The Substance of Morality[1]

by Lyndon H. LaRouche, Jr.

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Evidence from as early as hundreds of thousands of years ago, shows the continuing existence of hominids capable of those kinds of discovery of physical principle, the which place mankind apart from, and absolutely above the higher apes.[2] All competent scientific inquiry respecting the nature of the human species, and of qualities specific to human behavior, rests upon a showing of crucial evidence of our species' distinguishing, manifest type of generation of an original or replicated discovery of a physical principle. No substitute for such knowledge of principles exists among outgrowths of such qualitatively inferior levels of mental activity as deduction or mere animal "learning from repeatable experience."

On this point, the combined archeological and historical record shows, that the totality of human existence,[3] as a developing, functional fraction of the totality of our growing biosphere,[4] is dominated by an accumulation of progress in increase of mankind's power over nature, a measurement conveniently reflected upon our perceptual apparatus in the form of increase of demographic values, *per capita* and *per* square kilometer, of the Earth's surface. The human species is unique in its capacity for willful changes of this sort in its relationship, both to the biosphere and the universe in general.

Yet, in these facts lies a relevant, crucial paradox. The human species' long-term progress, when measured, as a whole, over the span of hundreds of generations, shows progress to be a crucial, characteristic, and implicitly inevitable feature of our species, as a species. However, it is not simply pre-assured that every step of progress during a shorter term, such as several or more generations of a global or local culture, will lead to its appropriate supercessor. Scientific and technological progress, as such, are indispensable for the continued progress of the entirety of our species. However, when and whether progress, or even retrogression occurs, is never automatic; the actual outcome is a result of what we term "cultural factors," as much as impulses attributable to progress in discovery of higher physical principles as such.

In fact, for reasons to be considered here, it is "cultural factors" which govern even scientific and technological progress as such, and which also govern the manner in which discovered physical principles are fostered and

1. See, the references to the relationship between an "*m*-fold" and "*n*-fold" manifold, in Lyndon H. LaRouche, Jr., "Russia Is Eurasia's Keystone Economy," prologue to report by Dr. Sergei Glazyev, Executive Intelligence Review, March 27, 1998 (Vol. 25, No. 13), pp. 45-51.
2. Recent archaeological work in Germany has revealed well-crafted throwing spears, solidly dated to about 400,000 years ago. The use of such technology predating 40,000 years ago was previously unknown. The wooden spears were shaped and balanced to be used as javelins, rather than simple thrusting implements, and reflect a technological skill by their makers, that has generally not been credited to humans of this Pleistocene, so-called Lower Paleolithic, period. See Hartmut Thieme, "Lower Paleolithic Hunting Spears from Germany," and Robin Dennell, "The World's Oldest Spears," Nature, Feb. 27, 1997, pps. 807-810 and 767-768.
3. I.e., as a component of the existence and development of the biosphere as a whole.
4. Man is part of the total biosphere. Man's portion of the biosphere increases, but the biosphere also grows, per capita. Compare this with Vernadsky's conception of a noösphere.

Rembrandt van Rijn, "Homer Dictating His Verses," pen and wash (c.1663). All illustrations in this section by Rembrandt.

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realized in ways bearing upon improvements in both man's physical power over nature, and the realization of that physical power in the form of net improvements in demographic characteristics of cultures.

Presently, the ongoing, global financial and monetary collapse, has been plunging the once-proud civilization of the 1946-1963 post-war reconstruction period, into the threatened onset of a worldwide "new dark age." We are faced, thus, once again, with the fact, that the most powerful technological cultures can be doomed by the kind of moral and cultural "paradigm shift" which has dominated the world, increasingly, since the 1964-1972 youth-counterculture revolt against both technological progress and rationality generally.

Therefore, sane national and related policies depend upon discovering and adopting those principles of culture to which we must turn, if we are to avert the seemingly inevitable demographic and *per-capita* collapse now gripping this planetary civilization. The author proposes, that the nature and importance of such cultural issues, ought to have been made clear by those studies of the principles of Classical art-forms and education which had occupied the best minds of the scientists, artists, and statesmen of European civilization's early Nineteenth century, such as, for Germany, Friedrich Schiller and his friends, the brothers von Humboldt,[5] and, for the U.S.A., Benjamin Franklin's great-grandson, the Humboldt-linked Alexander Dallas Bache.[6]

On this account, generally speaking, when compared to the superior levels of culture represented by early to middle Nineteenth-century European Classical culture in general, even the leading sections of those of today's populations dominated by our recent generations of global, European-dominated trends in global cultures, are ignorant, appallingly backward, even relatively bestial. This recent, moral and cultural degeneration of successive post-World War II generations, is typified by the recent rise in homicidal outbreaks of existentialism among present-day adolescents.[7] This deplorable trend is typical of the majority of both the topmost ranks, and the lower levels of today's society.

The challenge of reversing the present cultural and physical-economic collapse of global civilization, is the context for the following report. The solution to the difficulties of comprehending these presently most urgent matters, was first discovered, and, later, developed in the following way.

1. Three Crucial Discoveries

It was during the interval 1948-1952, that I first made three original, interdependent discoveries of physical principle, a set of principles whose continued and interconnected development has since dominated my life, my professional and related accomplishments, and also the controversies in which I have become an increasing central figure of recent decades.

The first among these principles, is one whose adop-

5. See Marianna Wertz, "The Classical Curriculum of Wilhelm von Humboldt," *Fidelio,* Summer 1996 (Vol. V, No. 2), pp. 29-39. Works by the von Humboldt brothers include: Wilhelm von Humboldt, *On Language: The Diversity of Human Language-Structure and Its Influence on the Mental Development of Mankind,* trans. by Peter Heath (London: Cambridge University Press, 1988); and Alexander von Humboldt, *Cosmos: A Sketch of the Physical Description of the Universe,* trans. by E.C. Otté (Baltimore: Johns Hopkins University Press, 1997 reprint).

6. Alexander Dallas Bache (1806-1867), the great-grandson of Benjamin Franklin, graduated U.S. Military Academy (1825); was sent to Europe in 1836 to work with scientists and educational leaders including Carl F. Gauss, Wilhelm Weber, and Alexander von Humboldt. Bache formed an elite American grouping of scientists, cooperating with German and French co-thinkers. He and his aides designed and organized the U.S. Naval Academy. As chief of the U.S. Coast and Geodetic Survey, Bache was chief strategist for the emergence of an advanced U.S. military-industrial capability, and the creation of the electrical industry; he was a leading intelligence adviser to President Abraham Lincoln.

   Bache travelled in Europe in 1836-38, examining 280 schools in the British Isles, Germany, Austria, France, Italy, and other countries. His detailed report on his educational findings is a milestone in the history of American schools. He was the first president of Philadelphia's Central High, the first U.S. public high school outside New England, and the model for successful American urban schools. Bache was said to have organized Central High School, in particular, on the principles of the *Gymnasium* and *Real* schools of the Leipzig system.

7. Six serious incidents of school killings took place in rural areas of America between February and May 1996, involving children between the ages of 11 and 16. In all cases, the children were immersed in video games, such as "Mortal Kombat," mind-numbing rock music, and violent films. The phenomenon of juvenile violence in Germany was addressed by Countess Marion Dönhoff, in the weekly *Die Zeit* on April 8, 1998. Dönhoff pointed to the sources of juvenile violence as "the lack of sense of injustice, intolerance, extreme ego-centrism"—the results of a permissive society in which "everything revolves around material and commercial success."

   The lack of cultural moorings in today's society produces an increasing number of monstrous *Steppenwolfs,* who conform to Nazi-existentialist philosopher Martin Heidegger's theory of "*Geworfenheit*" ["being-thrownness"]—that "the actuality of true life, lies in the banal, basic experience of *Geworfenheit*"; i.e., that individual man is merely "thrown into history," devoid of the cultural fabric of family and society we identify with civilization. Heidegger was a major influence on Jean-Paul Sartre, and on Sartre's epigone Frantz Fanon's theory of "purgative violence."

tion dates from work during the 1948-1951 interval: man's increase of power over nature, *per capita* and *per* square kilometer of the Earth's surface, may be described, in rough approximation, as follows.[8]

It is to be said, that that ordered increase of man's power over nature, *per capita* and *per* square kilometer of the Earth's surface, is always expressed in the form of the outcome of *successive, revolutionary,* realized discoveries of physical principle. It is shown, on physical grounds, that experimentally validatable, revolutionary discoveries of physical principle, form orderable, if not linear, or otherwise simple sequences.[9] It is the realization of those sequences, whose accumulation correlates with an increase of mankind's potential (physical) power over nature. During 1948-1951, as today, the argument remains, that this connection is typified by the treatment of an experimentally validated physical principle as the subsuming source of those applicable machine-tool designs, and analogous principles, which are to be recognized as "technologies."[10]

The second of the three principles, whose discovery also dates from the 1948-1951 interval, was the apprehension of the fact, that those same processes of creative mentation, by means of which experimentally validated, original (i.e., "revolutionary") discoveries of physical principle are generated, in response to deductively insoluble paradoxes of experimental physics, are processes identical in their nature to the validatable solution for the type of paradox rightly identified as *metaphor,* as such metaphors are unique to *strictly Classical* modes of musical, poetic, dramatic, and plastic composition in art. This second principle, which is contrary to the currently popular, erroneous notion of a division of art (e.g., *Geisteswissenschaft*) from physical science (e.g., *Naturwissenschaft*),[11] is the key point of reference for the present report.

The third of these principles, dating from 1952, was my recognition of a relevant implication of that generalized notion of a Keplerian, multiply-connected manifold, first defined as an amendment to the work of Carl Gauss, in Bernhard Riemann's 1854, revolutionary habilitation dissertation.[12] From a re-examination of Riemann's habilitation dissertation at that time, I recognized, that his discovery provides the indispensable, meta-mathematical basis for comprehending, and integrating, the function of validated creative discoveries of principle, not only in physical science, but also Classical art-forms.[13] Furthermore, my appreciation of Riemann's discovery was novel, in the degree that it is associated with an explicitly Platonic notion of the relevant principles of ontology in general. I contended, that this metaphysical connection to the ontology of Platonic ideas, is strongly implied in Riemann's work by a comparison of several among his writings from that period[14]; in my own statement of the case then, as restated here for the case of music, the notion is explicit.

