant only to the specialists trained in the philosophy underlying mathematics.[5] When we examine the way in which virtually all popular belief, even among the putatively uneducated, is hewn into either the empiricist, or the kindred, materialist form, we must find, that this issue of mathematics' influence upon social theory, accounts for the characteristics of response of most of our citizens, as voters, and otherwise. This shapes those citizens' response to issues in virtually every area of public policy and individual behavior.[6]

Without understanding the way in which Galileo's pathetic tradition in mathematics has induced the unwitting adoption of blind faith in such false, axiomatic, mathematical assumptions, throughout the academic curriculum and popular opinion, it would be impossible to render any competent account of the history of the Twentieth century, in particular, or to produce competent speculation on mankind's immediate future. Those pathological axiomatics, which the mostly unwitting citizen has adopted as principles of blind faith, act upon the citizen's will, to cause him, or her to tend to ignore or to reject, as if instinctively, those options of policy and decision which are inconsistent with the empiricist's dogmas respecting *causality.*

Galileo's Sarpian axiomatics is analogous, thus, to a mass psychosis, which has created a virtual reality in the victim's mind. To the degree he or she is acting under that influence, the victim refuses to acknowledge any evidence of the real world which is inconsistent with that virtual reality. In that sense, these often hidden axiomatic beliefs, are, thus, to modern society, as the goldfish bowl is to the typical populist among goldfish, who mistakes his bowl for the extent of his functional universe.

Today, the planetary society is poised at the brink of a threatened "New Dark Age." Unless that "New Dark Age" is prevented by choice of effective action now, this world will be plunged, very soon, into a general catastrophe, worse in intensity than that which struck Europe during the famous "New Dark Age," which depopulated Europe during the middle of the Fourteenth century.[7] We have been brought to the brink of such a threatened disaster, through the influence of those mostly hidden axiomatic assumptions which have lately shaped the decisions of policy-makers, and which have fostered tolerance for such foolish, official decisions, among most of the citizenry. Without examining, and inoculating our nation's policy-shaping processes, against those axiomatic assumptions which have so misguided us, decision by decision, to today's brink of disaster, we shall not be able to choose the decisions upon which survival depends. The relevant issues are the identifiable, axiomatic presumptions of "Newtonian social theory."

Since modern popular opinion is chiefly, directly or indirectly, a product of the "trickle-down" effects of classroom and textbook, it is the content of those textbooks and classroom dogmas, which is best searched for clues to the pathologies which have invaded the popular consensus.

Granted, some among the various symptoms of that pathology's impact upon modern university teaching in these fields, can be detected and exposed, as symptoms, without resort to those advanced topics in mathematics which lie within Dr. Tennenbaum's specialist's competence. However, one could never understand how the overall corruption of modern education "works," without reference to the seminal issues of mathematical physics.

These are the same issues expressed as the central feature of the savage, and fraudulent attacks upon Leibniz by the avowedly Newtonian agent of Venice, Leonhard Euler, and the perfervidly Newtonian asset of the same Venice-directed salon as Euler, the Aristotelean Immanuel Kant. Those frauds by Euler and Kant typify the same issues upon which Bernhard Riemann's epoch-making habilitation dissertation is focussed: those are the issues at the center of the great fight within Nineteenth-century mathematics and mathematical-physics, with Gaspard Monge, Legendre, Gauss, Weber, Riemann, Weierstrass, and Cantor, on one side, and Laplace, Grassmann, Kelvin, Clausius, Helmholtz, Maxwell, Kronecker, and Rayleigh, on the other.

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5. See Lyndon H. LaRouche, Jr., "Riemann Refutes Euler," *21st Century Science & Technology,* Vol. 8, No. 4, Winter 1995-1996. See also, Lyndon H. LaRouche, Jr., "Non-Newtonian Mathematics for Economists," *Fidelio,* Vol. IV, No. 4, Winter 1995-1996 (also appeared in *Executive Intelligence Review (EIR)* weekly, Vol. 22, No. 32, August 11, 1995). On the formal proof against Euler, see the treatment of Nicolaus of Cusa's conclusive proof, that π is a transcendental value, see Lyndon H. LaRouche, Jr., "On the Subject of Metaphor," *Fidelio,* Vol. I, No. 3, Fall 1992.
6. Compare this with the present writer's thesis, on the subject of the present crisis as "end of an epoch," as presented in the second part of his presidential campaign paper of Oct. 11, 1995, *The Blunder in U.S. National Security Policy,* and his Dec. 2, Eltville, Germany, address on the subject of "The End of An Epoch," published in the Jan. 1, 1996 edition of *EIR* (Vol. 23, No. 1).
7. See *Executive Intelligence Review,* Jan. 1, 1996, *passim,* on the diagnosis of the present condition of the global I.M.F. monetary-financial system, as "terminal."

The Issue of Scientific Method

The proximate origin of all empiricist and related modern doctrines of taught mathematics and mathematical physics, is the Venetian Servite monk, arch-conspirator, and mathematician, Paolo Sarpi. Sarpi, who would fit the role of "Mephistopheles" in Christopher Marlowe's *Dr. Faustus,* is proximately the "natural father" of what became the Eighteenth century's founding of the Second Earl of Shelburne's and Bentham's British empire of the "Georges." The "begats" follow. Galileo Galilei was mathematician Sarpi's lackey. Francis Bacon, the putative founder of British empiricism, was a protégé of Sarpi's accomplices in England. Homo Sarpian Hobbes, who learned his mathematics from Galileo, became the personal secretary and intimate of Francis Bacon. Descartes was a tool of the circles established by Sarpi in The Netherlands, France, and England.

For the case of the modern English-speaking world, the matter is fairly summed up, by reporting, that during the span of several centuries, from the Seventeenth century of Paolo Sarpi's Sir Henry Wotton, through John Ruskin's Nineteenth century, literate England and Britain recognized the faction of Bacon, Hobbes, Locke, *et al.,* and also the process of emergence of the British Liberal Party, by the generic name of "Venetian Party." For example, Sir Winston Churchill's infamous ancestor, the First Duke of Marlborough, like King George I and Prime Minister Walpole, was a representative of that "Venetian Party."

So, the terms "Enlightenment," "British liberalism," and "Venetian Party," are implicitly interchangeable, without change in meaning, down to the present day. We may describe Sarpian mathematics and its derivatives, such as "Newtonian social theory," as literally "Enlightenment" philosophy, or "Venetian Party" policy.

All among this planet's cultures which had been established prior to the Fifteenth-century Europe's Golden Renaissance, were either failures by design, or simply outlived their limited usefulness after a time. Most of these pre-Renaissance cultures ended as manifest catastrophes. In the more fortunate cases, a culture faced with self-induced doom, met the challenge of its existential crisis, by generating a new, superior culture, as Fifteenth-century western Europe did most brilliantly. Among failed cultures generally, there is included a special type, a defective culture which was designed according to the intent to destroy an existing culture. Mathematician Paolo Sarpi's application of "Occam's Razor" to Aristotle, to make Aristotle's anti-Platonic formalism the hypothesis of a generalized, empiricist-materialist method, is a pathology of that latter type.

One can not understand this, or any other case of the latter type, without comparing it to that alternative which it has been concocted to destroy.[8] Sarpi, shrewder than the leaders of Venice who preceded him, recognized that the strength, and corresponding vulnerability of emerging, modern European civilization, was its dependency upon the scientific method of Plato. In Sarpi's time, "leading thinkers of modern European science," had meant, chiefly, Nicolaus of Cusa, Luca Pacioli, Leonardo da Vinci, the "School of Raphael," Johannes Kepler, William Gilbert, and so on, a list which grew, later, to feature the leading role of Europe's "last universal intellect," Gottfried Leibniz.

Sarpi recognized the potentially fatal strategic blunder of those Venetian leaders who sought to eliminate the influence of the Council of Florence, and of science, by bloody and other varieties of inquisitional methods. The increased productive powers of labor, fostered by the newly-created modern nation-state, had a military implication. Already, beginning with France under Louis XI, it was repeatedly shown, that, *per capita,* modern nation-states were more powerful than their feudal adversaries. To defend the oligarchical tradition of Babylon against the Christian form of modern nation-state, Venice must penetrate to the innermost essence of emergent, modern European civilization, and strike it a deadly blow in that essence.

8. The most appropriate precedent to be considered, is the role of Aristotle as the enemy of Plato. The widespread academic cant, to the effect that Aristotle bases himself upon, but also corrects Plato, is a fraud, invented and perpetuated by apologists for Aristotle's method. Specifically, the revival of Aristotle by the Byzantine Emperors who followed Diocletian, was introduced as part of the imperial social-control design for introducing a gnostic, syncretic blending of paganism and Christianity. Christianity, by its nature, is anti-oligarchical, opposed to that degradation of man which is inherent in, for example, the institutions of both feudal landed aristocracy and "bourgeois" financier oligarchy. Diocletian, the lawgiver for the tradition of European feudalism, decided that it were more prudent to coopt Christianity, than to continue with the futile tradition of bloody persecutions. Constantine "legalized" Christianity within the pagan pantheonic system, and imposed his selection of bishops, such as the infamous Arius, and the influence of pro-Aristotelean hesychasm, as worms, to enervate, hopefully to destroy Christianity's substance from within. The Byzantine Empire outlawed Plato, and imposed Aristotle and his method as the arbiter of Christian theology and doctrine. This policy was spread into western Europe from Byzantium, and from Venice. The focus of these imperial assaults from the east, was against Augustine and the method of Plato inhering in Augustinian Christianity, as in the *Gospel of St. John* and *Epistles of Paul.* The policies of Venice's leading Sixteenth-century opponents of the Council of Florence, such as Pietro Pomponazzi, Gasparo Contarini, Francesco Zorzi, and Paolo Sarpi, are a direct outgrowth of the Byzantine emperors' using the replacement of Plato by a canonical Aristotle, to corrupt Christianity into a syncretic form acceptable to an oligarchical social order.

The *Enlightenment* is the instrument developed by Sarpi and his followers to that oligarchical purpose.

On the subject of mathematics itself, the general argument on behalf of the work of Leibniz, Riemann, *et al.,* against Galileo, Newton, Euler, Cauchy, *et al.,* is supplied in other published locations.[9] Our subject here, is not mathematics as such, but, rather, those two, underlying, axiomatic assumptions of Sarpi's mathematics, which misshape the characteristic features of a wide assortment of "liberal arts" topics, in addition to commonly taught classroom mathematics. Our primary concern is to strip away all of those secondary features which distinguish one liberal-arts subject-matter from another, to unveil, thus, the common axiomatic feature of all. For that more limited, stated purpose, we select two crucial issues of scientific method, which reveal the way in which Sarpi's mathematical assumptions define the mental behavior underlying virtually every "liberal arts" textbook and classroom of today.

Those two, broadly relevant assumptions are, first, the false belief in *perfectly continuous extension in space-time,* and, second, the "Enlightenment's" rejection of the principle of *reason,* substituting the idea of mechanistic *causality.* Combined, the two assumptions represent the central issues of *scientific method,* in every field of inquiry, since Plato's founding of the Academy of Athens, through the work of Archimedes and Eratosthenes, and through the writings of St. Augustine, Nicolaus of Cusa, Leonardo da Vinci, Kepler, and Leibniz. The implication of the first assumption is more easily recognized; we address that first.

The Issue of Continuity

Respecting the deepest axiomatic implication of the fallacy of perfectly continuous extension, it is sufficient to summarize, and then situate the argument with which this author has elaborated the point, in numerous earlier locations.[10] To wit:

Until Bernhard Riemann's 1854 habilitation dissertation, all those formalities of the classroom mathematics which are generally taught still today, were derived from a model of geometry adopted from Euclid's *Elements.*[11] The materialist and empiricist view of that geometry, was based upon the presumption that the four dimensions of Euclidean-Cartesian space-time, were each and all extended into "bad infinity" without limit, and were extended everywhere, always with perfect continuity. The materialist version of this, assumed that those four dimensions were supplied to an Aristotelean *tabula rasa,* the newborn human mind, by the human senses, whose sense-impressions were presumed to be a reflection of the composition of the material universe outside the human mind itself. The empiricists made more limited claims respecting the alleged reality of sense-perceptions, but shared with the materialists the presumption that all knowledge was limited to those "facts" attributed to the self-evident authority of isolable sense-impressions.

In the real world, which exists only outside such presumptions of Aristotelean virtual reality, the increase of the potential relative population-density of the human species, from the level of a putative man-ape, several millions living individuals at most, to the vastly higher population-levels and life-expectancies of civilized existence, is the result of categories of ideas which violate the empiricist's and materialist's presumptions respecting sense-perceptions, and respecting ideas as defined by Plato.

These ideas do arise from investigation of the domain of sense-experience; but, they arise from those stubborn paradoxes which show the Aristotelean view of nature to be absurd. One of the most readily demonstrated classroom models of the way in which such ideas are obtained, is the case of the estimate of the curvature of the Earth by Eratosthenes, a leading member of Plato's Academy of Athens. The crucial point of relevance to our discussion here, is that that curvature was not to be seen (that is, as a sense-perceptible object) by any person until 2,200 years after Eratosthenes' measurements of this unseen principle of reality.[12]

Those, Platonic qualities of empirically demonstrated,

9. See footnote 5, above.
10. From the locations published during the recent ten years, the author's following books and papers are exemplary. *The Science of Christian Economy* (Washington, D.C.: Schiller Institute, 1991). From the *Fidelio* quarterly's series on the cognitive principle of metaphor: "On The Subject of Metaphor," Vol. I, No. 3, Fall 1992; "Mozart's 1782-1786 Revolution in Music," Vol. I, No. 4, Winter 1992-1993; "On The Subject of God," Vol. II, No. 1, Spring 1993; "History As Science," Vol. II, No. 3, Fall 1993; "How Bertrand Russell Became an Evil Man," Vol. III, No. 3, Fall 1994; "The Truth About Temporal Eternity," Vol. III, No. 2, Summer 1994; and, "The Fraud of Algebraic Causality," Vol. III, No. 4, Winter 1994-1995. Also, from *Fidelio,* on the subject of the role of metaphor in economic science, "On LaRouche's Discovery," Vol. III, No. 1, Spring 1994; and, "Non-Newtonian Mathematics for Economists," Winter 1995-1996 (also appeared in *Executive Intelligence Review (EIR)* weekly, Vol. 22, No. 32, August 11, 1995.) From *EIR,* "Why most Nobel Prize economists are quacks," Vol. 22, No. 30, July 28, 1995.
11. See LaRouche, "Non-Newtonian Mathematics for Economists," *loc. cit., passim.*
12. See "Riemann Refutes Euler," *op. cit.,* pp. 39, 41. See, also, "On the Subject of Metaphor," *op. cit.*; Cusa's proof, by geometrical construction, of what was later termed the "transcendental" character of the ratio of circumference to radius of a circle, is a more sophisticated version of the same method employed by Eratosthenes in the case of the meridian.

non-sensory ideas, are to be recognized in all rigorous natural philosophy as validated discovery of new scientific principles. These discoveries have the formal quality of being new axioms, axioms which changed radically the set of axiomatic assumptions upon which depended the entirety of a previously adopted body of formal scientific opinion. The result of such a change, is usefully identified as the replacement of the entirety of the existing, extensible theorem-lattice, associated with previously established sets of axiomatic presumptions, by a new theorem-lattice premised upon the modified set of axioms.

The term *hypothesis,* as used by Plato and his Academy, through the time of Archimedes and Eratosthenes, signifies, formally, such a set of axioms.[13] As a matter of formalities, a change in hypothesis signifies nothing less than, nothing other than, a validated change in the set of axioms underlying a previously established body of scientific knowledge.

In this view, the term *knowledge* does not signify what students have learned to accept as today's authority's teaching, respecting contemporary, customary bare fact or doctrine; it does not signify "information," as that latter term is commonly employed today. *Knowledge* signifies: *either that the mind of the original discoverer of a new, validated principle (hypothesis) has lived through the experience of the act of identifying and validating that new principle, or, that a student has successfully reenacted the original discoverer's mental act of discovery of both that concept and its proof.*

Knowledge is *not* textbook or kindred learning of approved doctrine. The quality of *knowledge* is typified, essentially, by those relatively more valid principles of nature which the individual has discovered through the successful application of his, or her individual's, distinctly human, creative power of cognitive reasoning, to solve an existential quality of paradox within previously established scientific opinion. Whether the mastery of such a valid principle occurs as an original discovery, or as a student's form of reenacting the mental act of original discovery, the result is, that that principle is *known,* rather than *merely learned.* Thus, knowledge is typified by the Christian-humanist methods of education employed by the best among the Brotherhood of the Common Life, and in the Schiller-Humboldt form of Classical Humanist secondary education introduced in Nineteenth-century Germany.

Notably, the term *Geistesmassen,* as used by Riemann, signifies a quality of cognitive thought which is expressed as a valid discovery of natural principle, as opposed to the false notion, that ideas are rooted in mere reflections of sense-perceptions.[14] Thus, Riemann's employment of that term is synonymous with *metaphor.*

To define such a metaphor, a different kind of object replaces and supersedes the derivation of a particular sense-perception. Eratosthenes' determination of the curvature of the Earth's surface (within a reasonable estimate of the length of the polar meridian), is typical of the fact that all valid principles of science are Platonic ideas (*Geistesmassen*), which exist only outside the domains of empiricism and materialism, existentialism generally, and outside the sickly dogmas of phenomenology in particular.

Thus, as elaborated by the present writer in the indicated, earlier locations, such metaphors are the active principle underlying those formal mathematical discontinuities (or related singularities) which mark the *transinfinitesimal* break in continuity occurring at each *Riemann phase-shift* of a process, from a phase representable by a formal theorem-lattice of n dimensions, to a superseding lattice of $n+1$ dimensions.[15] The metaphor is not contained within the mark; the mark is the footprint which valid metaphor leaves in its passage through the efficient development of (for example) mathematical physics to successively higher levels of competency. Physics—or, "experimental physics"—exists outside, and above the mere mathematical physics which scrambles in its efforts to mimic reality, as a shadow on the wall of Plato's cave mimics that which it misrepresents. As the frequently referenced case of Eratosthenes' estimate of the meridian illustrates this point, physical ideas exist only outside formal, "classroom blackboard" mathematical physics.[16] Physical ideas, such as Eratosthenes' referenced discovery, exist only as metaphors, or, as Riemann says, *Geistesmassen.*

Consider the blind faith of the Aristotelean, the empiricist, materialist, or phenomenologist, his smug confidence, that the universe of experience is implicitly representable mathematically as a Euclidean space-time, extended limitlessly, within perfect continuity. That is a popular notion, but also a delusion; it is literally a form of mass-psychosis. The core of the argument to be offered

13. As Riemann emphasized, Isaac Newton's famous use of "hypothesis" (". . . *et hypotheses non fingo*"), was a scientific illiterate's application of that term. Unfortunately, Newton's illiterate use of the term has been popularized within today's customary classroom usages. See *Bernhard Riemanns gesammelte mathematische Werke,* ed. by Heinrich Weber [Stuttgart: Verlages B.G. Teubner, 1902] (New York: Dover Publications [reprint], 1953), p. 525.

14. Bernhard Riemann, *"Zur Pyschologie und Metaphysik",* in *Riemann's Werke, op cit.,* pp. 509-520. For an English translation supervised by W.F. Wertz and Renée Sigerson, see *21st Century Science & Technology,* Vol. 8, No. 4, Winter 1995-1996, pp. 50-55.

15. See LaRouche, "Riemann Refutes Euler," *op. cit., passim.*

16. *Ibid.*

The Enlightenment vs. Creative Discovery

The famous German historian Leopold von Ranke reports that, according to the accounts of the Venetian commentators themselves, Newton-supporter John Locke took crucial parts of his 1690 *Essays on Human Understanding* directly from Paolo Sarpi's famous *Arte de ben pensari* (*The Art of Thinking Well*), which he examined while on a trip to Venice. In the *Essays,* Locke wrote:

> The souls of the newly born are empty tablets, only afterwards filled in by observation and reasoning. . . .
>
> When does a man begin to have any Ideas? I think the true Answer is, When he first has any Sensation. For since there appear not to be any *Ideas* in the Mind, before the Senses have conveyed any in. . . . T'is about these Impressions made on our Senses by outward Objects, that the Mind seems first to employ itself in such Operations which we call, *Perception, Remembering, Consideration, Reasoning, etc.* In time, the Mind comes to reflect on its own *Operations,* about the Ideas got by the *Senses,* and thereby stores itself with a new set of *Ideas,* which I call *Ideas of Reflection.*
>
> The simple Ideas, the Materials of all our Knowledge, are suggested and furnished to the Mind only by those two Ways above-mentioned . . . . When the Understanding is once stored with these simple Ideas, it has the Power to repeat, compare, and unite them, even to an almost infinite Variety, and can make at Pleasure new complex *Ideas.* But it is not in the Power of the most exalted Wit or enlarged Understanding, by any Quickness or Variety of Thoughts, *to invent or frame one new simple Idea in the Mind,* not taken in by the Ways before mentioned.

Locke is saying, very clearly and forcefully, that human creative mentation does not exist, that there is no such thing as a valid creative discovery. This is the inner essence of the the whole Sarpi-Galileo-Newton-Locke operation: That there is no such thing as the *generation of an idea,* and that all the human mind can do is to carry out *algebra-like* operations with so-called simple ideas, which have the *quality* of Newton's little "hard balls" of naive imagination.

Jonathan Tennenbaum,
Eltville, Germany

against that delusion, is, summarily, as follows.

Man's knowledge of the universe is derived solely from the human species' increased mastery of nature (as expressed by rising potential relative population-density). That advancement in the human condition, is brought about through a unique quality of the human individual, absent in all inferior species: the ability to change society's behavior willfully, and radically, to such effect, through valid fundamental discoveries. That progress is entirely the result of those creative mental powers of successive, valid discovery of superior natural principle, in art, as in science.

Focus upon the fact, of the efficiency of the method by which valid and superior hypotheses are generated,[17] as metaphor, through the effectiveness of the creative reason of the human individual in uncovering more powerful principles of nature. From this standpoint, increase of mankind's potential relative population-density demonstrates the *predisposition* of the universe to submit to the creative powers of reason of the human individual.

The universe customarily defies all arbitrary, individual and popular opinion; it is obedient only to valid metaphor. The success of mankind in mastering the universe according to Plato's principled method of hypothesis, supplies the only possible proof of the nature of the laws of the universe. This is the proof that the universe is predisposed, as by design, to obey the faculty of individual creative reason, the faculty of valid metaphor, rather than the always transitory, and usually doubtful authority of mere learned opinion.[18] That empirically manifest predisposition of the universe is the content of the idea of *Natural Law,* of the existence of universal physical law, of those commonly underlying universal characteristics which subsume, combined, non-living, living, and cognitive processes.

These discoveries occur only in the form of Platonic ideas (metaphor), which are reflected upon the domain of formalist mathematical, and other, thinking as discontinuities, or, as singularities.

To attempt to create an imaginary world of human experience, in which such occurrence and impact of Platonic ideas is not the central feature, is to concoct a vicious species of "virtual reality," a virtual mass-psychosis, upon which the pseudo-science called "information theory" converges. The latter type of delusion, is an axiomatic characteristic of the Sarpi-Galileo-Hobbes-Newton-Euler venery in mathematical physics. Centuries

17. I.e., the Riemann phase-shift from a theorem-lattice of n dimensions, to one of $n+1$ dimensions. This is the method of *hypothesis,* Plato's method of hypothesis.
18. In theology, this is to be received as another way of stating the King James' Version's *Genesis* 1:26-28.

before Professor Norbert Wiener's founding of the cult of "information theory," there was already Paolo Sarpi's "Enlightenment," and, before Sarpi, Aristotle, Bernard of Clairvaux, and William of Ockham.

Thence, from such mathematical-physics, the same delusion is extended, to serve as the central, axiomatic feature of all "Newtonian social theory": all presently, commonly taught political science (co-created by the positivists Saint-Simon and Madame de Staël), and, also out of positivism, all of today's commonly taught ethnology, anthropology, sociology, behaviorist psychology, modern criminal law, grammar/prose style, behaviorist and Freudian psychology, and so on.[19]

'Causality'

In the work of the founder of modern science, Nicolaus of Cusa, and among such Cusa followers as Leonardo da Vinci, Kepler, and Leibniz, the notion of lawfulness of the universe is derived from the work of Plato. The most relevant features of Plato's work on scientific method, are found in those, later dialogues, which his *Parmenides* serves as a *de facto* prologue. That most fundamental principle of scientific method, which is savagely violated by virtually all currently taught classroom mathematical physics, is *the principle of memory.* This point is most readily illustrated by reference to the composition of the Classical form of strophic poem. This principle of Classical poetry carries over into Josef Haydn's discovery of what he termed *Motivführung,* as that was given revolutionary further development by, chiefly, Wolfgang Mozart, Ludwig van Beethoven, and Johannes Brahms.[20]

Respecting this particular point, the role of the principle of memory in defining scientific ideas, virtually all today's mathematicians are, relatively speaking, "science illiterates." This crucial principle is key to the subject of the present report. It is crucial, not only for professional mathematicians, but, also, professionals representing all empiricist and positivist varieties of the commonly taught versions of liberal-arts subject-matters.[21] This Platonic principle of memory combines with that principle of universal discontinuity, central to Leibniz's *Monadology,* to define the axiomatic basis of the presently hegemonic—and, potentially fatal—*Enlightenment* culture of modern European civilization world-wide.

Our pedagogy on this point, is organized as follows. As a benchmark, note Thomas Hobbes' proposal to outlaw metaphor from the English language.[22] It should be understood, that this Hobbes manifesto against metaphor, is typical of an epidemic of related attacks, on both metaphor and the use of the classical form of the subjunctive,[23] which continued through the centuries to the present-day pagan priesthood of the Modern Language Association (M.L.A.). Note the agreement between Hobbes and the Romantics on this point, as the Romantics substitute symbolism and hyperbole wherever Shakespeare, for example, employs metaphor.