If one is to adhere to the principles of a Classical humanist education, one must account for the origin, and deeper, present-day implication of these three, interrelated discoveries. One must take into account that consuming occupation with modern philosophy which had dominated my adolescent years.[15] All of these discoveries of the 1948-1952 interval, were rooted in an adolescent choice of the worldview of Gottfried Leibniz. During

8. Lyndon H. LaRouche, Jr., *So, You Wish to Learn All About Economics? A Textbook in Mathematical Economics,* 2nd ed. (Washington, D.C.: EIR News Service, 1995).
9. Consider the intersecting, but distinct contributions to the founding of a science of electrodynamics by Ampère, Fresnel, Wilhelm Weber, Gauss, Riemann, *et al.* See Laurence Hecht, "The Significance of the 1845 Gauss-Weber Correspondence," and "Optical Theory in the Nineteenth Century, and the Truth about Michelson-Morley-Miller," *21st Century Science & Technology,* Fall 1996 (Vol. 9, No, 3), and Spring 1998 (Vol. 11, No, 1). To be emphasized, on this account, are Ampère-Weber on the "longitudinal force," and Fresnel-Riemann on refraction and retarded propagation.
10. Formally, the introduction of "machine-tool design" into modern economy, originates with the work of Lazare Carnot, especially his role in the economic-military mobilization of 1792-1794. However, the "machine-tool-design era" is dated to a later time, the 1861-1876 mobilization of the U.S. economy. The "industrial revolution" proper was thus launched from the United States, from whence direct U.S. influence spread it into Bismarck's Germany (1877), Meiji Restoration Japan, and the Russia of Alexander II.
11. I.e., the doctrine of G.W.F. Hegel's politically reactionary ally, the neo-Kantian Romantic Karl Friedrich Savigny: i.e., the absolute separation of *Geisteswissenschaft* from *Naturwissenschaft.* In a cruder version, this is also the doctrine of "art for art's sake": that there is no rational principle underlying the determination of value in art, that art is the arbitrary taste of artists and their audiences.
12. Bernhard Riemann, "Über die Hypothesen, welcher der Geometrie zu Grunde liegen," in *Bernhard Riemanns Gesammelte Mathematische Werke,* ed. by H. Weber (New York: Dover Publications reprint, 1953). This Kepler-Gauss-Riemann standpoint, is identical with Leibniz's insistence that the "infinitesimals" of his calculus are not linear, but are intervals of non-constant curvature.
13. Bernhard Riemann, "Zur Psychologie und Metaphysik," in *Werke, op. cit.*, pp. 509-520.
14. E.g., *Geistesmasse,* in Riemann's posthumously published manuscripts on the subject of metaphysics, *Werke, op. cit.*
15. In Classical culture, no principle is ever merely learned. A principle must be known, rather than merely learned. To know a principle, is both to experience in oneself the process which generates the discovery, and to experience the equivalent of a crucial-experimental proof of that principle. By "principle," one signifies a law of nature which can not be derived by deduction, but only by discovering an experimentally validatable idea which solves an otherwise insoluble contradiction in previously established knowledge.

adolescence, my adherence to Leibniz's standpoint,[16] included a specific, explicit opposition to the educational dogmas of John Dewey,[17] and coincided with my continuing rejection, to the present day, of the Seventeenth and Eighteenth Centuries' English and French reductionists generally.[18] It was during the later phase of that adolescent study, that I first defined my opposition to that paradigmatic, neo-Aristotelean attack on Leibniz which is central to Immanuel Kant's famous *Critiques.*[19]

On account of those same principles of Classical humanist education, one must emphasize, that there was nothing accidental in the fact, that the combined, 1948-1952 discoveries themselves, were prompted chiefly by my impassioned concern to expose the essential, neo-Kantian fraud underlying certain radical-positivist innovations introduced by two prominent devotees of Bertrand Russell. Those latter, targetted frauds, were, the radically reductionist "information theory" (e.g., radically positivist "linguistics") of Professor Norbert Wiener,[20] and the closely related hoax, the "systems analysis" of Professor John Von Neumann.[21]

Similarly, the tactic which I chose for development of my 1948-1952 refutations of, initially, Wiener and, later, Von Neumann, was a conviction which I had adopted during the war-time 1940's, that the problems of a theory of knowledge posed by Kant's *Critiques,* must be attacked from the vantage-point of a general science of physical (as distinct from monetary-financial) economy—i.e., man's self-perpetuating increase of his species' practical power over nature. This must be a science whose elementary focus is the adducing of those principles which govern mankind's manifest, unique potential for willfully increasing our species' *potential relative population-density.* This ordering must be associated with the impact and correlatives of the generation of scientific, technological, and cultural progress.[22]

In service of the same, Classical humanist principles of accounting for one's own knowledge, today's continuing, central, practical issue of world culture and politics, which I shall bring into sharper focus here, is the fact, of the increasing political hegemony, within modern European world-culture, of an anti-Renaissance, reductionist, and specifically Venetian world-outlook. That perverted outlook, is, most notably, the legacy of Pietro Pomponazzi,[23] Paolo Sarpi,[24] Antonio Conti,[25] *et al.* This Venetian influence has established, as its legacy, a specific pathological trait, a trait which has been imposed upon the most widely accepted beliefs and practice of modern

16. Especially, at that time, the *Theodicy, Monadology,* and *Leibniz-Clarke Correspondence.*
17. A reading of works by and on the subject of Dewey's educational programs, during my fourteenth year, in the ninth grade, left me with a sense of being degraded by, and hostile to submission to the philosophy of education integral to the courses of instruction offered in secondary education at that time. It was this issue which led me to the subsequent years impassioned occupation with the issue of Kant's *Critique of Pure Reason.*
18. E.g., the reductionism of such followers of Paolo Sarpi as Francis Bacon, Galileo Galilei, Thomas Hobbes, René Descartes, John Locke, Bernard Mandeville, David Hume, and such followers of Antonio Conti as Voltaire and the French "Encyclopaedists."
19. At that time, Kant's *Critique of Pure Reason* and *Prolegomena.* See also, on Leonhard Euler's resort to the fraud of *petitio principii* in his own effort to supply an argument against Leibniz's *Monadology*: Lyndon H. LaRouche, Jr., "Pope's Havana Homily Defends Nation-State," *Executive Intelligence Review,* Feb. 6, 1998 (Vol. 25, No. 6), p. 51.
20. E.g., Norbert Wiener, *Cybernetics, or Control and Communication in the Animal and Machine* (New York: John Wiley, 1948). The root of Wiener's "information theory," is to be found in the founding of Russell's school of linguistics in the relevant collaboration of Russell, Karl Korsch, Carnap, Hutchins, Harris, *et al.* Russell's 1938 "unification of the sciences" project, is the setting for the M.I.T. school of linguistics and "artificial intelligence" of Noam Chomsky and Marvin Minsky.
21. After John Von Neumann's work had received a devastating blow at the hands of Kurt Gödel's 1930-1931 works "On Formally Undecidable Propositions of *Principia Mathematica* and Related Systems" and "Discussion on Providing a Foundation for Mathematics" [*Collected Works,* Vol. I (New York: Oxford University Press, 1986], Von Neumann shifted into the field of a mathematical theory of games. By 1938, Von Neumann fell into the absurdity of claiming that he could reduce economics to a matter of solutions for simultaneous linear inequalities. In this connection, Von Neumann fell into collaboration with Oskar Morgenstern, producing the radically absurd doctrine of their *Theory of Games and Economic Behavior* (Princeton, N.J.: Princeton University Press, 1953, 3rd ed.). In a similar vein, Von Neumann, like Wiener, proposed the possibility of defining "artificial intelligence" as an offspring of a linear digital computer-system.
22. The initial attack on this problem occurred, during the early 1940's, as a critique of Karl Marx's *Capital.* The writer's critical focus was on the devastating effects of Marx's refusal to consider the implications of "the technological compositions of capitals," a refusal, stated in Volume I, which supplies the crucial error in Marx's attempt, in his Volumes II and III, to construct an account of "simple" and "extended reproduction of capital." The technological issues which Marx evades, are the foundation for any scientific approach both to the understanding of the processes of physical economy generally, and to the origins of so-called "business cycles." On account of Marx's axiomatic error on this point, the four-volume edition of his *Capital* manuscripts, and related writings, absolutely does not meet the requirements of a science of extended social reproduction. Over the recent four decades, and longer, this has often been a persisting, crucial issue of attacks on the present writer by those esteeming themselves defenders of Marxist economics orthodoxy.
23. Pietro Pomponazzi (1462-1525). Padua's Pomponazzi emerged as a leading apologist for the opponents to the mid-Fifteenth-century ecumenical Council of Florence. In his capacity, together with his student Cardinal Gasparo Contarini, as the leading opponent of the Fifteenth-century Renaissance throughout Europe, he introduced the gnostic, Aristotelean dogma of Averroes *et al.* into the Venice-dominated, post-League of Cambrai, Sixteenth century.

European academic and related culture. The latter, sundry—variously Aristotelean, "neo-Aristotelean," "empiricist," "Cartesian," materialist, and "positivist"—trends in leading opinion, have established the hegemony of their common pathological dogma, the which implicitly demands a dichotomy between the idea of knowledge in general, such as the so-called "liberal arts," and the notion of rational behavior to be associated with physical science. This conflict is usefully compared with what British author C.P. Snow identified, more simplistically, as the "Two Cultures" dichotomy of modern European empiricist dogma.[26]

Despite presently hegemonic kinds of philosophically reductionist influences: since the influence of Classical Greek culture, especially the heritage of Plato and his Academy,[27] the best currents of European civilization had acquired a relatively clear, if not simple conception of an implicitly ordered relationship underlying the ordering of human social progress, the latter respecting both individual physical practice and demographic characteristics of cultures at those technological levels of practice. This is an ordering correlated, measurably, with notions of *relative potential population-density*. The notion of a correlation between an improvement in the demographic and related individual characteristics of populations, and the related role of applied scientific and technological progress in fostering advances in *per-capita* and *per*-square-kilometer power over nature, has supplied a clear practical standard for measuring what, until recently, had been recognized as "the idea of progress."[28]

However, although the idea of progress involved clear notions of ordering, and of related measurements, the inevitability of progress was not a matter of clearly established principle. It appeared, for example, that there exists no conceivable mathematical function of the ordinary type, the which would ensure that any valid advance in discovery of applicable physical principle should lead to the lawful generation of a next higher order of discovered principle of general practice. Indeed, even in the case of a valid discovery of principle, there was no clear assurance that society would accept an experimentally proven such principle as a rule for improved social practice. Taking as much as we know of the whole span of the human species' existence to date, human progress has been the likely, but uncertain outcome of history considered in the large.

To repeat the crucial point: It was clear to modern European civilization, that progress were always possible,[29] but that progress did not necessarily occur in the manner a simple notion of physical science suggested. Stagnation, or worse, demographic and physical retrogression, often occurred. In the long, combined history and pre-history of mankind, only a few strains of cultural development have not been cast aside, rightly, as failed cultures. In known history, the catastrophic persistence of oligarchical forms of society, such as those of the ancient Mesopotamians, the Romans, Byzantium, and the Aztecs, illustrate the frequent case, of cultures which, although more or less long-dominant, are best characterized as cultures ultimately self-doomed by their inherent lack of sufficient "moral fitness to survive."