That noted, we must, then, emphasize afresh, that each valid discovery of more advanced scientific principles, has occurred in the form of a nameless idea, to which a name was later assigned. This idea had no simple referent in any single sense-perception: it had the form, therefore, of metaphor. The Romantic adversary of metaphor would seek to avoid that fact, by attributing that idea, symbolically or hyperbolically, to some simple perception, such as the symbolic or hyperbolic definition, "Aristotle is a featherless biped." That is the implication of Hobbes' referenced argument against metaphor, and also the kernel of the

19. To sedate the captious, the following: Axiomatically, all empiricism was axiomatically "radical," in the sense of "radical empiricism." As Bertrand Russell argues, Oxbridge Britons tend to prefer the term "radical empiricism," while acknowledging that this is pretty much the same thing as French and Austro-Hungarian positivism. For our purposes here, the only grounds for preferring the term "positivism" over "empiricism" or "radical empiricism," would be to lay the stress upon products specific to the French or Austrian schools of positivism. Thus, although the single most influential architect of the frankly "radical empiricist" dogma of Jeremy Bentham's *Principles of Morals and Legislation,* is the same Venetian monk Giammaria Ortes whose work Thomas Malthus plagiarized for his own *On Population,* the immediate authorship of the branches of liberal arts known as "political science," "ethnology," and "sociology" was the Saint-Simonist school of Laplace, Cauchy, Comte, *et al.,* while Freud's psychoanalysis owes characteristic methodological traits to Freud's role as a devotee of Ernst Mach.

20. See, Lyndon H. LaRouche, Jr., "That which underlies motivic thorough-composition," *EIR,* Vol. 22, No. 35, Sept. 1, 1995. For the author's use of the term *Motivführung,* he is obliged to the former primarius of the Amadeus Quartet, Professor Nobert Brainin who had discovered the importance of this about two decades ago. Although *Motivführung* referenced, proximately, the first movement of Haydn's Opus 33, No. 3 [from Haydn's "Russian Quartets"], it overlaps a phenomenon in Classical musical composition known generally as the germinal influence of the way in which Wolfgang Mozart's K.475 Fantasy, and his related compositions, treated the implications of J.S. Bach's discovery in his "A Musical Offering." Recently, Professor Brainin led a seminar co-sponsored by the Schiller Institute, at Slovakia's Dolna Krupa, in which he presented Beethoven's revolutionary further development of Mozart's discoveries in *Motivführung,* as key to the Beethoven late string quartets Opera 127, 130, 132, and 133—and, implicitly, also, Opera 95, 131, and 135.

21. On this account, for example, behaviorist psychologists are shown to be quacks.

22. See Hobbes' *Leviathan, or The Matter, Form, and Power of a Commonwealth Ecclesiastical and Civil* (1651), chaps. 4-5 [SEE Box, p. 33, this issue].

23. Especially the use of the Platonic-Greek model for the English subjunctive.

empiricist objection to the strict subjunctive.

For example, referring again to Eratosthenes' estimate of the meridian: once we have identified the fact, that no man had yet seen that curvature of the Earth, the quality of his discovery as a Platonic idea, as a metaphor, is forced to our attention. Similarly, all microphysics is based upon metaphor, rather than sense-perception: despite the hysterical efforts of the allies of Ernst Mach, to reduce Max Planck's quantum to a matter of symbolisms. Similarly, one can not directly see the distance between the Earth and the moon, as a sense-perception, from the surface of the Earth.[24]

Look at metaphor, then, from its central place in the competent composition and performance of both Classical strophic poetry, and, in Classical musical composition: motivic thorough-composition in the exemplary cases of Haydn, Mozart, Beethoven, and Brahms. Examine this principle of Classical composition, from the standpoint of Plato's treatment of the principle of memory.[25] Look, then, at the way in which this principle of memory defines *Reason*'s role in defining the lawful ordering of the universe. Consider, then, the monstrous impact, for modern society, of the fraud inhering in Galileo's mechanistic notion of *causality*.

Consider the role of the principle of memory in four, successive settings: Classical poetry, Classical *Motivführung,*[26] Classical tragedy, and, finally, physics.

Strophic Poetry

A Classical strophic poem has the form of a series of stanzas, each of which, with two leading, possible exceptions, faithfully mimics or parodies the prosody of each of the others.[27] This form is very ancient, antedating written language by millennia.[28] Music is derived from the singing (i.e., vocalization) of such poetry according to principles brought to light more clearly in *bel canto* methods of training of the singing and speaking voice.

This tradition of vocalization of Classical strophic poetry, is the probable origin of what we know as scientific thought and scientific method today. Whatever the history of the matter might prove to be, it is from the musical view of such Classical poetry, that Plato elaborated the principles of scientific thought. Remember, that the science of memory, as embedded in the composition and peformance of such a Classical strophic poem, is the most fundamental formal principle of all human knowledge. Remember, that this principle of memory, is key to mastering metaphor, in art, and in matters bearing upon knowledge of universal principles of nature.

At this instant, it is indispensable, for practical reasons, that we supply the following warnings against the way in which poetry, and its recitation, is generally misunderstood among university liberal-arts graduates today. The point we have to make, respecting the role of memory in composition and performance of poetry, involves the special qualities of Classical poetry as a medium for communication of metaphor, a medium which is mastered presently by only a vanishing few, aging professional actors. Thus, one could not recognize the point we are making here, if one mistook the way in which poetry is presently recited (or as the subject of poetry currently taught), for the medium which Plato knew, and to which the writer is referring.

The problem today, that problem of the medium which we are addressing here, is the academic popularity of the cult of written text.

Today, unfortunately, the ability of even most professionally trained modern-language specialists, to say, or even to understand such a poem, is either virtually nonexistent, or, no better than profoundly impaired by the present conventions, which examine all literature from the standpoint of doctrines of *written* text. Written text is presented as it were not only an independent mode of speech; it is, sometimes, even the assumption of practice, as by the devotees of Professor Jacques Derrida, that written speech *ought to have been* the original form of utterance.

Exemplary of this cult of the written text: Speeches read from written text, are usually boring, when not calculated titillations accomplished either by premeditated perpetration of that which is both trivial and popular, or simply a crude cartoon of trivial ideas seasoned with the manic-depressive jock's spice of "soap-box" ranting.

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24. As the present writer has not yet tired of restating, over the recent decades, physics defines experimental knowledge as strictly divided among four immediate domains: astrophysics, microphysics, macrophysics (the scale of sense-perception), and the implicitly absolute difference between non-living and living processes in general. In addition, we have the domain of cognition's efficient impact upon all non-living and living processes combined. The universal characteristics which subsume inclusively non-living, living, and cognitive processes, as they are encountered on the scales of astrophysics, microphysics, and macrophysics, subsume the domain of experimental-physics inquiry. To omit any one of these, in considering any other one of these, is, implicitly, to perpetrate a fallacy of composition.
25. In this connection, one must reference the work and influence of the Platonist Ramon Llull and his *Ars Magna*.
26. Haydn's, and Dr. Brainin's choice of term, *Motivführung,* is otherwise identified by the descriptive term, "motivic thorough-composition."
27. The two leading locations for significant change in the strophe, are the last couplet of a concluding stanza, and also a change in the prosody of one of the "middle stanzas," the latter change analogous to Haydn's, or the pre-1782 Mozart's frequent use of quoting a minor-key section within a movement stated in a major-key signature.
28. Ancient Vedic hymns, transmitted from the oral tradition of Indo-European central Asia circa 6,000-4,000 B.C., illustrate the point. See, the relevant two texts of Bal Gangadhar Tilak: *The Orion, or Researches into the Antiquity of the Vedas* (1893) and *The Arctic Home in the Vedas* (1903) (Poona City: Tilak Brothers, 1956).

When this tactic is not employed as a method of pre-censorship, the function of the pre-written text for a speech, is chiefly as a mental crutch for the speaker who lacks a clear preconception of what he or she is about to say.

A good oral address is an art-form, with some crucial points of absolute distinction from those commonly taught notions of English prose style employed for composition of written text. Indeed, if an oral address might be transcribed appropriately in a style of punctuation not offensive to the Columbia University School of Journalism and *New York Times* style book, the product transcribed must have been an intellectually sterile concoction.

A good oral address is closer to poetry, and to the prosody of Shakespeare's and Schiller's tragedies, than to that which is currently taught as university-schooled prose. A good address works backward from a subsuming idea, that in the form of what Plato would have recognized as a *Good* idea. Like a qualified teacher's lesson-plan, the address is developed, as a *Becoming,* to fulfill the necessary determination of the *Good* idea, as the metaphor-solution of the paradox posed by the *Becoming*.

Thus, the *Good* idea of the intended presentation, as a totality, determines that parade of metaphors which is the order of the address as a *Becoming,* each among which, in turn, subsumes the construction of the paradox implying that particular metaphor in the succession. The further requirement, is an ironical form of coherence among that succession of stages of development ordered according to the series of metaphors.

During the recent two generations, the illiteracy of university instruction on this account has been increased geometrically, through the loss of a culture of reference rooted in the bel canto modes of voice-training. This mode is indispensable, not only for the singing of the Classical-musical repertoire and to provide instrumentalists with an indispensable grounding in the principles of the bel canto singing voice. It is essential to poetry, and to the performance of Classical forms of drama on stage. Among the numerous difficulties confronting the student of poetry today, the greatest obstacle to even the barest comprehension of Classical poetry (and music), among professionals and others, is the prevailing tendency to degrade oral speech into a matter of rules for reciting written text.[29]

The immediate practical point of concern here, is the following. If the reader recites a strophic poem in the manner of supplying today's conventional classroom variety of recitation of written text, the oral delivery will be an illiterate's abomination. Directly to the point of relevance: Among the evils so perpetrated, will be the reader's tendency, either to mimic the first strophe in the delivery of second and third, or to apply a strained, or otherwise inappropriate sort of variation in the expression of each. It will not be poetry; it will be a recitation of text, more or less as bad as actor Sir Laurence Olivier's ranting torment of Shakespeare's prosody.

The failure to comprehend poetry as sung (vocalized) oral speech, rather than written text, signifies that the reader would command about as much recognition of the medium for which the poem is composed, as the tenor who imagined that Mozart composed the "Picture Aria" of his *The Magic Flute* as a part for performance on the musical comb. There is nothing in any poem which might have been composed for the medium of written text, which corresponds to the principle of composition of Classical poetry; the meaning of a Classical poem is contained solely in the poetry of bel canto-vocalized, oral utterance, not written text.

By combining the characteristics of the medium of bel-canto-vocalized oral utterance, with strophic prosody, the Classical poet is able to employ the multi-media character of such recitation as a contrapuntal device. By means of this ruse, the poet plays the singing voice's intonation against the oral text, to achieve the effect of conflict among suggested meanings, the effect known generally as *irony.*[30] It is relevant to note, that Beethoven's last string quartets use the special counterpoint of motivic thorough-composition, to achieve the same sort of result.[31]

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29. It will probably be helpful at this point, to view the modern emphasis upon reciting of written text as analogous to a similar reading of the bare text of musical score. The score of a Classical musical composition, must be thought of as a mnemonic device, a short-hand transcript of the heard composition, rather than conceiving the performed composition as a transcription of the written score. It must not be permitted, that musical performance reflects rules for reading written score aloud. The actual score to be performed, lies not within the individual notes of the written score, but, as conductor Wilhelm Furtwängler said, "between the notes": see LaRouche, "That which underlies motivic thorough-composition," *op. cit.*

30. The present writer first developed the thesis, respecting poetry, being recapitulated here, during the interval 1948-1952, as an integral part of his work on the role of creative reason as the historical determinant of rising productive powers of labor. As part of the same undertaking, the writer also developed a large portion of his related, present argument respecting both the Classical *Lied* (taking examples from Mozart, Beethoven, Schubert, Franz, Schumann, Brahms, and Wolf) and Classical tragedy. In the treatment of metaphor, as the form of creative reason, during that interval, he employed William Empson's celebrated text, *Seven Types of Ambiguity,* as his foil of reference. He did not follow Empson consistently, but rather required of himself that wherever he deviated from Empson on irony, that his own reasoning be rigorously justified. Hence, the marks of the wrestling with Empson during the late 1940's are sometimes visible in the argument presented afresh today.

31. For the professional musician, or qualified amateur, the Schiller Institute has captured Dr. Brainin's seminar at Dolna Krupa on stereo, broadcast-quality videotapes. Otherwise, the special nature of the counterpoint employed by Beethoven in the Opus 132 (for example), is sketched by Bruce M. Director, "What Mathematics Can Learn From Classical Music," *Fidelio,* Vol. III, No. 4, Winter 1994-1995.

Compare this view of such poetry, with the exemplary case for scientific discovery of principle, Eratosthenes' estimate for the meridian.

There is an exemplary succession of development, from that estimation by Eratosthenes, through Blaise Pascal's development of the cross-ratio, through the role of refraction of light in Leibniz's and Jean Bernoulli's supercession of algebraic by non-algebraic (transcendental) mathematics, through Carl Gauss's work on biquadratic residues and geodetics, and Riemann's habilitation dissertation. The common characteristic of these developments, is the practise of driving the axiomatic assumptions of an existing theorem-lattice measurably beyond their limits, into a well-defined paradox.[32] So, the repeated strophes of a Classical poem proceed, adding irony upon irony, stanza by stanza. Each stanza, compared to its predecessors, demands a metaphor. The concluding utterance of the repeated strophic characteristic of the poem, transforms everything, including the preceding metaphors, provoking the new metaphor which subsumes the entirety of the development of the poem through all of its successive stanzas. So, each of the observations in Eratosthenes' study of the curvature of the meridian proceeds.

Classical music is composed according to this model of strophic poetry. "Shall we perform the repeat?" one of the musicians says to the other. The recording company frequently answered, "No!" The musically illiterate would imagine that the repetition is merely repetition; in Classical music there are no mere repeats; the repeated section of the Mozart sonata is never performed exactly the same way as the first statement of that section. The repetition occurs as antistrophe to the strophe. As Pablo Casals instructed the students of his master class: In Classical music, there is always variation.

It is not arbitrary variation. Variation is not the embellishment of the bare score by the performer's arbitrary choice. In the simplest version of the movement of the Classical sonata form, the order of development is statement, restatement, development, and recapitulation, each of which occurs as response to, in order, the statement, the statement plus restatement, and the statement, restatement, and development. Each among these four successive elements of such a movement, is analogous to the corresponding stanza of a four-stanza strophic poem. That ordered variation is implicitly built into the performance by the composer. The performer's task, is the exercise of musical insight into the metaphorical intent of the composer; technique is a matter of the performer's resourcefulness in bringing out that progression in the domain of metaphor. Interpretation is not a matter of personal taste; it is a matter of the performer's ability to comprehend, and to realize the distinction between right and wrong.

The strophe provides a repeated, yet varied structure for the poem as a whole. The change of vowels and consonants, in contrast of one strophe to each of the others, provides a degree of contrapuntal irony to the repeated common aspect of the successive strophes. The imagery of ideas in the verse as such, provides another degree of contrapuntal irony. It is the juxtaposition of these ironies, which generates paradoxes. The form known as the classical strophic poem, provides the poet, thus, a medium whose potential is a nest of paradoxes: within the stanza, among the stanzas, and in the poem taken as a unit-whole.

As in the idea of curvature of the meridian, in Eratosthenes' measurements, the solution to the paradox of what is explicitly stated, lies outside any individual sense-perception, any mere symbolism. Until the Twentieth-century development of rockets and supersonic jet-aircraft, led by Hermann Oberth's team, the idea of curvature of the Earth's surface existed only in the domain of metaphor. The ideas of microphysics exist always only in the domain of metaphor. The distinction between non-living and living processes, is measurable in its effects, but has primary existence only in the domain of metaphor. The idea of the poetic stanza, of the poem as a whole, exists only in the domain of metaphor, but in neither sense-perception nor symbolism.

Similarly, musical ideas exist only within the domain of metaphor. In all cases, the fact of the difference is measurable, but the cause of that difference is not a matter of sense-certainties.

Once we have the concluding metaphor of a Classical strophic poem, or motivic-thorough-compositional form of Classical musical composition, we have struck, at least implicitly, upon the deepest principle of scientific method.[33]

Scientific Method in Poetry and Music

That veritable metaphor of metaphors, the concluding metaphor which is established by the concluding stanza

32. From the standpoint of blind faith in Sarpi-Galileo-Newton space-time, the primary limits exceeded are the axiomatic presumptions of *limitless extension* in *perfect continuity*. To drive an established scientific opinion, to the limits at which one or both of those two assumptions breaks down, either in measurable degree, or by the appearance of a disruptive singularity, is the general principle of, for example, experimental physics.

33. The immediately following argument recapitulates the central argument of "That which underlies motivic thorough-composition."

of a strophic poem, or (for example) a motivic thorough-compositional mode in Classical musical composition, corresponds to the identity of that composition taken in its entirety.

Any qualified musician, or Classical actor, presented with that fact, will recognize that the proper way in which to perform the relevant musical or poetical composition, is to use that concluding idea of the composition as a whole, as the guiding rule shaping the succession of steps of performance in the development of that composition, at every point in the performance. This is the exemplification of the fundamental principle of scientific method, as encountered in Classical art-forms generally. This is the kernel of the Socratic method of Plato's Academy of Athens.

The immediate argument may be summarily stated, as follows.

Once this "metaphor of metaphors" has been established in the mind of the performer, for any Classical strophic poem (or, a comparable musical composition), that idea remains a fixed concept in the mind of the performer, from the beginning to close of his next presentation of that artistic work. In this way, that next performance of the work is dominated by the interplay of two ideas: first, the "metaphor of metaphors," which remains constant, from the moment of silence prior to beginning the performance, through the closing instant of silence, which immediately follows the completion of that performance; second, the constantly changing idea of the work-in-progress, as the performance moves from one stanza to the next, and, so, through the close.

In Plato's terms, the unchanging idea representing the "metaphor of metaphors," has the form of the *Good*; in other words, that idea is chosen by the mind of the performer, *for that occasion,* at least, as "the alpha and omega" of the composition taken as a whole; it is an unchanging idea, which does not undergo any change in itself during that developmental process which it directs.[34] In contrast to that unchanging, controlling idea, we have that evolving notion of the unfolding composition, which is reached at each point within the progress of that same performance, which has the form to which Plato ascribed the name of *Becoming*. Thus, in any successful performance of such a Classical poem or musical composition, the interaction between these two forms of ideas, Good and Becoming, generates a tension within the performance which the audience may perceive as "energy."[35] Exactly the sense of "tension" and "energy" is required for all great poetry, including the soliloquies and related excerpts of Shakespeare's tragedies.

Examine the structure of that tension: an awful, beautiful truth takes shape, within the early morning mists.

Consider the case of the Classical performer presenting a poem or musical composition. From the stillness of

34. There is no great performer of Classical works, or composer, whose notion of this *Good* of a particular work does not undergo significant change over time. For example, the author had not only the advantage of comparing his hearing the Amadeus Quartet perform some Beethoven in Munich, during the mid-1980's, with the Polydor recordings of about two decades earlier; but, the opportunity to discuss related matters with Norbert Brainin. Already, at the beginning of the 1960's, the Amadeus Quartet represented a standard of performance; they represented that Beethoven tradition transmitted directly *via* Josef Böhm's Vienna School of Violin performance, *via* Joseph Joachim, Carl Flesch, and the Amadeus members' teacher, Max Rostal. The referenced Dolna Krupa seminar on the subject of *Motivführung,* supplies us indication of Professor Brainin's notion of the nature of the improvement in conception which developed over the course of the decades. It is similar for the cases of composers such as Wolfgang Mozart, Ludwig van Beethoven, and Johannes Brahms: we may trace the evolution to the idea of motivic thorough-composition, from Mozart's initial 1782-1783 approach to the coincident conceptions of Haydn's Opus 33 and J.S. Bach's "A Musical Offering," through Beethoven's Opera 95-96 onward, as capped by the late quartets, and the new dimensions of a quoted "late Beethoven," in the hands of Brahms. Despite the changes in the performer's or composer's notion of a fixed "metaphor of metaphors," the idea undergoing such change retains the form of Plato's *Good*.

35. The most compelling examples of this are typified by, but not limited to, seven slow movements from Beethoven works. Slow movements have the pedagogical advantage of avoiding the popularized musicological delusion, that the sensuality of velocity, other pyrotechnics, are the source of "energy"—i.e., "excitement"—in musical performance; the fallacy of that Romantic view of sensual effects in art, is exposed by the imposition of the practice of "passage work" in the performance of a Classical composition, and related destruction of the idea-content of the work ostensibly being performed. Begin with the long phrasing of the opening passage within the second movement, *Adagio espressivo,* from Beethoven's violin-piano sonata, Opus 96. Compare this, as Max Rostal proposes, with the second movement, *Adagio molto espressivo,* of Beethoven's Opus 30, No. 1, the slow movement of Wolfgang Mozart's B-flat major (Strinasacchi) sonata K.454, and the second movement, *Molto adagio,* of Beethoven's second Razumovsky Quartet, Opus 59, No 2. [Max Rostal, *Ludwig van Beethoven: Die Sonaten für Klavier und Violine* (Munich: F. Piper & Co. Verlag, 1981)]. The second Razumovky's *Molto adagio* should be compared with the *Heiliger Dankgesang* movement of the Opus 132. From Beethoven's keyboard repertoire, compare the second movement *Adagio sostenuto,* of Opus 106, and the concluding movement, emphasizing the long coda, of that Opus 111 which Beethoven derived from a quotation of Mozart's K.475 Fantasy. Each of these compositions are characterized, in competent performances, by a concentration of relative "energy," "energy" supplied by the tension of the long phrasing required to sustain the unfolding of the motivic germ into the immediate aftertaste of the concluding tones. The source of this quality of tension in such passages requiring long phrasing, is the specific stress of sustaining change within the Becoming of the composition's development, this under the authority of an unchanging metaphor in the form of a Good.

the moment which must always precede the beginning of the piece's opening enunciation, through to the concluding momentary silence, the performance is governed by an unchanging goal. That purpose, is the realization of the cognitive necessity of the metaphor whose existence appears only in the conclusion of the composition. That unchanging metaphor's realization, is the purpose, the Good of the composition. Against this fixed conception of purpose, the mind of the performer is experiencing the developmental process, the Becoming, moving toward that goal: a developmental process which yearns toward, but which, within itself, does not yet know the conception which is that goal.

Thus, two conceptions coexist within the mind of that performer, during each instant of the unfolding of the performance: one fixed, and relatively perfect, one relatively imperfect, changing. True counterpoint. There is an additional, awfully profound difference between the two qualities of ideas thus juxtaposed. The latter difference may be described as follows.

Let the order of the development of the composition serve as the measure of relative time. At each moment of the process, the idea which has the form of the Good, comes as if from the future; it expresses the existence of that which is yet to be made known to the audience in the future unfolding of that composition in progress; whereas, the changing idea which has the form of the Becoming, comes from the embodiment of the past in the occurrence of that particular instant. In this contrast in time, lies the tension referenced above. Here lies the awful, beautiful truth about all human knowledge, expressed as art, science, or both. This is the key to comprehension of the laws of the universe.

The scientific principle of universal lawfulness, as understood by Plato, by Kepler, and as Leibniz's notion of *necessary and sufficient reason,* is of this same form as such a Classical composition in poetry and music.[36] The notion of lawfulness as *Reason,* corresponds to the sense, that any perfected metaphor subsuming (as from the future), the composition through which knowledge of that metaphor is coherently generated, is the *Reason* of that composition's unfolding, the *lawfulness* which governs that composition. In contrast, Sarpi's Galileo outlaws Reason, and substitutes the deductive-logical outcome of *blind, percussive causality.* For that Ockhamite atheist, and Servite monk, Sarpi, the motive for the present must be found in the past, not, as for Plato and the Christians, in the future; for him, as for such followers as Hobbes, Locke, Mandeville, François Quesnay, Adam Smith, and Jeremy Bentham, and the libertarian Mont Pelerin Society of Friedrich von Hayek and Milton Friedman, the Good, firstly, should not exist, and secondly, if it did exist, must not be allowed to interfere with the present.[37]

Science, like Classical art, is the inference of the necessary character of the future, from the assessment of the process of Becoming as coherently subsumed by a Good.

By virtue of the same principle we are examining here and now, the full comprehension of the implications of what we have just described, requires reference to Plato's

36. To most modern ears, this sentence is offensively shocking. Among German readers, for example, one hears captious hissing of ritual reference to Professor Friedrich v. Savigny; the critics' conceit may be expressed in the form of the following argument: "*Naturwissenschaft* [natural science] has no place in *Geisteswissenschaft* [e.g., the arts], nor is either to be confused with what Savigny prescribed to the axiomatically amoral domain of statecraft, *Rechtswissenschaft* [e.g., law]." Savigny, whose smallest distinction is that of having been Karl Marx's Berlin professor of law, was, like the founder of sociology, Professor Emile Durkheim [*The Rules of the Sociological Method,* 1895], a rabid follower of the positivist dogma of Immanuel Kant, most emphatically Kant's *Critique of Judgment.* The distinction between the simple Sarpians of "Newtonian social theory," and the positivist and existentialist followers of Newtonian fanatic Kant, including, ironically, Friedrich Nietzsche and Nazi philosopher Martin Heidegger, is that, whereas the simpler Sarpians, those whom Kant described as "philosophically indifferentist" [e.g., Kant's Preface to the first edition of his *Critique of Pure Reason*], such as Pierre-Louis Maupertuis, Giammaria Ortes, Adam Smith, and Jeremy Bentham, sought to derive every doctrine of social science from Sarpian mathematics ("Newtonian social theory"), the followers of Kant, such as Savigny, adopted the conclusion reached in Kant's last "Critique," that there are large areas of human activity, such as art, and law, in which there is no underlying moral or rational principle, but, at most, the irrationality of merely customary behavior. While official Prussian state philosopher, and Prince Metternich agent, G.W.F. Hegel still lived, he and Savigny dominated the university at Berlin, in Byzantine defiance of the efforts of the Humboldt brothers to introduce the teaching of modern science to that institution. Not accidentally [as Heinrich Heine warned in his *Religion and Philosophy in Germany*], the irrationalist school of Kant, Hegel, Savigny, and their fellow-romantics and existentialist followers, laid the foundations upon which Martin Heidegger's Nazi Party was later erected. Those persons who react viscerally against this writer's "mixing up art and science," should, therefore, reexamine more critically the roots of their own malignant prejudices.

37. Empiricism, therefore, demands such wicked notions as Locke's contribution of "life, liberty, and *property*" [emphasis added] to the Constitution of Britain's puppet-entity, the Confederate States of America, in savage hostility to the U.S. Federal Constitution's ". . . promote the general Welfare, and secure the Blessings of Libery to ourselves *and our Posterity*" [emphasis added]. The Confederate constitution's emphasis upon "property" is made in explicitly Lockean hatred against Gottfried Leibniz's "life, liberty, and the pursuit of happiness," the latter the burden of the U.S.A.'s Declaration of Independence from the evils of the British monarchy.

Parmenides; without considering the *Parmenides* in this dawning light, it itself could not become adequately understood.