We pivot our argument here upon the issues of that pathological, cultural-historical paradigm referenced by Friedrich Schiller.[30] We reference, so, the awful history of

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24. Paolo Sarpi (1552-1623). Sarpi, who was, from 1582 onward, the leader of the dominant faction of Venice, is notorious for his adoption of a radical version of Aristotelean formalism, a formalism derived from the model of William of Ockham. Sarpi was, in his time, the controller of the English monarchy of King James I, and the sponsor of such related notables as Francis Bacon, Galileo Galilei, and Thomas Hobbes. He is the founder of the British empiricist and Cartesian method.
25. Antonio Conti (1677-1749), famous as the creator of Voltaire and of the myth of Isaac Newton's calculus. He was the leading successor to the role of Paolo Sarpi in spreading the hegemony of the Eighteenth-century versions of the British and French (anti-Renaissance) "Enlightenment" throughout Europe. Conti's influence, as expressed by Leonhard Euler, Lagrange, Laplace, and Augustin Cauchy, established the political hegemony of the radically reductionist faction in scientific teaching throughout European civilization, to the present day. The notion of "linearity" in the infinitestimally small, and the related radical empiricism of the positivists Bertrand Russell, Norbert Wiener, John Von Neumann, *et al.*, are included among the products of this influence of Conti.
26. C.P. Snow, *The Two Cultures and the Scientific Revolution* (London and New York: Cambridge University Press, 1993 reprint).
27. "Plato and his Academy" embraces the work of Plato's followers, through the work of Archimedes' contemporary Eratosthenes.
28. The improvement of transportation, water management, and usable energy *per capita* and *per* square kilometer, are typical of those changes in basic economic infrastructure which have the same general effect as technological progress in general.
29. Admittedly, influential radical empiricists, such as Bertrand Russell and his followers, did not share that optimistic view.
30. Referencing the failure of the French people to seize the opportunity of the French Revolution, Schiller writes in the Fifth of the Letters on the Aesthetical Education of Man, that "a *physical* possibility seems given, to place the law upon the throne, to honor man finally as an end in himself and to make true freedom the basis of political union. Vain hope! The *moral* possibility is wanting; and the generous moment finds an unresponsive people." "Letters on the Aesthetical Education of Man," in *Friedrich Schiller, Poet of Freedom,* Vol. I (New York: Schiller Institute, 1985) p. 230. His famous epigram, "The Moment," reads:

    A momentous epoch hath the cent'ry engender'd,
    Yet the moment so great findeth a people so small.

    Ibid., p. 325.

France's moral degeneration, during most of the periods following the outbreak of the French Revolution of 1789.[31] Excepting such great, exemplary achievements of 1792-1814, as were led by the circles of Lazare Carnot and Gaspard Monge's *Ecole Polytechnique,* the reconstructed France of Louis XI, which had continued until 1789 as the world's most developed nation-state, had, by 1789, turned sharply downward, away from the course implied by the Marquis de Lafayette's role in the American Revolution, into those "Enlightenment" orgies of moral degeneracy typified by followers of Robespierre, Barras, Napoleon Bonaparte, and the French positivists in general.

Schiller's intent in addressing this ominous, crucial failure of French culture, is elaborated in locations such as his *Über die Ästhetische Erziehung des Menschen.*[32] Nonetheless, although Schiller's intent ought to be clear from his own writings, the deeper, most crucial, *ontological* implications of his argument, as in the Fifth Letter of that series, appear to be grasped by most among his putative admirers only in a relatively superficial way, not grasped in the sense of a relevant, cognitively rigorous notion of ontology. It is those ontological implications which I am specially qualified to address, as I do here. Those ontological issues, and their practical implications for world politics today, are the essential subject of this report.

In the accompanying report [SEE Appendix, page 29], we focus upon the case of music, to illustrate the ontological basis for Schiller's insight into the role of cultural development. There, we focus upon the exemplary case of Classical musical, *motivic thorough-composition,* as located by W.A. Mozart in the foundations supplied by such works of J.S. Bach as *A Musical Offering.*[33] That development, from Bach, through Haydn,[34] Mozart, Beethoven, and Brahms, is employed here as a model of the ontological function at the core of Schiller's principle of aesthetical education. We include, as crucial, reference to Goethe's poor judgment on Mozart's and Beethoven's song settings for Goethe's poems, and the related case of Franz Schubert's sharing Schiller's opposition to Goethe on this matter of practice.[35]

What we offer, thus, is not a complete treatment of the role of Classical culture. Our task here, is to lead the reader into a breakthrough in recognizing, from the example of music, the nature of the *ontological* principle involved in Classical culture, as a whole.

2.
Art as Science

In the history of ideas of principle as represented by the work of Plato, the relatively brief *Parmenides* dialogue occupies a special place of relevance. From the standpoint of that *Parmenides* and related writings, Plato's notion of what he defines as *ideas* is presented by him as a defense of the seminal contributions of the school of Pythagoras, against the anti-Pythagoras, Eleatic faction of reductionism. These Eleatics are epitomized by the dialogue's Parmenides. Constantly, the echoes of Heraclitus' ontological standpoint, "nothing is constant but change," reverberate in the crucial passages of Plato's dialogue.

The central issue attacked in that dialogue, is the same ontological blunder which underlies all of the reductionist tradition, from the Eleatics, through the sophists and Aristotle, through to the modern empiricists, materialists, and positivists. Given a sequence of developments which corresponds to some ordered change of principle, how might we conceptualize a higher principle which underlies and generates the ordered sequence of relevant, successful changes in apparent principle?

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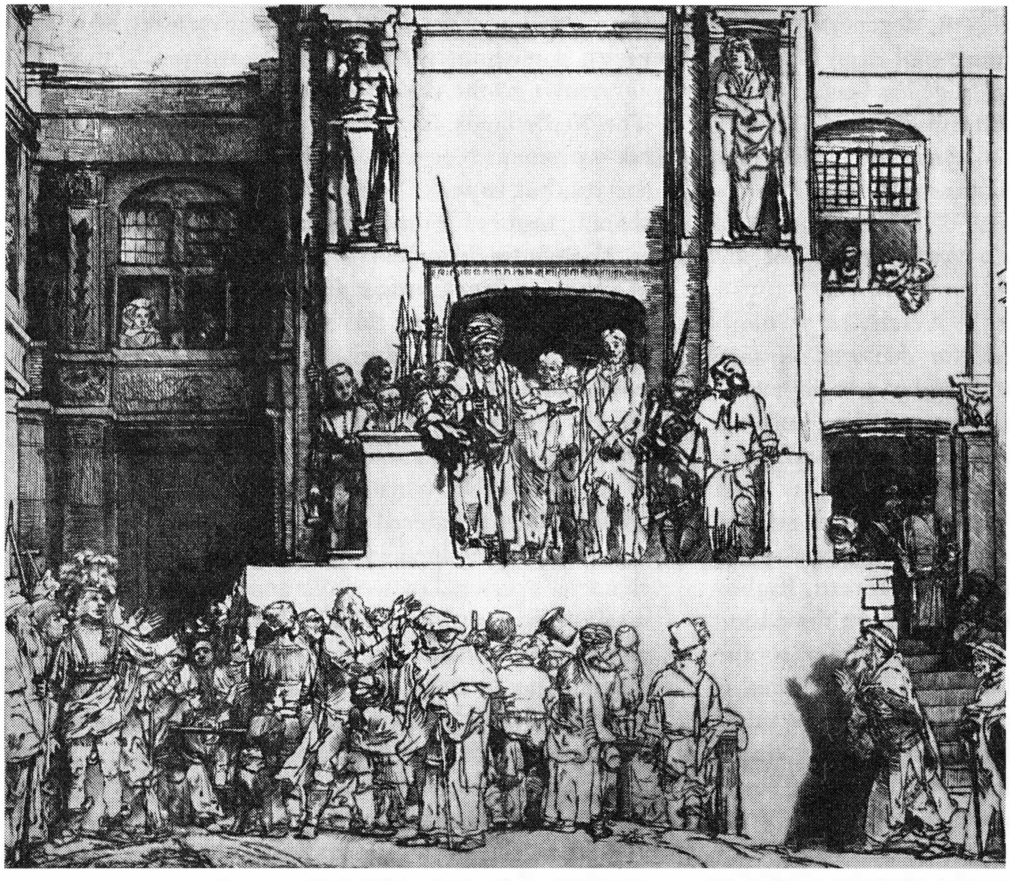
31. Not only under the Jacobins and the Napoleonic regimes, but also the post-1898 Third Republic, the Fourth Republic, and the Mitterrand regimes.
32. F. Schiller, "Über die Ästhetische Erziehung des Menschen in einer Reihe von Briefen" ["Letters on the Aesthetical Education of Man"], in *Friedrich Schiller Sämtliche Werke: Fünfter Band,* ed. by Gerhard Fricke and Herbert G. Goepfert (Munich: Carl Hanser Verlag, 1993). See footnote 30 for an English translation.
33. Briefly, J.S. Bach's development of a form of polyphony situated with respect to the Florentine *bel canto* voice-training standard, led into a determination of both pitch and of counterpoint derived from a rigorous application of the principles of a multiply-connected manifold. The related treatment of the principle of polyphonic (e.g., "cross voice") inversions led into such crucial Bach works as his *A Musical Offering* and *The Art of the Fugue.* The rigorous study of this aspect of J.S. Bach's methods of composition, from the standpoint of *A Musical Offering,* steered Wolfgang Mozart directly (e.g., the K.475 *Fantasy*) into that method of *motivic thorough-composition* which is the characteristic of the post-1783 work of Mozart, Haydn, Beethoven, *et al.* It is this process of development, from J.S. Bach through Brahms, which defines the Classical, as opposed to Romantic *et al.* notions of musical composition.
34. The evidence is, that Professor Norbert Brainin is probably unique among contemporaries in his recognition of Haydn's initial demonstration of principles of thorough-composition, although the discovery of the more general such principle is dated to the work of Wolfgang Mozart, beginning 1782-1783. Nonetheless, without Haydn's work in carrying the development of composition beyond the standard established by C.P.E. Bach, Mozart would have lacked the foundation upon which to grasp the fuller implications of J.S. Bach's *A Musical Offering,* implications upon which a general principle of motivic thorough-composition depended.
35. *A Manual on the Rudiments of Tuning and Registration,* Book I, ed. by John Sigerson and Kathy Wolfe (Washington, D.C.: Schiller Institute, 1992), Chap. 11, "Artistic Beauty: Schiller versus Goethe."



The Metropolitan Museum of Art, Gift of Felix M. Warburg and his family, 1941. (41.1.34)

"Christ Presented to the People," drypoint, first state (detail) (1650).

In the long history of mankind, only a few strains of cultural development have not been cast aside, rightly, as failed cultures. The catastrophic persistence of oligarchical forms of society, such as those of the ancient Mesopotamians, the Romans, Byzantium, and the Aztecs, illustrate the frequent case, of cultures which are ultimately self-doomed by their inherent lack of sufficient 'moral fitness to survive.'

In art generally, as in Plato's dialogues, the dominant role performed by the composition, is the quality of *ontological surprise,* a point in the development at which a paradoxical transformation occurs in the import of that composition, a point at which the composer leads the audience away from a narrow focus upon the apparent, relatively literal, merely formal expression of the ongoing subject-matter, into what proves to be an ordered series of successive, more or less kaleidoscopic transformations in meaning, in principle. That principle which subsumes such an ordering of successive, mutually contradictory principles, appears, thus, ontologically, as the true, subsuming subject-matter of the artistic composition.