The *Parmenides* poses the problem of conceptualization of any formal theorem-lattice. Implicitly, as the other later dialogues of Plato make clear, the *Parmenides* considers not only a theorem-lattice, but also a manifold of the type which Riemann treats in his habilitation dissertation. The latter is a manifold of successive hypotheses, all related, but each of a higher rank of relative truthfulness than its predecessors. The latter case, in which the elements of the series are each hypotheses, so qualified, supplies the minimal definition of a Platonic Becoming. Consider the implied two cases. First, the inferior case, in which the subject is a lattice of theorems. Next, the superior case, in which each particular element of the lattice is an hypothesis of a Riemann series, rather than merely a theorem.

On both of the levels just described, both that of the theorem-lattice and of the hypothesis-lattice, we are confronted by a succession of elements, each of which, at first impression, has a unique, distinct individuality, analogous to that individuality attributed to any particular sense-perception. It appears, at first, to be an array of particular facts, or, of particular theorems, or, of particular hypotheses.

The *Parmenides* notes, as if in an ironical aside within that dialogue, that the inability of the character Parmenides to find a conception commonly subsuming all of the members of each array, is the result of the Eleatic reductionists' refusal to take the principle of *change* into account. For, if one could show that the pairwise difference among the elements of a functionally related collection might be expressed adequately by some functional notion of change, that notion of change would acquire the significance of *transfinite,* or Becoming, in Georg Cantor's work. In that case, a collection of related facts leads to a subsuming theorem, the elements of a consistent theorem-lattice lead to an hypothesis, and an orderable series of validated hypotheses, each and all generated in the same mode of discovery, through creative reason, defines what Plato identifies as an *higher hypothesis.* In such cases, the relevant theorem, hypothesis, or higher hypothesis, comes into existence, as a Platonic idea.

Such a theorem is a claim against the future. Such an hypothesis is also a claim against the future. Each, so conceived as a relative future, has the approximate quality of form of a Good, akin in this respect to the concluding metaphor which then subsumes that poem or musical composition by means of which its cognition as an idea is generated. This view of theorem, hypothesis, and higher hypothesis, is the notion of Reason, of a universal lawfulness knowable to the cognitive powers of individual creative reason. Plato, on this account, recommends that we think of God as the *Composer,* and

'I Know What's Going On—I Watch TV Every Night!'

The key to destroying the creative powers of the mind, in the millennia-long tradition of the oligarchy, has always been Aristoteleanism. But you cannot use Aristotle openly, dogmatically. You have to sneak him in through the back door, as an anti-authoritarian, as a radical democrat. A new, "lean and mean" Aristotle, as leader and priest of a new "Liberation Movement" called the Enlightenment—supposed liberation from "religious dogma," from "Absolutism," from "old-fashioned moral values," etc., etc.—all the way to Newt Gingrich's liberation from the "oppression" of the U.S. Constitution. Teach people to hate the notion of the "common good," which can only be defined from the standpoint of Socratic Reason. Degrade society into an algebra of soul-less particles, each impelled by Lockean impulses of self-evident pleasure and pain.

Essentially, you corrupt scientists and citizens by glorifying their weakness, by teaching them to take the easy way, to trust in "lazy reason." Teach people to repeat Newton's "*hypotheses non fingo,*" to believe that sense perception is the origin of knowledge. Build up a myth of Galileo as a martyr against the so-called "Tyranny of Reason," and use Venice's Aristotelean assets in the Church to play both sides at once. Make a revolutionary slogan out of Galileo's insistence, "Don't tell me how the Universe is organized! I saw it with my own eyes, through my telescope." Let this rallying cry be echoed, by the foolish citizens of dying nations, who say "Don't tell me what is going on in the world, I watch television every night!"

And then, enforce that corruption by silencing anyone who dares to raise his voice against the magical delusion of "objective science."

Jonathan Tennenbaum,
Eltville, Germany

regard His universe as a lawful *Composition*.[38]

These principles of Classical poetry and music occur within the domain of natural-science practice, as, for example, Riemannian physics. In the LaRouche-Riemann domain,[39] the Many are represented by a collection of hypotheses, each ranked and ordered, relative to the others, according to the increase of man's *per-capita* power over nature (potential relative population-density), and as one hypothesis serves as necessary predecessor for its successor. The immediate solution to the challenge of unifying cognition of such a series of hypotheses, is the principle of discovery subsuming the generation of each and all of the open-ended array of hypotheses: the Becoming. That latter, "transfinite" principle of discovery is designated as an "higher hypothesis."

The development of the Platonic idea of higher hypothesis, at each instant of progress in human knowledge, presents us with a metaphor. This metaphor, is to be applied retrospectively to the process of development of relatively valid hypothesis. This is done according to the same principle of memory which governs the tension between the opposing Good and Becoming respecting the performance of a Classical strophic poem, or relevant musical composition.

The Clash of Future and Present

Examine this relationship between Good and Becoming once more. We have presented a summary of the relationship. This time, walk through the details of the process. This time, observe that valid ideas could not be generated in any other way, than coming to know an idea through this process.

The kernel of the *Parmenides,* is what is termed an *ontological paradox:* "Is primitive physical reality that which we locate primarily in that which corresponds to the images of sense-perceptions, isolated facts; or, is the efficient ordering of physical reality located in that which corresponds to an idea in the form of a Good?" True ideas are never built, brick by brick, on a deductive accumulation of facts. In collections of the type presented in the *Parmenides,* the mind forms an idea by considering the array of particulars, the "Many," in a series. It experiences the collection to be considered, over a lapse of time. The idea which is developed respecting that collection—the "Many"—in its entirety, occurs within the place that the mind concludes the lapse of time employed for the scansion of the array.

Consider the case, that in the process of scanning an array of this type, the mind experiences no different reaction to the array as a whole, than it does to the first several examples within the collection. There is no experienced inconsistency, no change of valuation, no intellectual tension, in passing from the first several cases, to cases considered later. There is no indication that an idea must be generated; nothing appears to contradict the preestablished opinion respecting such subject-matters. It is the encounter with change, the proverbial, stubborn undeniability of the crucial-experimental "exception to the rule," in passing among the terms of the collection, in lapsed-time succession, which demands the cognitive action leading toward the generation of a new idea. In this latter case, the situation is analogous to what we have summarily described for the case of a Classical strophic poem or comparable Classical musical composition.

The point being illustrated thus, is, that without the cognitive counterpoint of the Good and Becoming, no valid idea is generated. It is the intersection of the relative future, the relative Good, with the past, the relative Becoming in the process of Becoming the present, that the mind generates and recognizes those ideas which satisfy the quality of knowledge. It is the cognitive collision of future (Good) with past (Becoming), which defines that formal discontinuity, that singularity, which corresponds to a Platonic idea. It is that collision, that determination of a singularity, which marks a Platonic idea as an individual idea.

Remember that crucial point. Since a Platonic idea (e.g., a metaphor) comes into being without being bounded by reference to an individual sense-perception, how could a Platonic idea, lacking a particular sense-object of reference, have well-defined *individuality?* The notion of a horse, cow, leaf, dish, and so on, has individuality,

38. E.g., in the *Timaeus.*

39. The term, "LaRouche-Riemann Method," was adopted during November-December 1978, to designate the subsuming body of conceptions under which the *Executive Intelligence Review* magazine's 1979-1983 Quarterly Economic Forecast was generated, according to an array of linear inequalities supplied by the present writer. The core of the method was the writer's 1948-51 discovery (directly in opposition to professors Norbert Wiener and John Von Neumann, *et al.*) that the sole proof of any argued scientific principle is the increase of society's potential relative population-density, effected through those fundamental discoveries which each, in turn, represented discontinuities in the fabric of a preexisting scientific doctrine. The problems of measurement posed by this discovery, led, during 1952, to a close examination of the work of Georg Cantor, and, thence, a reexamination of Riemann's treatment, in his habilitation dissertation, of the metrical problem of physical-space-time curvature under the condition of a succession of hypotheses ordered in the *(n+1)/n* mode. (This is not to be confused with the failed differential geometries which presume the axiomatically efficient existence of linearity in the very small.) Thus, the descriptive term is "LaRouche-Riemann," rather than the seemingly conventional, but careless and misleading "Riemann-LaRouche."

because it pertains to, is assigned axiomatic correspondence with a sense-perception which has individuality. How is individuality achieved for ideas which have no such ties to individual sense-perceptions?

Remember, that this is no empty speculation, no marginal issue. Platonic ideas express the absolute difference which sets the individual member of the human species[40] absolutely apart from, and above all inferior species.

Were Platonic ideas not the controlling agency of opinion among intelligent, civilized persons, the human species would never have surpassed population-levels of several millions living individuals, nor life-expectancies much above adolescence, if that. Human existence depends upon classes of ideas—Platonic ideas—which are outside, above mere sense-perceptions. It is man's successful, revolutionary changes in that implicit hypothesis underlying any established patterns of behavioral responses, which enables mankind to improve the life-expectancy, and related demographic features of society, while also increasing man's physical power over nature, *per capita, per* household, and *per* square kilometer of our planet's surface.

It is the generation of increasingly powerful Platonic ideas, which is the characteristic distinction of the human species, of human society. The difference between the savage's perception of a rock, and civilized man's perception of the same object as "ore," is not a difference in our sense-apparatus, but reflects the superiority of the creative cognitive powers of the human individual over the mere opinions of his, or her sense-perceptual apparatus. It is the development of the Platonic powers of ideas in the cultivated, creative mind, which instructs the mind in interpreting the stimulation of the senses. Even had an individual no senses at all, it were possible, in principle, for him, or her, to function efficiently in society as a genius.[41]

The idea of individuality itself exists, not as a locale within a continuum, but as the singularity generated where future embraces past, and that with tension. That individuality is not located in a "Euclidean point." It is the characteristic of a *region* of physical space-time, in which the intervention of the future presently imposes a momentary discontinuity upon the past.

The significant question thus posed, is: How far into the past and future, does this region of individuality extend?

What I *know,* or anyone else, is the sum-total of those Platonic ideas I have either generated, as valid original discoveries of principle, or those Platonic ideas which I have regenerated as replications of the act of original discovery by others before me. My debt on account of the discoveries which I have explicitly relived reaches far back into history, to a time much earlier than Homer, Thales, Solon, Aeschylos, Socrates, and Plato. That far, my indebtedness for what I am today reaches deep into mankind's past. Each of us reaches forward in time, through the impact of the Platonic ideas we merely replicate and transmit, in addition to such valid original discoveries of principle as we have also contributed to our posterity. If our actions help society to survive, our actions reach far, far into the future of mankind's existence.

If the mortal limits of our existence reach so far into past and future, alike, in this way, how big are we? How might each of us estimate the breadth of that region of physical space-time which any one among us happens to occupy? Is there some "final judgment" of our historical existence, to be delivered at some future time, when the skein of our having existed might run out?

Forget infinity! It does not exist! Nor, is there a beginning of time, nor an end of it! Think of one's life as one might think of a Classical work of poetry or music. Our efficient individual existence is a metaphor, in the form of the Good; what the existence produces, as metaphor, is the timeless alpha and omega of our individual existence, as is the case for any great poem or musical composition. Just as a great discoverer's work of creative reason defines what we know of his, or her having lived, or a great creative artist, so it is for all of us. The lesson to be learned, is to enjoy the immortal Good of one's mortal life, and let that Good shape the developments which are the process of our becoming.

Goodness does not lie outside the world of physical space-time. Rather, the meaning of our brief, mortal, individual life is to convey the influence of Goodness into the process of development of physical space-time. That is the spirit, the underlying idea and motivation, of Classical art, and of science.

Classical Music

Music can not be understood competently in any other way than its relationship to Classical forms of strophic poetry. On this account, we must find the following question exemplary.

Since Friedrich Schiller was the poet who moved Beethoven the most, why is Schiller's poetry not the more frequent subject of Beethoven's songs? Franz Schubert's views on music, like those of Beethoven, were shaped

40. Even that self-professed bit of world wildlife, that man-ape, HRH Prince Philip, Duke of Edinburgh.
41. Helen Keller was not characterized by her senses, but by her mind.

most significantly by Schiller's writings;[42] why was he, relatively speaking, so unsuccessful in treating Schiller's poetry as subjects for his songs? To similar effect, Brahms, in his instructions to Jenner, advises Jenner to select strophic poems from relatively less powerful poets.[43] When the question was posed to Beethoven, he replied to the effect that the musicality of Schiller's poetry left little for the musical composer to do, that poetry whose musicality needed improvement by song were therefore more appropriate subject-matters. Hence, although Beethoven and Schubert regarded Bettina's Johann Goethe as a relatively inferior poet, and personality—relative to Schiller, it was from Goethe's poems, that Mozart, Beethoven, and Schubert set some among their celebrated songs. Goethe's pathetic rejection of the musical settings of his poems by Mozart and Beethoven is brightly illustrative of the point; that case, thus, completes the picture.

The crux of the matter is this. The musicality of a poem is indispensable counterpoint to the metaphorical development of the verse's text. As Mozart, Beethoven, and Schubert have demonstrated for the case of Goethe, few poets, even good ones, such as Goethe or P.B. Shelley, are entirely satisfactory on this account. Classical music is derived from this musicality of poetry, beginning as "songs without words," and proceeding to pure counterpoint within the domain of musicality as such. Therefore, let it be understood, that one should not look for a symbolic or dramatic "meaning" in Classical musical compositions; look only for a musical meaning. This does not mean that Classical music lacks ideas; it signifies, that the ideas encountered are expressed as musical ideas, not mere translations of verbal ones into music.[44] Motivic thorough-composition is a relatively distilled expression of this principle of musicality.