That true subject is the location of the *ontological* quality of the composition, the location of the *ontological* quality of all Classical art.

For example, in Shakespeare's *Hamlet,* especially the notable Act III soliloquy, Hamlet is confronted by the choice of either clinging to his "macho's" habitual, petty, paranoid, swashbuckling world-outlook, which assures his self-imposed doom, or venturing into a new quality of world-outlook, the latter which he rejects as a "bourne from which no traveller" has returned. There is virtually no difference between that Hamlet and those tragic statesmen, today, faced with the inevitable collapse and disintegration of the world's present financial and monetary system, who prefer to work within the bounds of adapting, as "practical politicians," to the doomed system, rather than risk the escape to safety from the doomed system, by adopting what they presently abhor as a radically new form: a bourne from which no traveller has returned. For them, it is more comfortable to return to the old, familiar, diseased slut, than to couple with a healthy immigrant.

On this account, no great playwright ever composed fiction. Just as Aeschylos' *Prometheus Bound* is nothing but a truthful presentation of the paradoxical principle then governing the real universe of ancient Greek culture, so neither Shakespeare nor Schiller ever composed mere fiction, mere existentialists' entertainment. The essence of Classical tragedy and poetry is the equivalence of truth and beauty. No great tragedian ever composed a drama in which the principle of history exhibited on stage was not a truthful representation of a relevant principle of real-life history, a principle expressed in a real-life-based apprehension of historical specificity.

Contrast Classical tragedy with the degeneracy which has taken over the modern staging of even Classical opera and dramas. The Classical stage has been replaced by the theater of cheap tricks performed by aid of irrelevant sensual effects and paranoid symbolisms. Take, for example, the late Orson Welles' famous 1937-1938 Mercury Theater, "relevant" staging of Shakespeare, as a notable example of this presently continuing degeneracy of practice.[36]

In the Classical theater, from Aeschylos through Shakespeare and Schiller, the medium deployed on stage is what appears, at first, to be nothing but a literal representation of what the dramatist intended to portray: without symbolism, without cheap sensual, or other "special effects." The substance of the drama emerges as an eerie something which is occurring behind the scene, within what the author and audience apprehend as the minds of the characters. This is a different, higher dimension than the literal actions on stage, a dimension of paradox and metaphor. In a valid performance, the mind of the audience is shifted from the literal drama as such, to the eerie sense of some principle of the mind which intervenes to change the character of the literal events on stage. The drama is thus shifted from the literal drama on stage, to the drama within the mind of the audience.

Thus, it was Schiller's principle, that the audience must emerge from the theater better people than they had entered that theater. In great Classical tragedy, the audience is horrified at the discovery that it entered the theater with a disposition for condoning the kinds of errors which led the tragic figures on stage to the latters' doom. It is in that eerie sense of irony, that the true drama lies; there, thus, within the audience itself, lies the true *ontological* dimension of the Classical drama.

Consider the case of Schiller's *Don Carlos.* Apart from the sole hero(ine) of the tragedy, Elizabeth, Don Carlos, Posa, and King Philip II, are each gripped, like Shakespeare's Hamlet, by a compelling devotion to some fatal degree of relative spiritual littleness in themselves. World-historical roles are more or less evaded, out of small-minded attachment to small-minded family and kindred personal considerations. Among the three principal male characters, the otherwise flawed Posa, alone, rises to the relatively highest level; he recognizes, if without the necessary consistency, that the alternative to the doom of Spain's monstrous follies in The Netherlands, is to rise to the level of world-historical statesmen: Not what might seem to offer personal success, but to make one's living a meaningful role in shaping history for the betterment of future mankind.[37]

There is no fiction, no petty moralizing, in the writing of Schiller's *Don Carlos*; it is a *truthful* account of those principles underlying the historical specificity of that senseless butchery in which the contending forces of The Netherlands' warfare went down to mutual bestiality, the folly by which Spain doomed itself to degenerating from a world power into a morbid relic of its earlier pretenses to grandeur. The audience, gripped by such great tragic compositions, is induced to sense the paradox, the irony, the metaphor lodged in the discrepancy between the character's personal motivations and that same character's world-historical accountability for the outcome of current events. In Schiller's composition of the drama, the truth lies not in the selection of literal events on stage; the truth lies in the artful juxtaposition of those conflicts of principle—those metaphors—which account for the tragic, actual history of referenced, real-life events.

Indeed, it should be noted that, for reasons we shall identify below, all great tragedy is grounded in historical specificity.[38] If Rome of the doomed Julius Caesar is the subject chosen, then it is the historically specific crisis of

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36. Welles' *Caesar,* adapted from Shakespeare's *Julius Caesar*, opened in 1937 at the Mercury Theater in New York, with staging and costumes designed to suggest the fascist regimes of Hitler and Mussolini, including what was described as "Nuremberg lighting." See Orson Welles and Peter Bogdanovich, *This is Orson Welles* (New York: HarperCollins, 1992).

37. See F. Schiller on the role of Elizabeth, as contrasted with that of Posa, in *Don Carlos.* Posa, finding the King, Philip II, in a state of mind that disposes him to seek an adviser other than his usual court lackeys, seizes the moment of opportunity to reveal, to this most powerful ruler in the world, his own innermost thoughts, including his perspective for securing happiness for the people of Flanders. That Posa does so is understandable; but the fact that he allows himself to believe that in Philip, he has found his instrument for effecting the "greatest possible realization of individual freedom, alongside the greatest flourishing of the state," borders on delusion.

    Worse still, is, that for this and other reasons, Posa breaks his alliance with Don Carlos, without informing the latter of the changed situation ("Why show a sleeping person the storm cloud that is hanging over his head?"), and that he even resorts to court intrigues, ostensibly in order to save Carlos. Finally, when his plan fails, he sacrifices himself out of egotistical motives: ". . . it is entirely in keeping with the character of this heroic enthusiast, that in order to shorten this route [out of a condition of despondency], he seeks to place himself once again in high esteem by means of some extraordinary act, by means of a momentary heightening of his being," writes Schiller in his "Letters on Don Carlos." *Cf.* F. Schiller, *Briefe über Don Carlos,* in *Friedrich Schiller Sämtliche Werke* (Munich: Carl Hauser Verlag, 1981), Vol. II, *Dramen II,* Letters Six through Twelve, pp. 244-267.

38. For a more fulsome treatment of this principle of historical specificity, see the treatment of the case of world-historical individual, below.

the process of continued degeneration of the Republic of Rome which is the matter addressed by Shakespeare. Similarly, the real, self-imposed doom of Spain is the historically specific location of the subject of Schiller's *Don Carlos,* just as Aeschylos' *Prometheus Bound* is historically specific to the self-induced doom of the ancient oligarchical Greece dominated by the pervasive influence of the satanic cult of Apollo.

In drama, as in Classical poetry, the essential difference between mere fiction and true art, is that the artistic content of great tragic compositions lies not within the literal events arranged on stage; the content lies in the successively emerging conflicts of principle, that succession of surprising ideas which prompts the audience to leave the theater better people than they entered it, shortly before.

In music, the same principle of Classical artistic composition appears in a different form of expression. Nonetheless, the same ontological principle, as implicit in the paradoxes of Plato's *Parmenides,* is the governing principle underlying those transformations in physical science which are the outgrowth of successive, validated discoveries of physical principle. In fact, it is this same principle, as expressed in the form of Classical artistic composition, which is the governing moral principle of realized scientific progress.

To this purpose, shift our focus from the Classical tragedy of Aeschylos, Shakespeare, or Schiller, to the manner in which the same principle of artistic composition is developed, with relative perfection, in the progress of post-Renaissance musical composition from J.S. Bach through Haydn, Mozart, Beethoven, Schubert, Chopin, Schumann, and Brahms.[39] To that end, let us now define the historical setting in which the importance of modern Classical musical composition is situated. We emphasize the development of modern European culture which was built upon the foundations of the Fifteenth-century "Golden Renaissance," contrasting this to the presently dominant role of the anti-Renaissance, Aristotelean and Ockhamite "Enlightenment," which gained increasing hegemony in post-League of Cambrai, Sixteenth-century Europe.

To restate the nature of the connections: the essence of the matter, is the precise agreement between the principles of physical-scientific discovery, as these principles might be adduced from the accomplishments of Bernhard Riemann, with the principles of such Classical art as Eighteenth- and Nineteenth-century Classical, musical motivic thorough-composition. For the purpose of locating those developments of Renaissance science leading into the emergence of Classical motivic thorough-composition, Cardinal Nicolaus of Cusa[40] is the founder of modern experimental physical science, a role which emerged from his *De docta ignorantia*[41] and those other, later writings,[42] which educated, and otherwise inspired such founders of modern science as Luca Pacioli, Leonardo da Vinci, William Gilbert, and Johannes Kepler.[43]

In method, Cusa, is, in turn, a follower of the great Plato; his work is in the same Platonic tradition so clearly adopted for theology by the Apostles Paul and John.[44] The special emphasis to be supplied here, is, that although the glimmerings of the notion of Classical *ideas* do antedate Plato's dialogues, it is with Plato that the nature and role of the *idea* first appears in a rigorous and clearly replicatable form. This principle of the *idea,* which underlies the work of such Fifteenth-century *Golden Renaissance* figures as Cusa, is key to grasping the ontological implications of Friedrich Schiller's arguments in his *Aesthetische Erziehung* and related writings.[45] Here,

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39. Contrast the success of the first movement of Frédéric Chopin's echoes of Beethoven's Opus 111, with the pathetic folly of Franz Liszt's notoriously failed effort to replicate the same Mozart-Beethoven legacy of the K.475 *Fantasy.*

40. Nicolaus of Cusa (1401-1464). See Helga Zepp LaRouche, "Nicolaus of Cusa and the Council of Florence" *Fidelio,* Spring 1992, pp. 17-22.

41. *De docta ignorantia* (*On Learned Ignorance*), trans. by Jasper Hopkins as *Nicholas of Cusa on Learned Ignorance* (Minneapolis: Arthur M. Banning Press, 1985).

42. The principal writings on the subject of scientific topics by Cardinal Nicolaus of Cusa, composed after *De docta ignorantia,* include: "On Conjectures,"* "On Beryllus,"* "On the Game of Spheres," "The Vision of God," "On Mathematical Complements," "On Geometrical Transformation," "Quadrature of the Circle,"* "The Golden Proposition in Mathematics," and "The Layman on Experiments Done with Weight-Scales." Starred items are included in *Toward a New Council of Florence: "On the Peace of Faith" and Other Works by Nicolaus of Cusa,* rev. ed., trans. by William F. Wertz, Jr. (Washington, D.C.: Schiller Institute, 1995).

43. For the case of Luca Pacioli and his collaborator Leonardo da Vinci, see Pacioli, *De Divina Proportione* (1497) (Vienna: 1896; Milan: Silvana Editoriale, 1982, facsimile of 1497 ed.), Chap. 1.

For Kepler on the "divine" Cusa, see Johannes Kepler, *Mysterium Cosmographicum* (*The Secret of the Universe*), trans. by A.M. Duncan (New York: Abaris Books, 1981), p. 93. Kepler frequently acknowledged his debt to the Englishman William Gilbert, for Gilbert's application of a field (structure of space) approach to magnetic and, by analogy, solar gravitational phenomena, in opposition to the mechanistic Aristoteleanism of Paolo Sarpi and Sarpi's agents Francis Bacon and Galileo. Gilbert was repeatedly attacked by Bacon for propounding an experimental method rooted in hypothesis (e.g., in Bacon's *New Organon*).

44. For example, the treatment of *agapē* in Paul's *I Corinthians 13.*

45. E.g., "Letters on the Aesthetical Education of Man," *op. cit.*; "On Grace and Dignity," "Kallias, or, On the Beautiful," in *Friedrich Schiller, Poet of Freedom,* Vol. II (Schiller Institute: Washington, D.C., 1988); "Philosophical Letters," "On the Pathetic," and "On the Sublime," in *Friedrich Schiller, Poet of Freedom,* Vol. III (Schiller Institute: Washington, D.C., 1990).

by way of that Platonic *Golden Renaissance,* art found its essential unity with science.

In narrowest focus, the *idea* which distinguishes the essence of Classical musical composition, from Romantic and other alternatives, exemplifies the kind of Platonic *idea* we must associate with Schiller's attention to "*der Gegenstand des sinnlichen Triebes*"[46] ["the object of the sensual impulse"]. It is for that reason, that we have selected the case of Classical music to illustrate the principle of culture in general. For this reason, it may be said, that the general principle of all Classical art, is most simply illustrated by the case for the principles of Classical motivic thorough-composition in music.

The ontological issues are sharply defined. It is not the notes—the tones, chords, overtones, etc., as such—which form the self-evident, sensuous elements of Classical musical composition. The substance of Classical music, in its defining, subsuming process of development, from Bach through Brahms, lies within the same creative-mental process of development which governs the ordering of metaphor expressed as the coherent unfolding of a work of Classical motivic thorough-composition.[47] It is in that ordering, not any collection, or interpretation of the individual tones as such, that the ontological actuality of Classical musical composition and performance lies.

Agreed: in Classical composition, the composer's intent must be followed scrupulously. Echoes of the decadent, symbolism-ridden, anti-Renaissance mannerism of reactionary, mid-Sixteenth-century European art, are not to be tolerated kindly. However, the function of that rigorous respect for the composer's intent, is not rightly intended to represent a strict school-book interpretation of the score, as if according to the vanity of some poor pedant's conceits. The strict observance of the composer's intent, is to ensure that the paradoxes (e.g., metaphors) generated within the composition, are clearly defined ambiguities, paradoxes (metaphors) whose resolution must be the idea corresponding to the artistic intent of that choice of motivic thorough-composition taken in its wholeness.

Contrary to today's widely taught musicological dogmas, the "substance" of Classical music is located outside any linear measure, outside any domain of constant curvature; what we hear, and what should be performed, thus, must be heard "between the notes," not within them. It is not the notes we must hear; it is not merely a matter of the "right tuning" of the well-tempered scale. So, for J.S. Bach, as for Mozart *et al.* after him, we must never hear intervals merely within voice-parts, or even merely across voices, except that we *also* hear the totality of the implied, complementary inversions within and across the voices, as these unfold in the course of that motivic development which is the unity of the composition as an indivisible whole.[48]

As we show in the accompanying report, it is the ordering of that "in-betweenness," which is the rudimentary location of that musical developmental process, the which is heard primarily with the mind, and only in a lesser degree the ear as such. Monkeys with perfect pitch do not make music. From J.S. Bach on, well-tempered tuning, whether within the individual composition, or subsuming the succession of development of musical ideas by great Classical composers, is a reflection of a coherent process of thoroughly composed motivic development; it is in the process of composition, that the required coherence of the performance must lie.[49] No mere computer could ever compose, or perform—or hear—such music.

On account of such underlying principles, Cusa's role as the initiator of modern experimental science, situates him, historically, within the "Golden Renaissance," as the most relevant, Platonic point of reference, for uncovering the essential unity of modern science and the accompanying development of Classical culture, Classical musical culture included.

A Matter of Passion

Using the case for Classical musical composition as paradigmatic, three propositions are to be addressed.

- First, how do we demonstrate a common ordering for both Classical artistic ideas—in Plato's sense of *idea*—and the ideas associated with experimentally validated, revolutionary discoveries of physical principle?
- Second, how do such ideas regulate both the impetus

46. Friedrich Schiller, "Über die Ästhetische Erziehung des Menschen," *op. cit., Fünfzehnter Brief,* p. 614.

47. For an example of this, see Mindy Pechenuk on the function of the Lydian principle in Mozart's thorough composition of his *Ave Verum Corpus* motet. Mindy Pechenuk, "Mozart's Ave Verum Corpus," *Fidelio,* Winter 1996 (Vol. V, No. 4), pp. 34-45.

48. Among the very best demonstrations of that principle of performance is a Wilhelm Furtwängler recording of Franz Schubert's great C-Major Symphony (available on Music & Arts label, MUA 826). Other leading conductors' performances have a tendency toward a "pasted together" quality, by contrast with the gripping unity of motivic thorough-composition which Furtwängler achieves, and sustains, from the initial attack, onward.

49. Start with Wolfgang Mozart's work of the 1782-1783 period. Locate a significant number of those compositions which Mozart derived from the same solution for Bach's *A Musical Offering* which is typified by the K.475 *Fantasy*. Next, arrange a set of compositions by Mozart, Beethoven, Schubert, Brahms, *et al.*, which are derived from this same root. The K.475 "Lydian" modality, represents not only a principle of motivic thorough-composition for individual works; the development of successive works, by various such composers, expresses a higher principle of motivic thorough-composition than any single work of that species.

for such scientific progress, and the adoption of a corresponding, revolutionary practice?

- Third, how do Classical artistic ideas govern the moral motivation of a population, to the effect that the lack of such motivation usually results, erosively, or catastrophically, in a great cultural calamity such as that ongoing today?

The answer to those three questions is embedded, pervasively, in Plato's notion of *agapē,* as a motivation—a *passion*—which compels one to subordinate everything to concern for realizing justice and truth. This is the same passion, *agapē,* so prominently emphasized in the Apostle Paul's *I Corinthians 13.* The related issue, is the central feature of Plato's dialogues, that truth lies, ultimately, not in any fixed belief, but only in those valid, progressive changes in belief and behavior, the which supersede the paradoxes inhering in a previously established learning, with a validated discovery of higher principle.

Thus, the central feature of the thesis which we present here, is summarily the following.

Justice, truthfulness, and those creative powers by means of which we may discover valid, revolutionary principles of our universe, form a seamless whole, in which Classical culture, morality, and physical science, are united by a common passion for universal justice and truth.

These issues of truth and justice are associated empirically with tests of humanity's increased power over the physical universe, *per capita*, and *per* square kilometer of the Earth's surface. The increased development of the average newborn individual, the increase of *per-capita* power, the maintenance of the increase of those improvements in demographic and productive characteristics, and so forth, are typical of the evidence by means of which we may know that changes in knowledge for practice are in accord with the Creator's intent for the laws of the universe. This accords with justice, as *justice means a more adequate participation of each individual life as a world-historical being, a life so dwelling in the simultaneity of eternity, a mental life thus situated in the further development of the condition of all mankind.*

That passion for truth and justice, is rightly, and most conveniently identified as the *agapē* of both Plato and the Christian New Testament; it was, indeed, this Christian, Apostolic standpoint, based in *agapē,* which is the key to what emerged, during the period of the Fifteenth-century *Golden Renaissance,* as modern European Classical culture. This passion, expressed as the powers of concentration through which valid discoveries of principle are prompted by metaphors, is the purest expression of reason, its *active* expression.

For example: contrast *reason* and mere *logic,* as opponents of one another. Where is the *passion* in a formal, deductive logic? The question itself is a contradiction in terms! Without the passion of relentlessly extended concentration, how might we discover the principle which overcomes a defiant paradox? Without the passion for truth, how would we be impelled to refuse to accept less than the recognition, or new discovery of such a principle?

The notion of a "dispassionate" search for truth, is a contradiction in terms. Logic as such, is morally dead, or, better said, outrightly immoral because it is amoral. It is the creative impulses governed by an overriding passion for truth, that same passion, *agapē,* which separates the Christian from the moralizing hypocrite in *I Corinthians 13*, which are the only efficient source of truthfulness and justice. This is the passion which produces truth in the progress of physical science. This is the passion for truthfulness, the which is the essential distinction between Classical and allegedly "alternative" forms of art such as "the popular," Romantic, Modernist, Existentialist, Post-Modernist, etc.

This, as we shall see, leads us directly to the issue: If reason must be controlled by passions, rather than the dead hand of mere logic, what shall govern these passions? How shall we define the injunction of *I Corinthians 13* on this account? By what means are such passions uniquely efficient in guiding us to practices of truth and justice? How do we, then, distinguish, those passions and forms of passion which are irrational, from those contrary forms which are the seat and substance of reason? This is the issue of culture. This is the issue which places Classical culture morally and otherwise apart from and above all currently popular misconceptions of culture.

The role of passion in the composition and performance of Classical music, is to be located so. As we shall indicate by aid of the accompanying report, summarizing Classical musical tuning, the medium of Classical motivic thorough-composition, as we have located that here, is the sensuous domain within which musical ideas are expressed as musical ideas.

To that effect, turn now to those aspects of Plato's dialectical method which bear more emphatically on the matters of physical science.

3. The Principle of Hypothesis

The formalist, such as that pathetic creature, the mere logician, is a reductionist duped into believing that definitions, axioms, and postulates are given implicitly beforehand (as if *a priori*). The formalist presupposes, that one might discover such definitions, axioms, and postulates by means of deduction, a method of deduction which

Truth, then, does not lie in any one choice of hypothesis. Truth lies in the always radically revolutionary process, by means of which valid new principles are generated, new principles which take into account the contradictions inhering in the previously proposed hypothesis.

Photo © R.M.N., Louvre

"A Man Seated in His Study," pen and wash in bistre (c.1640-45).

presumes to recognize these terms as if they had been given *a priori.* On the basis of such presumptions, such as those presumed by an Aristotle or Immanuel Kant, it is decreed that all acceptable theorems are derived by deduction from those initial presumptions.

The Socratic method of Plato proceeds in a directly opposite direction.

With Plato, one begins with propositions being entertained as prospective theorems, and then follows the approach taken in his dialogues, as a way of searching out discoverable fallacies in those underlying presumptions (definitions, axioms, and postulates) which are the adducible motives for those propositions which our prejudices have imposed upon us. The challenging of such prejudices, provides the user of Plato's method with what appears to be, for the moment, a refined array of mutually non-contradictory definitions, axioms, and postulates; this refined array, taken as a whole, is an *hypothesis.* For example, what was traditionally taught to modern students as Euclidean geometry was such an hypothesis.