For the purpose of this report, the following is sufficient explication of everything, on the subject of music, which needs to be added to our preceding review of poetry.

A musical motive by Mozart, Beethoven, or Brahms, is located in a germ composed of a pair of intervals. Many things may be said of this. Here, we need be occupied only with the strophic implications of the derivation of all essential material within a composition from such a pair of intervals. The purpose of rigorous regularity in art, is to provide for the unambiguous generation of a paradoxical anomaly, the paradox which demands the synthesis of a new hypothesis. That we might see the foolishness of existing order, we must expose the disorder inhering in its ruling principle; that our minds might distinguish such disorder, such irregularity, clearly, it must be set within the rigorous development of regularity. In music, this has been best accomplished by using a motivic pair of intervals to the same general purpose a series of strophes is the the commonest form of Classical poetry. By driving the motivic unfolding of counterpoint to its limits, and opening up new dimensionalities of consonant composition through resolution of the paradoxes so generated, the greatest relative density of musical ideas is achieved.

The characteristic feature of Classical music is great beauty blended with extreme intensity. This sense of beauty is associated with a quality which the *New Testament*'s original Greek identifies by *Agapē,* otherwise identified as that quality of Christian love emphasized by Paul's *I Corinthians* 13. It should not be difficult to recognize the significance of this quality of *Agapē* from the play of happy children (usually, unfortunately, of preschool age). Creative reason is not logical; it is loving; but, to balance matters off, logic is incapable of creative reason.[45] It is not uncommon among us, to speak of a moment of valid insight into a new principle (whether original to ourselves, or the reexperience of a discovery made by another), as like a "light turning on in the mind." This experience advises us, that there is an affective quality to creative reason, a quality absent in formal logic.

This affective quality is more readily placed, by comparing the experience of valid creative discoveries, to the love which parents experience through sharing the child's elation in successful insight, into a principle of constructive play (for example). Similarly, Christians sometimes identify agapic love by reference to God's love for mankind. True nurture of the children by the parents is rooted in the shared experience of *Agapē,* which is, therefore, the parent's nurture of this agapic quality in them-

42. See *A Manual On the Rudiments of Tuning and Registration,* ed. by John Sigerson and Kathy Wolfe (Washington, D.C.: Schiller Institute, 1992); Chap. 11, "Artistic Beauty: Schiller versus Goethe," pp. 199-228

43. *Ibid.*

44. It is not rare, that Beethoven, for example, uses the vocalization of a poetical verbal passage as the prompting of a motivic germ for a composition. The opening "Lebewohl" of his piano Opus 81a is exemplary. The *Heiliger Dankgesang* of his Opus 132, has attracted much discussion on this account. All Classical instrumental forms in music are derived from the vocalization of Classical poetry, or, more broadly, from the principles of prosody familiar to us from Classical poetry. The *Lied* of Mozart, Haydn, Beethoven, Schubert, Mendelssohn, Schumann, and Brahms, is the place from which to begin to understand these same personalities as composers of instrumental music.

45. Are we obliged to say, "Poor Dr. Spock! How unfortunate!" Or, perhaps it is the New Age mentalities who created and directed the anti-science, cultural relativist scripts for that television series, who require our pity on this account.

selves, as much as it is for their children.

Here, in *Agapē,* the poet John Keats' truth and beauty are joined as one. The emotion, the motive of Classical music, especially the *Motivführung* of Mozart, Beethoven, and Brahms, is this *Agapē.* That agapic principle, is the *Good* of all Classical composition, that of J.S. Bach, and of all motivic thorough-composition of the great artists. It is that which supplies a religious quality to all Classical compositions in music. It is that agapic principle, the agapic idea of beauty, which guides both the great composer and the performer of his works. It is from that same principle that the spirit of science is derived.

So, does modern civilization depend upon the contributions of great Classical musical composition. Without it, for example, our churches would degenerate into centers for the paganism of dionysiac rock entertainment, and, as a modern Cotton Mather might write, our decadent contemporary civilization would disintegrate into a New ("Dark") Age of virtual *Nothing.*

Science and Public Policy

In this light, consider briefly, in succession, three topics bearing on the determining impact of the academically popular, but pathetic ideas of *continuity* and *causality* upon the shaping of, and toleration of public policy: first, how the action of memory defines a scientific principle; second, the notion of scientific lawfulness as retrospection's insight into the future; and, third, memory as the source of our sense of responsibility toward our posterity. We have examined the proposition, that, not only is natural science Riemannian—in the sense of Riemann's habilitation dissertation, but that all Classical art is also premised upon the same principle. Now, consider these notions of the shared axiomatics of science and art as keys to the way in which societies choose the pathway to progress, or self-induced doom.

First, whenever an ineradicable singularity appears in a series of events, to the effect that the preexisting, relevant axiomatic assumptions are shown to be in error, the valid solution to that manifest error is a new hypothesis. In that moment, everything respecting the class of events represented by that series, must be reconsidered. The effect is analogous to the case in which the Classical performer realized that he had been shaping his performances of a certain composition by the wrong choice of metaphor; the entire composition must now be performed in a new way, according to a notion of the relevant Good consistent with the validated new discovery of principle. It is the same for natural science.

Second, in each instance of such a valid discovery of new axiomatic principle, we must consider not only the immediate paradox which the principle remedies. We must also consider all relatively valid discoveries of principle leading up to the point at which a crucial-experimental inconsistency required the discovery of the added, new principle.

If we trace a line of Classical natural science, from Thales, through Plato, Archimedes, Cusa, Leonardo da Vinci, Kepler, Leibniz, Gauss, and Riemann, we should not describe any among the crucial discoveries of principle developed by these figures as an "error," merely because more recent, crucial-experimental evidence superseded some of that. Each of those past discoveries (in that line of succession) was relatively valid at the time, and for the circumstances in which it was presented. It was necessarily correct, at least in a relative sense, but was not eternally sufficient.

From the present writer's standpoint, as identified above, or, alternately, elaborated in one or more of the references supplied here, no discovery should be described as "in error," if it increased mankind's potential relative population-density.

There is another vantage-point from which to examine the crucial point being addressed, that of the student who has reexperienced the valid fundamental discoveries of principle by numerous, long-deceased, original scientific thinkers. Unfortunately during most recent generations' classrooms, that is not generally the method of science and related education; but, all among us who have acquired much knowledge did so chiefly outside the domain of the classroom and textbook, through reworking a combination of primary and secondary sources.[46] For most of us, at best, the classroom and textbook provided some stimulus, and much more provocation; the principal parts of our learning came through working matters through outside the classroom, coming to know the original thinkers of the past as our friends and teachers, and, as the onlookers, from within our memories, who served as our scientific conscience.

Think of the historical accumulation of relatively valid discoveries of principle, as a Riemann series of hypotheses, of the *(n+1)/n* type. Shift from the formal image of each of those discoveries, to the emotional experience of reliving the original act of discovery. That repeatedly relived, agapic act of rediscovery by the student, or former student, and, perhaps an original discovery or two of one's own,[47] forms a series cohering with the formal series of the *(n+1)/n* type, and in correspondence to it. This repeated, agapic action of combined rediscovery and

46. As this writer, for example, during his own adolescence, fought the battle for Leibniz against Kant, *et al.*
47. Such as the referenced discoveries of the 1948-1952, by this writer.

Paolo Sarpi on the Origin of Religion

Fra Paolo Sarpi, "Theological counselor" to the Venetian Doge and Senate, penned the following for his *Pensieri sulla religione* (*Thoughts on Religion*). Sarpi applied his "sociology of religion"—according to which man's belief in the Divine arises from fear, greed, and limitation—not merely to pagan beliefs, but to the God of Christianity. A modern restatement of Sarpi's Enlightenment tract can be found in such works as William James' *Varieties of Religious Experience*. Sarpi writes:

> The purpose of man, like that of any other animate being, is *to live*. *To live* requires maintaining our existence, by the use of our self, and our parts, as well as of things external; that is how nature operates. Cognition is the origin of human activity, and therefore it is necessary to have cognition of one's own nature; of the nature of human beings, and of other things; and even of the whole universe.
>
> The crude mind forms the following opinion concerning himself: that he is a unity, is passible [i.e., liable to be acted upon–Ed.], is deficient, and is free to act. From passibility, there is born the emotion of fear. And out of passibility and fear, he recognizes the possibility of threats to his existence; and such things are deemed Evil. From deficiency, there arises greed. And from this, he comes to the idea of things which can maintain or restore his original condition; such things are deemed Good. As for objects other than himself, the crude mind presumes that they possess the same qualities of unity and freedom; since, owing to his own internal constitution, he cannot think differently than he is.
>
> For those phenomena whose operating entity he cannot perceive, the crude mind now forms the idea of insensible things; this is his first apprehension of Divinity, arising from the foregoing, but principally from fear and greed. Fear is primary, and the first ideas of divinities are of Evil ones.
>
> And, even though through progress he learns that everything does not function as he does (but rather as parts, not operating out of cognition)—such that he distinguishes things whose actions are caused by natural processes, from those which act freely; nonetheless, he continues to make the presumption of freedom for all things whose natures are as yet unclear; a presumption which he maintains perpetually for those things that can never be clarified. And as a consequence, he continues to presume it of everything to which he attributes Divinity. *But, since man is finite and incapable of the infinite, being capable only of operations of an arithmetical sort, when he starts esteeming himself capable of everything, he must deem the universe to be finite, ascribing to it a sort of unity, passibility, and deficiency. And so he ascribes to the Divinity, just what he thinks concerning himself.* [emphasis added]

original discovery, is the key to an higher hypothesis; once one has added an original valid discovery of principle, to the repeated reexperiencing of the original discoveries of others, a higher level of scientific thinking comes into view. A shift in outlook is made, beyond the notion of the act of discovery of valid principle, to the notion of a *method* of repeated discovery of valid principles. This is the Platonic method; this is the principle of *higher hypothesis*.

Thus, from this vantage-point, man's knowledge of the universe is *not* limited to what science has learned from its latest, crucial-experimental-based discovery of a new principle. Our knowledge of the lawfulness of the universe as a whole is derived from *hypothesizing the principle of higher hypothesis*. It is the proneness of the universe to submit to the will of demonstrable principle of higher hypothesis, which defines natural law, even in advance of new discoveries of principle yet to be attained. The efficiency of that principle of higher hypothesis, respecting man's increasing power to command the universe, has the import of a corresponding principle of design of the universe.

Third, thus, that much do we know respecting the future. That knowledge provides the basis for defining our efficient accountability to our posterity. Since we know that much respecting the future, we are morally obliged to act accordingly, to impose that knowledge respecting the future, upon our present policy-shaping. This we have just summarized, is the notion of Reason in Plato, Kepler, and Leibniz. This is also the principle of law embedded in the Preamble of the U.S. Federal Constitution, which is, on that account, the best constitution yet designed.[48]

In contrast, consider once more the relevant excerpt we have frequently quoted from so-called "economist" Adam Smith's 1759 *The Theory of the Moral Sentiments:*

> The administration of the great system of the universe . . . the care of the universal happiness of all rational and sensible beings, is the business of God and not of man. To man is allotted a much humbler department, but one much more suitable to the weakness of his powers, and to the nar-

48. Even if many among today's U.S. lawmakers and judges manifestly want the functional literacy required to read it.

rowness of his comprehension; the care of his own happiness, and of his family, his friends, his country . . . . But though we are endowed with a very strong desire of those ends, it has been entrusted to the slow and uncertain determinations of our reason to find out the proper means of bringing them about. *Nature has directed us to the greater part of these by original and immediate instincts. Hunger, thirst, the passion which unites the two sexes, love of pleasure, and dread of pain, prompt us to apply those means for their own sakes, and without any consideration of their tendency to those beneficent ends which the great Director of nature intended to produce by them.* [emphasis added–LHL][49]

This quoted argument by the manifestly evil Smith, is a faithful copy of that defense of libertarian immorality presented by Bernard de Mandeville, in the latter's pro-Satanist, 1714 *Fable of the Bees, or Private Vices, Public Benefits*.[50] The argument, of both Mandeville and Smith, is formally derived from Hobbes' kinematic model of society. The same argument arises, under the rubric of *laissez-faire,* in the celebrated doctrine of the Physiocrat Dr. François Quesnay; Quesnay, was, together with the notorious Voltaire, one of the *philosophes* promoted by Venice Abbot Antonio Conti's Europe-wide network of salons. Although Quesnay's Gingrich-like argument for *laissez-faire* was supplied in the service of the Anglophile *Fronde* tradition among France's landed aristocracy, during Adam Smith's post-1763 assignments in France, as an anti-American-colonies, British East India Company agent, Smith copied much of the dogma of the Physiocrats, into the foundations of his argument within the 1776 *Wealth of Nations*. Just as Smith's apology for the British East India Company's international drug-pushing was copied from the dogma of Satanist Mandeville, "free trade"—while consistent with Mandeville's dogma—was an English translation of Quesnay's *laissez-faire*.

Mandeville, Quesnay, Adam Smith, together with the founder of the British monarchy's present-day foreign service, Jeremy Bentham,[51] typify the axiomatic kernel of all empiricist and positivist social doctrine, including, as we have noted here, the doctrines of modern language and its literature. That collection presently includes the "freedom-to-be-a-fascist" varieties of economic dogmas of John Von Neumann, Friedrich von Hayek, Milton Friedman, and other witches, wizards, and warlocks of the Mont Pelerin Society's hagiolatry.[52] Smith's particular significance for all of modern empiricist social theory, of which most taught university economics is a mere variety, is that he marks the transition in practice of all empiricist social theory, toward the "hedonistic calculus" of Maupertuis, Ortes, and Bentham. It is out of this, that modern university social doctrine has derived the popularized positivist strain of pseudo-scientific, statistical method, the presently prevailing characteristic of the teaching and practice of the so-called social sciences.

Limiting our attention here to bare essentials, the development of those present-day statistical doctrines, has the following highlights. The development begins with the "kinematic" social doctrine of Galileo-trained mathematician Hobbes. The next notable development is

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49. As quoted in Lyndon H. LaRouche, Jr. and David P. Goldman, *The Ugly Truth About Milton Friedman* (New York: New Benjamin Franklin House, 1980), p. 107.

50. See H. Graham Lowry, *How The Nation Was Won, op. cit., passim*. Lowry references the 1934 London reprint of the 1714 edition. [Also SEE p. 38, this issue.]

51. The British Foreign Service was founded in 1782, under the patronage of Prime Minister (July 1782-February 1783) William Petty Fitzmaurice, also known as the Second Earl of Shelburne ("Lord Shelburne"). First head of the newly established Foreign Service was Shelburne's protégé Jeremy Bentham, the latter the controller of the leading U.S. traitor Aaron Burr and the treasonous opium-trafficking "Hartford Convention" ancestors of McGeorge Bundy *et al.* Bentham, who directed France's Jacobin Terror from London, and trained Jacobin leaders such as Danton and the Swiss Marat, is the architect of the modern British foreign service and related intelligence services. Lord Palmerston was one of Bentham's *Golems*. Palmerston, in turn, orchestrated the formation of the British monarchy's present-day ruling oligarchy (known as "The Club of the Isles"), and reshaped the monarchy itself, through King Edward VII, both as monarch and as virtual acting monarch during the preceding long decades of his mother Queen Victoria's seclusion. Otherwise, in this location, Bentham's significance is as the founder of what became known as "Nineteenth-century British philosophical radicalism," otherwise recognized as "radical empiricism."

52. Friedrich von Hayek's Mont Pelerin Society is the most important among those fascist ideological associations of the post-war period. It was created during the early post-war period, by the sponsorship of the British intelligence establishment—including former Prime Minister Winston Churchill, as a re-packaging of leftovers from that rainbow coalition of radical eccentrics which Dr. Armin Mohler's inside account of the Nazi Party identifies as the "Conservative Revolution" of the 1919-1932 interval [Armin Mohler, *Die Konservative Revolution in Deutschland, 1919-1932* (Darmstadt: 1972)]. The "universal fascism" dogma of Henry A. Kissinger crony Michael Ledeen, is not inconsistent with Mont Pelerin ideology. The majority of winners of the Nobel Prize for economics are fascists of the Mont Pelerin Society, as are the Mont Pelerin-controlled, Washington, D.C. Heritage Foundation and other elements of the "neo-conservative" currents associated with Dame Margaret Thatcher and her admirers today. Fascism's roots lie in adulation of the pagan traditions of the Roman Empire, as codified by the Emperor Diocletian. Fascism converges implicitly upon the kind of "one-world order" which has been most openly supported as a "new world order" by George Bush and many others, since the 1989-1991 collapse of Soviet power, modelled upon the oligarchical and satrapal system of the Babylonian, Achaemenid, Roman, and Byzantine empires, eliminating the modern European nation-state. Such is the root of the ideas of "universal fascism" associated with the Nazi design for a "new world order," by Michael Ledeen, and today's globalists generally.

the work of the Seventeenth century's Sir William Petty, a forerunner of the libertarian dogma of Mandeville and Adam Smith, and one of the sources for Smith's 1776 *Wealth of Nations*. The Eighteenth-century development of statistical social doctrine occurred under the direction of Venice's Abbot Antonio Conti, the man who engineered the modern apotheosis of black-magic devotee Isaac Newton, through a Europe-wide network of salons constituted for this purpose.[53] Two of Conti's assets, Pierre-Louis Maupertuis and Giammaria Ortes, jointly launched the effort to create a mathematical "Newtonian social theory," as echoed by Bentham's hedonistic calculus.[54] Out of this came the developments leading through the utilitarianism of John Stuart Mill and Mill's godson, Bertrand Russell. John Von Neumann's social and brain dogmas are an outgrowth of this same current.[55] All of this is fairly placed under the common rubric of "Hobbesian behaviorist social theory."

Formally, that Hobbesian social theory can be reduced to a matter of comparative degrees of attraction, or repulsion among arrays of selected, pairwise options. E.g., "Which attracts him more, or less than . . .," and "Which repels him more, or less than . . . ." For each case, attraction or repulsion, there are seven rough degrees of comparison: absolutely less, much less than, less than, equal, more than, much more than, absolutely more. That structure yields fourteen available degrees of comparative distinction for each pairwise selection in the total array. There are other sets of constraints available, but the principle remains the same as that in the example given. The model provided by Von Neumann and Morgenstern, is such an alternative set of constraints. This is the model for introduction of the empiricist notion of quantifiable "causality" into every branch of liberal-arts teaching and related practice, including a perverse but hegemonic doctrine of criminal law.[56] In other words, a statistical calculus upon which a "Newtonian social theory" may be based.

Although the *differentia specifica* of Sarpi's strategy are centered in the emphasis upon the application of the indicated mathematical axioms to every branch of learning and public-policy shaping, one can not comprehend the implications of Sarpi's design, without taking into account that ideology which Sarpi's innovations revised. To that purpose, consider, if but summarily, the most crucial features of the Venetian tradition which Sarpi revised in this way.

The Tragic Birth of the Modern Nation-State

Although the modern nation-state first came into existence during the 1461-1483 monarchy of France's Louis XI,[57] the roots of the modern conflict within European civilization, between the modern nation-state and its feudalist adversary, date from the time of the celebrated constitutional reformer Solon of Athens.[58] The European effort to build a form of society fit for the human species, is known to us from the Ionian constitutional city-state republics of the time of Thales. Then and now, the adversary which need be overcome, to accomplish that, was what was known then as *oligarchism*.

Then, the adversary was the form of oligarchism endemic to Mesopotamia and Canaanite Tyre. The first was the oligarchy of the Babylonian satrapal empire, both as the Babylon of Belshazzar's Feast, and under the Achaemenid dynasty. It also occurred, secondly, in the thalassiarchical oligarchism of the evil Canaanite city of Tyre, as Venice later. It was known, in the time of both Plato and his adversary, the sophist Isocrates,[59] as the "oligarchical model," a term which then signified the social systems of the Persian empire and Tyre. In medieval and

53. John M. Keynes, "Newton the Man," in *Newton Tercentenary Celebration* (Cambridge, U.K.: Cambridge University Press, 1947), pp. 27-34. Keynes described Newton there, as, "the last of the magicians, the last of the Babylonians and Sumerians . . . wholly devoid of scientific value."
54. *An Introduction to the Principles of Morals and Legislation* (1789).
55. E.g., J. Von Neumann and O. Morgenstern, *The Theory of Games and Economic Behavior* (Princeton: Princeton University Press, 1944, 1947, 1953), and the posthumously published Yale lectures, J. Von Neumann, *The Computer and the Brain* (New Haven: Yale University Press, 1958).
56. The influence of House Speaker Newt Gingrich's fascistic "Contract with America" obliges us to focus upon existing fascist trends in practice of law, especially the criminal law. Fascism in German law is typified by the influence of Friedrich v. Savigny, as reflected in the role of Carl Schmitt in shaping legal practice under the Hitler regime, and in the inherently fascist character of any body of legal practice derived from the doctrines of John Locke. A report on the relevant issue of the debate over the notions of *causality* and *finality* in German doctrine of criminal law, is being prepared currently, by a specialist associated with this writer, for publication later this year.
57. *Cf.* Friedrich Freiherr von der Heydte, *Die Geburtsstunde des souveraenen Staates* (Regensburg: Josef Habbel, 1952).
58. Friedrich Schiller, "What Is, and to What End Do We Study Universal History?," trans. by Caroline Stephan and Robert Trout, and "The Legislation of Solon and Lycurgus," trans. by George Gregory, in *Friedrich Schiller, Poet of Freedom, Vol. II* (Washington, D.C.: Schiller Institute, 1988), pp. 253-305. These were lectures delivered by Schiller in his capacity as Jena University Professor of Universal History.
59. The sophist Isocrates, the teacher and controller of Aristotle, was the head of the Athens school of Rhetoric, a center of Persian influence within Athens of that time. The historian will find Isocrates most notable as advocate of an accommodation between King Philip of Macedon and the Persian Empire.

modern European history, oligarchism is represented by the rival institutions of a feudal landed aristocracy and the Phoenician, "bourgeois," maritime form of financial oligarchism, as typified by the Phanariot merchants of Byzantium and, later, the financial aristocracy of the "New Phoenicia," Venice.

To understand today's worldwide European civilization, it is obligatory that we pick up the track of European history at the beginning, in Classical Greece. To that purpose, turn to some most relevant crucial work of the Classical tragedian Aeschylos.

In keeping with the fact, that this report addresses the role of culture in shaping the physical fate of civilizations, turn attention directly upon the intellectual model of oligarchism, as known to the ancient Greeks. The relevant model for oligarchism as known to the ancient Greeks, is the image of god and man commonly underlying the pagan religious mythology of the Phrygian Cybele-Dionysos, the legendary Gods of Olympos, and the Delphi cult of Gaia, Python-Dionysos, and Apollo. To this point, see the Gods of Olympos on the stage, as depicted in the tragedian Aeschylos' famous *Prometheus* fragment.

So far, we have considered poetry, music, and science. Now, in addressing the subject of oligarchism, consider the way in which the same principle of composition is expressed, in Classical drama, of which the highest form is tragedy.

The simplest, one might say the purest model of Classical tragedy in particular, and Classical drama in general, is the surviving fragment of Aeschylos' *Prometheus.* Marlowe's *Jew of Malta* and *Dr. Faustus,* are to be understood from the standpoint of this view of Aeschylos' art. Shakespeare's tragedies, too, and, the tragedies of the greatest master of them all, the poet and historian, Schiller, as well. None of these could be understood, except from the standpoint of the principle of metaphor, as we have described that for Classical poetry, music, and Riemann's overview of natural science. That *Prometheus* fragment addresses the central issue of all history—to the present day; except from that standpoint, nothing of real history, real politics, or global strategy could be competently understood.

The historical setting of the *Prometheus* is the fact, that until the first establishment, by Louis XI's France, of that modern nation-state which the U.S. Federal Constitution of 1789 came to exemplify, more than ninety-five percent of all mankind, in all cultures, in all parts of the world, were condemned to the bestialization of humanity typified by slavery, serfdom, or even much worse.[60] These were ruled, in the fashion of human cattle, by less than five percent of the total population. At the top of this top stratum was a relative handful of powerful families, an oligarchy, which ruled over human subjects reduced chiefly to the status of human cattle. The rule was accomplished by aid of strata of virtual lackeys of this oligarchy: military commanders, priesthood, merchants, and other appendages of the oligarchical overlords.

The ruling oligarchy is typified, in every crucial respect, by the *Prometheus* drama's gods of Olympos. This role of those gods, is not mere fictional entertainment, not merely dramatic symbolism. Zeus' reign there contains all of the characteristics of oligarchies, down through the oligarchy which rules over the Commonwealth guise of the British empire at the present time.[61] Witness the manner in which Aeschylos pre-

60. The pre-Columbian subjugation of peoples of Mexico by the evil Aztecs represented a condition of mankind worse than serfdom or slavery.

61. As noted elsewhere (e.g., the LaRouche Democratic presidential-nomination campaign's document, *The Blunder in U.S. National Security Policy,* N.B. p. 31), it is only within a quaint lie, a lie commonly taught to credulous children (of various ages), that the British Empire of Queen Victoria and Edward VII was a creation of the indigenous tribes of the British isles. The British Empire, most visibly guised as the British Commonwealth of today, is a worldwide institution in approximately the same sense, that for many centuries, the city of Venice ruled the Mediterranean world from a dirty lagoon, where the river Po dumped its excrement into the northern Adriatic. Indeed, the ruling, British financier oligarchy of today was first established as England's "Venetian Party," beginning with the corruption of Henry VIII by a deployed strumpet, Anne Boleyn, and by Henry's favorite marriage counsellor, the Venetian Francesco Zorzi, a.k.a. Francesco Giorgi. The actual takeover of London by Venice was accomplished, stepwise, over the period from 1582 through the accession of George I as the first British monarch, in 1714. That Venetian-Dutch-English oligarchy of today came to Britain like the proverbial Hollywood "body-snatchers from outer space," and took over the local premises in a fashion not entirely unlike the processes depicted in such items. This British oligarchy, while orbitted around London, is not as much a national, as an international institution. Physically, in addition to the British monarch's direct position as head of state of six nations, the Commonwealth controls approximately 30% of the world's population, and nearly a quarter of the world's land-area. The London-centered, international British oligarchy controls over 60% of the world's trade in precious metals, and a majority of the international trade in such primary commodities as strategic metals, fossil fuels, and food, in addition to the British oligarchy's dominant position in international finance. In other words, the portrait of Britain as a nation-state with a former empire, is a fairy-tale for credulous children; the British empire is the core of a world-wide, Venice-style, financial-oligarchical system, which is everywhere opposed to the institution of the modern nation-state republic. The British monarchy is a continuation of the kind of multi-satrapal imperial rule characteristic of ancient Bablyon and the pre-1461 forms of imperial order characteristic of European feudalism.

sents the gods of Olympos to us, as nothing more than an apotheosis, as myth, of the real-life, hubristically insolent oligarchy of the Mesopotamian or Canaanite type.