The method of Plato starts with the recognition that all propositions, and, therefore, all hypotheses, including what were previously the most refined ones, must include some significant, axiomatic fallacy of some kind. In the method of Plato, we show that a sufficiently rigorous such exploration of previously accepted sets of definitions, axioms, and postulates, leads us to what are empirically contrary, mutually contradictory results. If that discovered contradiction is itself empirically truthful up to that point, then there must exist some previously overlooked, or unknown principle—some new definition, axiom, or postulate—which, as correction, resolves that contradiction. The result of a validated such correction represents a radically new set of definitions, axioms, and postulates: in other words, a new hypothesis.

Truth, then, does not lie in any one choice of hypothesis. Such deductively consistent hypotheses are merely conditional upon such tests; there is no certainty of settled truth in any method of deduction. Truth lies in the always radically revolutionary process, by means of which valid new principles are generated, new principles which take into account the contradictions inhering in the previously proposed hypothesis. The method by which such new principles are ordered, in overcoming successively ordered contradictions, thus represents a notion of *higher hypothesis,* the latter a verifiable ordering principle which is demonstrated, repeatedly, to generate successively improved hypotheses. That notion of higher hypothesis coincides with the domain of *reason,* a domain above and beyond any mere logic, the domain within which truth and true knowledge lie.

Riemann's 1854 habilitation dissertation supplies us the exemplary case.

Given any physical hypothesis, eliminate all *a priori* notions of space, time, and other dimensionalities. In place of dimensions, employ principles which are each based on a crucial-experimental validation. These *n* principles, then constitute an *n-fold* manifold of physical principles: principles of physical space-time.

Next, given the case, in which experimental evidence shows a persistent error of magnitude in what had been earlier assumed to be a valid *n*-fold manifold.[50] Take the case, that there be no experimental error internal to the *n*-fold manifold as defined previously. In the case that the self-contradictory evidence is crucially valid, there must be some previously overlooked, hidden physical principle, which accounts for the fact that an otherwise empirically validated *n*-fold manifold is contradicted by some adducibly persistent, crucial margin of error. The task posed is twofold: first, to discover a principle which resolves this contradiction, and, second, to provide a crucial-experimental demonstration of both the validity of the new principle and the factor which must be measured as the margin of difference between the characteristic of the *n*-fold and its replacement, the *(n+1)*-fold manifold which supersedes it.

The lesson of Plato's *Parmenides* haunts us once more. In such a physical geometry, neither space by itself, nor time by itself, have an *a priori,* self-evident existence. Space exists only as an empirically defined physical principle; the same is the case for time. All other notions of dimensionality are subject to the same condition.

Such is Plato's dialectical method. Instead of fashioning an hypothesis from sheer prejudice, or other presumptions, use the Socratic method of dialectical negation, to locate errors of presumption, and to adduce principles which not only account for the falsity of earlier presumptions, but which are demonstrably a guide to the needed corrections.

The exemplary case is Cusa's discovery of a rigorous, superbly elementary proof, that, by the standard of Eratosthenes' "sieve," π is what mathematician Georg Cantor later defined as a transcendental magnitude, rather than merely a Classical-Greek, irrational magnitude, as Eratosthenes' contemporary and correspondent, Archimedes, had imagined it to be.[51]

To indicate the connection between Plato's dialectical method and Riemannian manifolds, compare the earliest known, reasonably valid forms of ancient sidereal-solar astronomical calendars.[52] From this, derive a relatively simple type of multiply-connected manifold.

The simplest quality of change defined in respect to solar-sidereal observation, from a position on the surface of the Earth, is the solar day: apparently a circular orbit. The next choice, for example, could be the solar year. The next choice, might be the complexity of the apparent movement of moon and sun. A next one, the equinoctial cycle. A next one, is the evolutionary change of the solar orbit, a phenomenon associated with the periodicity of Ice

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50. Treat Wilhelm Weber's correction and proof of Ampère's notion of a *longitudinal,* or *angular* force as an example of this. See Laurence Hecht, "The Significance of the 1845 Gauss-Weber Correspondence," *op. cit.*

51. See Lyndon H. LaRouche, Jr., "On The Subject of Metaphor," *Fidelio,* Fall 1992 (Vol. I, No. 3). See also *Nicolaus of Cusa on Learned Ignorance, op. cit.,* pp. 52-53, and "On the Quadrature of the Circle," *op. cit.,* Compare Archimedes, "Measurement of a Circle," and "Quadrature of the Parabola," in *The Works of Archimedes,* ed. by T.L. Heath (New York: Dover Publications), pps. 91-98, 233-252. See also Lyndon H. LaRouche, Jr., "The Ontological Superiority of Nicolaus of Cusa's Solution Over Archimedes' Notion of Quadrature," *Fidelio,* Summer 1994 (Vol. III, No. 2), pp. 31-34.

    Contrast the popularized, academic delusion, which, like Professor Felix Klein, insists that the proof of the transcendental quality of π was first established by the successive work of Hermite and Lindemann. Note, that Klein himself traces the hereditary origins of Hermite's and Lindemann's argument to what was in fact an outright, *petitio principii* hoax by Berlin-based avowed enemy of Gottfried Leibniz, Venetian asset Leonhard Euler. Euler's argument against Leibniz's monadology rests upon Euler's arbitrary adoption of an axiom which presumes perfect continuity of linear extension, down to the smallest infinitesimal. Euler's proof, and the derived arguments of Hermite, Lindemann, and Klein, is thus a product of Euler's assertion, as an axiom of his argument, of the very conclusion, against Leibniz, which he professes to have proven.

52. As a result of the ideological fanaticism of the British Israelite movement, the growth of political influence of Venice's clone, the Anglo-Dutch financier-maritime oligarchy, wild-eyed hoaxsters such as the London-based Victorian archeologists degraded archeology in general virtually to a search for the exact street address of Abraham in ancient Ur. As a result of this British cult's influence, the most generally accepted doctrines respecting history, physical science, and culture generally were pivotted upon the notorious Bishop Usher's dating of Creation to an event located in Mesopotamia circa 4004 B.C. One consequence of this British Israelite hoax, is the popular delusion which dates astronomy from the lunar obsessions of early Mesopotamia. Similarly, although it is readily demonstrated that the earlier civilization in Mesopotamia was the Dravidian colony known as Sumer, the British Israelites insist that Sumer was founded by Semites. The latter dogma continues to be asserted by both fanatics and their dupes, a teaching deployed in the interest of dating Creation from the place where God's foot stood in 4004 B.C. In fact, known solar-sidereal calendars are dated to no later than Vedic calendars from between 6000 and 4000 B.C.; evidence of still more ancient solar-sidereal calendars is known. The related fact is, as the Greek Herotodus reported, that the ancient cultures of Sumer, Sheba (modern Yemen), Ethiopia, and Canaan, were colonies of an ancient Dravidian culture which dominated the maritime regions of South and Southeast Asia, probably long before the close of the last Ice Age. The modern cultural heritage of India and Southeast Asia, as in the case of Thailand, for example, is predominantly a result of interactions among Dravidian, Vedic, and Chinese cultural interactions over millennia.

Ages. And, so on. Kepler's adducing of the elliptical orbits from observation of Mars, is an example of this same approach.[53]

The universe, as far as we know it, is a wonderful, vastly, perhaps endlessly complex process. This complexity begins to be transparent as we attempt to define a relatively universal frame of reference, a reference with which to compare the depicting of some motion observed from a fixed point on Earth to the same motion represented by a more universal standpoint. As we increase the number of interacting orbits considered, and include sundry other kinds of regular, semi-regular, and other pulsations, we recognize that there could be no point in the universe so smally infinitesimal, that any interval of action could be linear. The universe is, thus, Leibniz's domain of a calculus of non-constant curvature.

That considered, we shift our focus from orbits and analogous periodicities and quasi-periodicities, to physical principles. We view the universe as a multiply-connected manifold of such physical principles. This is Bernhard Riemann's domain, in which we are supplied no estimate of foreseeable limits to the number of such colligating principles. We abandon the notions of "dimensions" in their naive sense, in favor of an orderable accumulation of successive physical principles.

Looking at this matter from Riemann's standpoint, we have a useful way of defining a transfinite architecture for scientific progress. For this purpose, scientific progress, as envisaged by Nicolaus of Cusa,[54] is expressed in chiefly two ways.

In the first approximation, the experimental physical science of Cusa obliges us to recognize and prove outright fallacies, such as the fallacy of Archimedes' argument on the squaring of the circle, in previously enshrined scientific opinion.[55] In the next approximation, we are presented with more interesting challenges. In the leading features of the internal history of modern scientific progress since Cusa, we have to consider something other than pure and simple fallacies. In the best scientific work of discovery, we have to consider the cases, in which a particular colligating set of principles is in error only because it lacks some additional principle. On this account, at some point in the history of scientific progress, physics, for example, exhibits to us some newly discovered, persistent margin of empirical error, which we must suspect to correspond to existence of some previously unrecognized, additional physical principle. Thus, physical science assumes the form of a process of transformation from a valid n-fold manifold of physical principle, to a higher one of $(n+1)$-fold manifold.

In the latter type of case, we are presented with the case in which some physics, for example, was truthfully constructed, yet is shown, now, to be also untrue. This is a paradox of the type appropriately recognized as a metaphor. The discovery of the relevant new principle, together with the crucial experimental proof of that principle, is the reality which corresponds to that metaphor. So, in physical science, we give the name of the discoverers of the paradoxes and their solutions to the paradox and its solution, just as we give the name of a composer and of the relevant metaphor to a Classical-artistic composition.

In physical science, it is such experimental solutions to well-defined such paradoxes, which define *knowledge,* as distinct from mere learning. One knows a principle only if one has replicated the relevant paradox and its corresponding, discovered principle of solution. Knowledge is the accumulation of such replications of validated discoveries of principle. That is to emphasize, that knowledge lies in the succession of valid discoveries which have been mastered by the student, for example; what one may have "learned" in other ways, does not constitute knowledge. Merely passing written and oral examinations, does not measure knowledge, but, usually, measures only the inferior mental condition of mere learning.

This is precisely parallel to the case we identified for Classical artistic composition. The composition does not lie in the details produced, but rather in the process of development which lies "outside" and above anything so produced. Just so, the paradoxes which force the audience to recognize the need for a higher principle of change, shift the location of the drama (for example) from the literal features of the composition, to the principle of ordering which underlies the succession of changes in state, those transformations of hypothesis, which is the unity of the entire composition.

To restate the crucial issue once again: Reality does not lie in a deductive form of representation of experiences as those phenomena are situated in terms of a fixed hypothesis. Reality lies in that higher authority which exists above any one hypothesis, which exists in the ordering of a valid succession of hypotheses. The reality experienced in that succession, is the "substance" of the experience of this succession. That is the crucial ontolog-

53. For Kepler's determination of the elliptical character of the Mars orbit, see Johannes Kepler, *New Astronomy,* trans. by W.H. Donahue (London: Cambridge University Press, 1992). The method is discussed in Jonathan Tennenbaum and Bruce Director, "How Gauss Determined the Orbit of Ceres," *Fidelio,* Summer 1998 (Vol. VII, No. 2).

54. Cusa, *loc. cit.*

55. The proof of the transcendental character of π is a perfect model of this kind of proof of existence of a necessary, new physical principle.

ical issue of physical science; there lies the efficient interconnection between the ordering of realized scientific progress and the development of the principles of Classical culture.

At this point, on this account, a deeper problem confronts us.

The more thoroughly we attempt to exhaust the lessons of physical scientific progress as such, such as a Riemannian representation of such progress, the more stubbornly a certain perplexity confronts the scientific thinker. There are two leading issues. First, what is the nature of that creative process, by means of which the mind generates valid solutions of principle for crucial experimental-scientific paradoxes? Second, what is the active ordering-principle associated with such valid discoveries of principle? If we reflect carefully on what these considerations imply, we must recognize that there is no adequate formal-scientific answer for these two questions. This leads us to discover a second manifold, an m-fold manifold of principles of Classical-artistic composition. This m-fold manifold expresses the passion, the driving and directing force which underlies and otherwise governs both scientific and artistic progress.

4. Order in Physical Science

Since Plato's dialogues, the leading intellectual currents of European civilization have focussed upon the implications of a certain central paradox, a central metaphor, as the central issue of scientific principle respecting our universe taken as a whole. From the root supplied by Plato's emphasis upon a parallel between the characteristic of living processes and principles of musical composition, Plato, Luca Pacioli, Leonardo da Vinci, and Johannes Kepler, among others, have emphasized two qualitatively distinct kinds of ordering within the physical universe: those orderings cohering with the Golden Section, and those which do not. Living processes, in particular, cohere with the former, but, as Kepler emphasized, also ostensibly non-living systems, such as the Solar System as a whole. For our purposes, we associate non-living systems generally with entropic processes, and living ones as the most exactly paradigmatic expression of not-entropic processes in general.[56]

Perhaps the most efficient approach to conceptualizing those distinctions, is the case of the not-entropic physical-economic process. There is nothing to be properly viewed as accidental in this view of physical economy. The central practical question of all knowledge, is the question: Is man's knowledge of the physical universe, merely his conceit, or is there some objective proof, by means of which one kind of thinking corresponds, demonstrably, to the lawful ordering of our universe, and a contrary kind of thinking does not? In this matter, there ought to be no objection to the proposition, that the test of human knowledge is posed by the question: Does a certain method of transformation of human knowledge result, unquestionably, in a process of increase of mankind's mastery of the universe?

The general form of the answer to this question, appears at the moment, we shift the issue of mastery, from focus on the practice of the particular, isolated individual, to measuring the increase of the human species' power to increase its *per-capita* power over nature. This increase must be defined with the attached condition, that the potential relative population-density is also increased by this change. To express this connection in a rigorous way, we must introduce the notion of the progressive ordering of higher hypothesis and increase of mankind's potential relative population-density.

We are confronted, then, with two distinct, but interdependent aspects of the human species' increase of its potential relative population-density. One, is the relationship of the human species to the given biosphere within which it is presently, or recently located; the other, is the actions of mankind affecting the increase of potential of the biosphere to serve as a foundation for increase of mankind's potential relative population-density. The simplest way to force attention to these combined considerations, is to look at such challenges of the coming century as colonizing another planet, or even terra-forming it.

Ask ourselves: Given, the total set of preconditions, including the biosphere's current state of development, upon which we must depend for the *per-capita* and *per*-square-kilometer perpetuation of the total current output of our species. What must we produce, to maintain at least a continuous supply of that quality and quantity of consumption?

Situate the notion of potential relative population-density, *per capita* and *per* square kilometer, in respect to investment in maintaining and improving the output of our species, *per capita* and *per* square kilometer.

To this purpose, we must place emphasis upon the demographic characteristics of the population. Rate of growth of the population, is a consideration. Consider life-expectancy, examined for the cost of developing a new individual, as against the loss to society from high rates of infant mortality and lowered life-expectancy in general. For example, consider the

56. E.g., consider Vernadsky's notion of the noösphere.

Basic 'Anti-Entropic' Physical-Economic Constraints

To state the most characteristic feature of a physical economy in the terms of approximation afforded by textbook thermodynamics, agree to define the *necessary* physical costs (input) of an economy's level of productivity (including administration), under the heading of "energy of the system," and to consider the not-wasted, remaining portion of output, as "free energy." "Energy of the system" includes both current new input, and the net replacement cost (in physical terms) of that portion of functionally significant physical capital, the which is stored within the economic process. The latter, stored, net (physical) capital investment, includes basic economic infrastructure, improvements in the physical-economic fertility of land, agriculture, industry, and a restricted portion of actively stored total services: in the form of education and health of the members of households, and science and technology potential of the labor force and enterprises.

Express these, in first approximation, in my own changes in definitions for the symbology for the terms which Karl Marx adopted from his British teachers. Let **V** signify input/output of the labor-force, **C** signify required materials input for the entire economy (functionally defined), **F** net (functional) physical capital, **d** necessary deductions for government and administration otherwise, **S** output in excess of *energy of the system,* and **S′** *free energy* (after deductions for both necessary administration and waste). Be reminded: read these symbols as defined here, not the Marxist reading. Prepare the way by describing the constraints to be examined, as follows.

The general constraints are:

1. The potential population-density of the economy (as a whole) shall not be decreased, and the demographic characteristics of the population as a whole shall be improved.

2. The inputs and outputs of the "market baskets," and of their contents, shall be increased in absolute (physical) terms, for households, for performance of infrastructure, for agriculture and related, for industry, for education, for health care, and for science and technology services. These increases shall be measured in market-baskets, also as contents of market-baskets, and in terms of *per-capita* (of labor-force), households, *per*-square-kilometer of land area.

3. The ratio of "free energy" to "energy of the system," so defined, shall not decrease, but the relative energy of the system (*per capita* of labor-force, *per* household, and *per* square kilometer) shall be increased through reinvestment of "free energy" generated.

These seemingly paradoxical requirements may then be expressed as:

Population-density (adjusted for demographic parameters):

$$|(F)\ P_1| \leq |(F)\ P_2| \ .$$

"Free Energy" Ratio:

$$\left[\frac{S'_1}{(V_1 + C_1)}\right] \leq \left[\frac{S'_2}{(V_2 + C_2)}\right] .$$

"Energy-Density" Ratio (*per-capita* of labor force):

$$\left[\frac{(V_1 + C_1)}{F_1}\right]_1 \geq \left[\frac{(V_2 + C_2)}{F_2}\right]_2 .$$

But, the physical content of market-baskets (M) for productive functions, *per capita,* for labor-force:

$$(M_v)_1 \leq (M_v)_2 \ , \quad (M_c)_1 \leq (M_c)_2 \ .$$

This set of "market-basket" relations overlays a set of constraints defined in terms of divisions in output of employment of the total labor-force's operatives, letting **V** correspond to the operatives' ration of the total labor-force.* In this case:

$$\left(\frac{V}{C}\right)_1 \geq \left(\frac{V}{C}\right)_2 , \quad \left(\frac{S'}{V}\right)_1 \leq \left(\frac{S'}{V}\right)_2 ,$$

and

$$\left(\frac{S'}{V + C}\right)_1 \leq \left(\frac{S'}{V + C}\right)_2 .$$

—from "The Essential Role of 'Time-Reversal' in Mathematical Economics," Fidelio, Winter 1996 (Vol. V, No. 4).

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* See, *So, You Wish To Learn All About Economics?, passim.* [Footnote 8]

quality of development of the physical-economic investment by the society in scientific and technological potential of the new individual as a desired improvement in the physical-economic demographic characteristics of the population.

Consider some elements of basic economic infrastructure: transport, water, and energy. To the extent we can slow down the rate at which water, originating as rainfall, is emptied into the seas and oceans: in how many ways can the useful turnover of that water-flow be increased? Can we increase, thus, the effective amount of water available *per capita* and *per* square kilometer? How can we better manage forests, fields, and so forth, to increase and effectively maintain water-tables, streams, and create weather-systems which moderate weather and increase the amount of rainfall regenerated from evapo-

ration? How can we better develop water as a means of relatively low-cost transport, while also using the same water for other purposes? Similarly, how can we increase not only the raw energy supplies *per capita* and *per* square kilometer, but how might we also increase the effective energy-flux density deployed *per capita* and *per* square kilometer, for the benefits expressed in the environment generally, and in *per-capita* productivity?

As we increase the range of applied scientific principles and derived technologies, we increase the complexity of the division of labor. We also increase the level of education required to produce a population which has assimilated a relatively higher level of scientific and artistic principles. This requires an increase in the number of years, prior to biological maturity, devoted to education and related matters; that expenditure for education and Classical culture, is a part of the necessary cost of increasing and maintaining the potential productivity of the population, *per capita*.

For the simplest representation of the result, we divide the physical-economic output of society into three categories: Total useful output, cost of maintaining that magnitude and rate of total output, and the ratio of total output to total required inputs, the latter including the necessary maintenance and further development of basic economic infrastructure. To maintain a culture, is therefore expressed in the following general constraints. The technological level must be raised; total output *per capita* and *per* square kilometer, must increase; yet, the ratio of total output to total required inputs, must increase; meanwhile, the total required inputs, *per capita* and *per* square kilometer, must also increase. *This set of constraints typifies a not-entropic process.* This physical-economic "model" must be used to supply a competent, rigorous definition of the very terms "not entropic," or "anti-entropic" [SEE Box, page 20].

The physical-economic condition under which that not-entropic requirement is satisfied, expresses the result of applying the creative-mental potential of the species to man's increasing power over nature. The creative process so realized as applied advances in knowledge, expresses the lawful composition of our universe. That is, the condition under which mankind's willful actions, to proceed from a previous to a higher quality of hypothesis, satisfy that not-entropic requirement, expresses the power of our species to command such obedience from the universe in general. *In other words, the universe as a whole is lawfully non-entropic.* In competent science, no "law of universal entropy" is tolerated.

Consider two additional implications of this physical-economic expression of "anti-entropy:" first, the form in which anti-entropy is expressed in terms of a Riemannian n-fold manifold of physical principles; second, a similar expression in Classical art-forms. The simpler case is the straight realization of an n- to $(n+1)$-fold progress in discovery of scientific principles as realized technological progress in the productive powers of labor. The second case, is that of increasing density of discovered and realized Classical-artistic principles. In both implications, anti-entropic action is of the form and content of $F[(n+1)/n]$, or, $F'[(m+1)/m]$. It is through this action upon the universe by the creative powers of the individual human mind, that human activity realizes anti-entropic growth, and related progress, in mankind's relationship to the universe at large.

Clearly, in addressing the notion of anti-entropy in a more general way than is required by the subject of culture as such, we could not overlook two other cases. First, obviously, we must take into account those characteristics of life as such, which lie entirely outside entropy, as these are expressed, for example, in the development of the biosphere even before the existence of the human species. Second, we must go further, as Plato, Pacioli, Leonardo, and Kepler did, to recognize that the same principle of anti-entropy underlies the deeper principles of ordering in the universe at large.