Aeschylos' *Prometheus* references a legend of those People of the Sea whom populations other than themselves came to know as "Greeks." The legend references, according to Plato and other sources, a time approximately 9,000 years before the Age of Pericles, when the ancestors of the Greeks had sailed in from the Atlantic, in their ships, to establish a colony in an area of present-day Morocco, near the straits of Gibraltar, among those history knows as the Berbers. In the course of time, the Sea-Peoples' ruler of that place was overthrown in a coup organized by the children of his concubine, named Olympia. The leader of this coup was called Zeus. Once Zeus had seized power, he proposed to crush the people over whom he ruled. In that circumstance, one Prometheus (whose name means "fore-thought"), acted to defend the people against the murderous tyranny of oligarchs who had set themselves up as the Olympian gods. Prometheus brought them scientific knowledge; through these efforts of Prometheus, the people were enabled to rescue themselves from the murderous fate which Zeus had intended for them. For this, Zeus and his oligarchy condemned Prometheus to a terrible punishment.

This is the setting for the opening of Aeschylos' tragedy.[62]

Prometheus is no Hamlet. It soon appears, that the tragic figure of the drama is Zeus himself. Prometheus confides to Chorus:

> PROMETHEUS: Verily, the day shall yet come, when, though I be thus tortured in stubborn fetters, the Prince of the Blessed [Zeus] shall have need of me to reveal the new design, and by whom he shall be stripped of his sceptre and his dignities. *Not by persuasion's honied enchantments shall he charm me; and, never will I, cowering before his dire threats, divulge this secret, until he shall release me from my cruel bonds and desire to proffer satisfaction from this outrage.* [emphasis added—LHL][63]

and, later, Prometheus explains to Chorus both the nature of his offense to Zeus and why he, Prometheus, must keep the cause of Zeus' doom secret:

> PROMETHEUS: Nay, impute it not to pride nor yet to wilfulness that I am silent [on the secret of Zeus' doom–LHL]. Painful thoughts devour my heart as I behold myself maltreated thus. And, yet, who but I definitely assigned their prerogatives to these upstart gods? But, of this I speak not; for my tale would tell you naught, save what ye know. But, hearken to the miseries that beset mankind—how they were witless erst, and I made them to have sense and be endowed with reason. Not will I speak to upbraid mankind, but to set forth the friendly purpose that inspired my boons.
>
> First of all, though they had eyes to see, they saw to no avail; they had ears, but understood not; but, like to shapes in dreams, throughout their length of days, without purpose they wrought all things in confusion. Knowledge had they neither of house built of bricks and turned to face the sun, not yet of work in wood; but, dwelt beneath the ground like swarming ants, in sunless caves. They had no sign, either of winter or of flowery spring, or of fruitful summer, whereon they could depend, but in everything they wrought without judgment, until such time as I taught them to discern the risings of the stars and their settings, ere this ill distinguishable.
>
> Aye, and numbers too, chiefest of sciences, I invented for them, and the combining of letters, creative mother of the Muses' arts, *wherewith to hold all things in memory*. I, too, first brought brute beasts beneath the yoke, to be subject to the collar and the pack-saddle, that they might bear in men's stead the heaviest burdens; and, to the chariot, I harnessed horses, and made them obedient to the rein, to be an adornment of wealth and luxury. 'Twas I, and no one else that contrived the mariner's flaxen-winged car, to roam the sea.
>
> Wretched that I am—such are the inventions I devised for mankind, yet have myself no cunning wherewith to rid me of my present suffering . . . . Hear the sum of the matter in the compass of one brief word—every art possessed by man comes from Prometheus.[64]

A warning must be supplied to the reader, respecting the last sentence of the immediately foregoing excerpt. One would misread the personal character of Aeschylos' Prometheus entirely, if one committed the blunder of seeing this sentence from Prometheus' mouth as an extravagant boast. The Classical Greeks took their puns very seriously. "Prometheus" signifies "forethought": Prometheus is saying, thus, "Every art possessed by man comes from forethought." "Forethought" is to be read here exactly as the preceding portions of the utterance indicates, as a synonym for cre-

62. The published, bi-lingual, Greek-English, edition of the drama referenced here, is *Aeschylus, Vol. I,* trans. by Herbert Weir Smyth, Loeb Classical Library (Cambridge, Mass.: Harvard University Press, 1973), pp. 211-315.

63. *Ibid.,* pp. 230-231. Some punctuation added to translator's text, for clarity.

64. *Ibid.,* pp. 254-259.

ative scientific discovery of principle.

The issue of what we today would recognize by the term "plea-bargaining" comes up at several points. Chorus does not propose such "plea-bargaining," but poses a related issue:

> CHORUS: Do not, then, benefit mortals beyond due measure, and yet be heedless of thine own distress . . . .
>
> PROMETHEUS: When I have been bent by pangs and tortures infinite, thus only am I able to escape my bondage. Art is feebler than necessity.
>
> . . .
>
> CHORUS: Can it be that Zeus hath lesser power than they?
>
> PROMETHEUS: Aye, in that, at least, he cannot escape what is foredoomed.
>
> CHORUS: Why, what is foredoomed for Zeus, save to hold eternal sway?
>
> PROMETHEUS: This thou must not learn as yet; be not importunate.[65]

Later, in the dialogue with Zeus' victim, Io, Prometheus identifies the tragic principle underlying Zeus' doom. Io, delighted by Prometheus' intimation of Zeus' coming loss, asks:

> IO: By whom shall he be despoiled of the sceptre of his sovereignty?
>
> PROMETHEUS: By himself and his own empty-headed purposes.[66]

Later, as Zeus' messenger, Hermes, is seen approaching, Prometheus says to Chorus, ". . . for Zeus, I care less than naught. Let him do his will; let him hold his power for his little day—since, not for long shall he bear sway over the gods. But, stay! For, yonder, I behold his lackey, the servitor of our new lord and master. Assuredly, he hath come to harbinger some news."[67]

Indeed, Hermes comes to propose a plea-bargain: "Bend thy will, perverse fool. Oh, bend thy will at last, to wisdom, in face of thy present sufferings!"[68]

So, in the lost, latter portions of Aeschylos' drama, Zeus is destroyed.

Three points are demonstrated by Aeschylos' *Prometheus*.

First, the common features of all Classical tragedy, from Aeschylos through Shakespeare and Schiller: that mankind's survival depends upon discovering solution-principles outside the the domain of that theorem-lattice which corresponds to the present axiomatics of behavior. The initial presumptions of Chorus and Io are in error, and Hermes, representing Zeus, is doomed by refusal to consider the need to correct their erroneous presumptions respecting the way the universe is presumed to work. The solution for, and, therefore, the reality of Prometheus' predicament, lie outside the domain of all conventional assumptions. Zeus is foredoomed by Fate, but the source of that doom lies in Zeus's inability to remedy the defect of personal character which is inherent in the theorem-lattice-analogous, present nature of being Zeus.

Second, that all human knowledge is generated by the same means that Prometheus is enabled to foresee the ultimate solution to his predicament.

Third, we are given a relevant insight into the mind of ancient Greece's culture: both the oligarchical mind, as depicted most nakedly by the lackey Hermes, and the kind of Greek intellect which could foresee an ultimate liberation of mankind from oligarchism.

Now consider, briefly, the commonality of principle of Classical poetry, Classical music, and Classical tragedy.

None of these three are to be classed under "fiction," at least not as the term "fiction" is commonly understood in university and related usages today. That is also to say, that none of the three, when properly accomplished, might be regarded as a fictional tale which illustrates a precept. All three are premised, not upon fiction, but upon presenting truthful knowledge. All proceed, as art, in the manner of science. All are governed by the same principled device encountered in Riemann's habilitation dissertation, the principle of scientific discovery. All are addressed to the *type* of problem addressed in this report: how the axiomatical quality of precepts generally accepted in today's culture, or some significant part of it, foredoom the victims of those axiomatic beliefs to self-destruction—unless they abandon those beliefs of practice in time to avoid that doom.

In Aeschylos, the threatened doom of the Greeks lay in the precepts of the popular forms of religious belief, as the real-life trial of Socrates demonstrates the manner in which Athens condemned itself ultimately to doom through the folly of its religious belief in an apotheosis of the same oligarchical principles which were served by Plato's sophistical adversary, Aristotle. The matrix of the oligarchical form of religious mythology, is typified in Greek history by the Delphi

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65. *Ibid.,* pp. 260-261.
66. *Ibid.,* pp. 282-283.
67. *Ibid.,* pp. 300-301.
68. *Ibid.,* pp. 306-307.

cult of Gaia, Python-Dionysos, and Apollo.

All of the pagan religions of that period, and later, have the same general practical import as the adoption of the pagan Gaia cult by the founders and leaders of the World Wildlife Fund, such as HRH Prince Philip, Duke of Edinburgh, today. The zero-technological growth code of the Emperor Diocletian, illustrates the common oligarchical connection among the cults of Shakti-Siva, Ishtar-Baal, Isis-Osiris, Cybele-Dionysos, Gaia-Python, and Prince Philip's "man as higher ape." This intelligence should not be read to imply that Prince Philip is a satanic influence over the British ruling oligarchy, but rather that Prince Philip has learned to express the satanic quality which has always been what Cotton Mather and Benjamin Franklin knew to be the historically determined, satanic—i.e., Venetian—essence of that British oligarchy, since the days of the First Duke of Marlborough, Walpole, and the Hell-Fire Clubs.

The "sin" which Prometheus perpetrated against the satanic Zeus, was to deprive man of his innocence, through evoking in man the powers of artistic and scientific knowledge, through evoking thus those creative powers of reason which underlie the transfinite higher hypothesis of Riemann's *(n+1)/n* series of hypotheses, the principle of metaphor so hated by the satanic Thomas Hobbes, and by the founder of virtually all taught university subject-matters today, the satanic Paolo Sarpi, Father of the Enlightenment, and true apostle of the Father of Lies.

Prior to the A.D. 1439-1440 sessions of the Council of Florence, and the ensuing 1461-1483 monarchy of France's Louis XI, approximately ninety-five percent of mankind, in every culture, in all parts of the world, lived in the depraved conditions of serfs, slaves, or worse. It was the establishment of the modern form of nation-state republic, based on the Classical forms of educational fostering, among the orphans and other children of the poor, of the creative powers of discovery of valid new principle, which brought man within reach of man's normal condition, as that condition is defined implicitly, by *Genesis* 1:26-30, and by such *New Testament* texts as the *Gospel of John* and *Epistles of Paul*. The essence of that process, by which the modern European nation-state uplifted the formerly oppressed ninety-five percent of mankind toward the truly human estate prescribed by those referenced Biblical texts, is the practice of the principle we know as metaphor, the discovery of those valid new principles of nature which corresponds to the universe's proneness, by design, to bend to the will of man's power of higher hypothesis, man's power of valid metaphor.

The axiomatical notions of mathematical continuity, and counterposing to metaphorical Reason the axioms of mechanistic causality, has rotted out the interior of that which is usually transmitted among us as knowledge. By poisoning the intellect, against man's creative nature, in this anti-scientific manner, the British oligarchy and its co-thinkers have brought the decadent rulers and general population, alike, of this planet to the brink of a self-induced doom today.

It is not coincidental, that the apocalyptic danger immediately before us, should be expressed most clearly within the domain of economic practice. The essence of economy is that which sets mankind apart from and above the beasts, a quality which is expressed most directly and simply by the impact of scientific and technological progress upon the productive powers of labor. That scientific and technological progress depends, in turn, upon the cultivated practice of those methods of discovery we recognize most simply in the fruits of modern science, a science which is, in turn, the fruit of nothing other than the principle of higher hypothesis, the principle of metaphor common to Classical art and science. It were sufficient to turn away from those principles of metaphor, to bring about the general destruction of civilization, a destruction most simply traced in the spiralling collapse of economy which has been in progress since Robert Theobald's 1964 proclamation of that New Age delusion which bears such names as "Triple Revolution," and perhaps also the name of Satan himself.

Through the influence of the evil Sarpi's Venetian legacy, the Enlightenment of Galileo, Hobbes, and their followers, mankind as a whole has been induced to lead itself to the brink of a global new dark age, in which condition the human population would be collapsed rapidly toward a yahoo-like moral and cultural condition, and global population levels and demographic characteristics worse than prevailed throughout this planet prior to Europe's Fifteenth century. That doom may be escaped, but only if we recognize, as William Shakespeare might observe, the fault within ourselves, the folly of the oligarchical method of thinking, the empiricist way of thinking otherwise known as British philosophical liberalism.

The escape to freedom requires that we recognize that those axioms of continuity of causality, which all branches of generally taught knowledge and even ignorant popular opinion have borrowed from the corrupt mathematics of Sarpi-Galileo-Hobbes, are the flaw within our culture by means of which our self-destruction is being brought upon us.