Pending that attention to these latter two, other expressions of anti-entropy, the crucial fact on which to focus here, is that human creativity occurs solely within the bounds of the individual mental-creative processes, and does not occur as a product of interaction among those individuals. That is to stress, that all evidence of that creative mentation which generates either a validated new physical principle, or comparable principle of Classical artistic development, occurs only within the individual mind. Such discoveries of principle can be spread in society, but only through replicating the original act of discovery, one mind at a time.

The special fact to be stressed here, is that Classical artistic creativity, as typified by Plato's notion of the *idea,* is the only case in which the creative powers of the individual mind are applied directly to those creative mental processes themselves. It is the study of the progressive development of those social processes associated with progress, in terms of Classical-humanist art-forms which, alone, provides the human mind access to comprehension of the potential of the individual's human creative processes themselves. Therein lies the manifestly superior position of Classical art-forms over all other forms of knowledge. The treatment of education from the standpoint of Schiller and of his friend Wilhelm von Humboldt, represents, thus, the highest expression of statecraft, the development of those young minds which must supply future progress in statecraft.

5.
Education and the Tragic Principle

The essential issue of an individual's personal morality, is posed by the question, whether personal self-interest is located as the fascists such as Nazi existentialist philosopher Martin Heidegger did, in the pettiness of day-to-day and similarly small-minded personal and family responsibilities and gratifications, or, rather, in terms of the outcome one seeks for one's life, from birth to death, taken in the totality of that life's outcome for the past and future existence of the human species in general. This requirement must be read as a life conducted to supply an enhanced role for one's participation in one's culture, one's nation, a life lived as the instrument through which the universal outcomes of one's life are realized.

Restate and amplify that crucial issue of morality as follows. The essence of the individual's life, is the simple fact, that each among us is born and will die. On this account, the fundamental self-interest of each individual is located in the continuing outcome of that mortal life, an outcome which reverberates far beyond the time prior to one's birth, and after one's demise.

The corresponding peculiarity of that individual's self-interest, in absolute distinction from the nature of the beasts, is that our effect upon the importance of the individual for the human species as a whole, is located in the value for all mankind of those Platonic *ideas* which represent the accumulation of valid, discovered principles of the universe which we have assimilated from our forebears, and will thus, and otherwise transmit to our posterity. These ideas include not only the *n*-fold manifold of physical science, but also the *m*-fold manifold of cultural principles.

That view of ideas, is the basis upon which the thoughtful persons asks, "What is the outcome of my having lived? Is it, perhaps, the deeds I do, or the pain or pleasure which I experienced? Or, is it something less mortal, less perishable than mere deeds, mere acquisitions, mere pleasures?" What endured when Classical Greece died?

Plato endured.

What was enduring was the efficiency of those *ideas* corresponding to validatable discovery of principle. When we relive the valid discoveries of those who have gone before us, we perpetuate the good they have bequeathed to us, and we relive in ourselves that which is enduring, which they have given to us in this way. Thus, we, the bearers of the gifts of knowledge of *ideas* from past generations, may not only perpetuate the precious ideas passed down to us from earlier generations, even after the death of those ancients, but we may add something valid and new to that stock of principles to be transmitted to the benefit of the future. In such ways, we may impart living immortality to the gifts of the past, and become also a necessary part of that which follows the end of our mortal existence.

Persons who meet that standard, become *world-historical beings.* They never die, because that which is essential in their having lived, lives on as the benefit which ideas from the past have bequeathed to the future.

Consider the pupil from the elementary and secondary grades of education. Consider the pupil's education from the standpoint just summarized.

Is it important that the student learn in school? Or, is it *relatively* unimportant? Know, that learning is almost nothing; know that knowing is almost everything. The essence of morality in all education of the young, is the replication of the act of discovery of valid ideas. When the student has generated, or replicated the act of a validatable discovery of principle, he or she *knows* that principle, and is able to transmit it to others, not as mere learning, but, rather, as knowledge for practice. A moral educational institution, is one in which the pupils relive the experience of knowing valid principles, both those principles relived, as discovery, from the past, or added to the stock of such principles. That connection to *ideas,* rather than mere learning, locates all of us who follow the path of such ideas, both as students and adults, as a continuation of the history of ideas, as a person embodying the past in acting to create the future.

The order in which notions of principle are generated, is the procession of history. Only persons who locate their personal self-interest and identity in that kind of relationship to ideas, are world-historical individuals.

Consider again the difference between the definition of "morality" in the mouth of a bestialized existentialist, such as a follower of Nazi philosopher Martin Heidegger, or his depraved clone, Jean-Paul Sartre. The existentialist has merely learned; he, or she lacks that notion of morality natural to a world-historical individual. That existentialist, that follower of Thomas Hobbes, John Locke, or Immanuel Kant, has no true morality. It is the continuing outcome of my having once lived, which is the essence of the known self-interest of the world-historical individual. My pleasures, my pains, my losses, my gains, are as nothing compared to what I gain, or lose, in securing, or failing to serve the immortal meaning of my world-historical existence.

Situate Platonic ideas as existing, ontologically, within the domain of *higher hypothesis.* Reality is, thus, that process by means of which man's mind is transformed from relatively lower, to higher states, as from the state of

a relatively valid *n*-fold manifold of physical science, to a higher one, *(n+1)*-fold. Or, in respect of moral principles, from *m*-fold, to *(m+1)*-fold. The process of change, in Heraclitus' and Plato's sense of *change,* is the location of the continuing substance of change, from relatively lower to higher states.

In this view, every person who meets the moral requirement of being, effectively, a world-historical individual, dwells in the eternity of change. In other words, in the brief time we live and act as world-historical individuals, we exist forever, in *the simultaneity of eternity.* So, each of us must be judged. So, each of us must judge himself or herself. So, our conscience is to be ruled in all matters of moment-to-moment behavior; so, our conscience must situate our notion of our primary self-interest, our interest as efficiently located within the simultaneity of eternity.

That view, which locates the fundamental self-interest of both the individual person, culture, and nation, as its world-historical self-interest, is the standpoint from which Classical tragedy is to be composed, performed, and assimilated; this is the standpoint of Aeschylos' *Prometheus Bound,* and the tragedies of Shakespeare and Schiller. What is the world-historical interest of a Prometheus, enduring immortal torment, that he might keep the secret, and thus ensure the self-induced doom of those common enemies of the Creator and mankind, the ruling oligarchy of satanic Zeus' Olympus? What is the world-historical duty which Hamlet, as Prince of endangered Denmark, must adopt, overriding all merely personal issues to the end of serving that duty? What were the world-historical duties variously shirked by Posa, Don Carlos, and King Philip? It is that world-historical view which must excite our passions to do good, to act as, and to be a world-historical person rooted in the simultaneity of eternity.

Consider a more general expression of the world-historical issues so defined.

Until the revolutionary changes introduced by the Fifteenth-century Council of Florence, and by the ensuing reconstruction of France under King Louis XI, approximately ninety-five percent of mankind, in all cultures, lived in a condition of degradation to the status of virtual human cattle. The society within which these "human cattle" were herded, was a society ruled by an oligarchy. This oligarchy was composed of a blending of several types: a landed aristocracy, such as that of feudal Europe; a financier aristocracy, such as that of Venice or today's London; or an administrative oligarchy of the bureaucratic type. The definition of law under such oligarchies, was, predominantly, a privilege of the ruling oligarchy, an oligarchy which possessed the society and its people, as a feudal landlord of Dr. François Quesnay's evil type owned land, cattle, and serfs.

All forms of oligarchical society, including the principle of western feudal Europe, as of Byzantium, were, and are essentially evil. The essential evil in all forms of oligarchical society, is the denial of the individual's right to participate in the rule of society by the process of development of valid ideas. In other words, the essence of evil, is the crime of the very mere existence of satanic Zeus' Olympian oligarchy, or, Olympus' surrogate, the cult of Apollo (Apollo-Gaea-Python-Dionysus). The essence of evil is the denial of the right to be developed, and to become a world-historical individual, a participant in the simultaneity of eternity.

At this juncture, a crucial point must be interpolated. U.S. President Polk was an evil man, and his war against Mexico was a crime against the vital interests of the United States. On these matters, U.S. Representative (and later President) Abraham Lincoln was consistently right; but, on the larger issues of culture, Henry David Thoreau was a wicked man. There was no more evil doctrine ever concocted, than the myth of "the noble savage," or the related notion of the nobility of "the simple life."

Indeed, the role of the British agents, and agents of influence, Philippe Egalité, and the Jacobins Danton, Marat, Robespierre, Saint-Just, *et al.*,[57] exemplifies the evil which shocked such German apostles of liberty as Friedrich Schiller. The instrument which these sundry British agents and assets mustered to destroy France from within, was the rabble called into Paris for such enterprises as the storming of the Bastille, for Philippe Egalité's raid on Versailles, and the Jacobin Reign of Terror.

Although the philosophical basis for the overcoming of oligarchical society was supplied by Plato *et al.*, the actual transformation was the cumulative result of Christianity, the ministries of Jesus Christ and the Apostles John and Paul most notably. The obvious root of the modern notion of freedom and equality, is the principle first established by Christianity, that all persons are equally made in the image of the Creator, with no preference to one or another national, cultural, or ethnic discrimination allowed. Notable, is the fact that this work of Christianity was undertaken within the scope of a Hellenistic Mediterranean culture which was derived from the Classical Greek of Plato and his influential Academy. The Apostles

57. Danton and Marat were both directly agents trained and deployed, from London, by the head of the British foreign service, Jeremy Bentham. Philippe Egalité was an agent of the pro-London faction, and was the organizer of that farce, known as the storming of the Bastille, which Philippe organized, armed, and led as an election-campaign stunt on behalf of the Swiss banker (and father of the the evil Madame de Staël), Jacques Necker, who had just earlier bankrupted France on behalf of London's strategic interest.

John and Paul made that cultural heritage of Plato the medium in which the Christian mission was continued. It was these Christian Platonic conceptions, typified by the role of the Augustinian tradition, which became the leading edge of the centuries-long struggle out of which the Fifteenth-century Golden Renaissance emerged.

That struggle, typified by the work of Abelard of Paris, of Frederick II Hohenstaufen, of Dante Alighieri, of Petrarch, of teaching orders such as the Brothers of the Common Life, and so on, was a struggle to establish a form of society based upon the nation-state, rather than some oligarchical classes which placed themselves above accountability to the idea of a nation as belonging to its people, rather than some intrinsically oligarchical institution placed above the people. This idea of the nation-state republic had nothing to do with the perverted notions of "democracy" associated with John Locke, but rather, the accountability of the ruling institutions of society to the principle of universal truth and justice, the principle that all persons must have the right to develop and live as world-historical personalities.

There are two great evils predominating in the known existence of our species. One, is the evil of oligarchism, as typified by the administrative oligarchies of ancient Mesopotamia and Rome, the feudal aristocracy of Europe, and the financier oligarchy of such institutions as the Delphi cult of Apollo, Venice, and London today. The other great evil, is the moral degeneracy deeply imbued in those subject populations whose moral condition and impulses have been degraded, by oligarchical rule, into the relative bestiality of human cattle. The practical ordinary person may have the nobler impulses of the human individual, but, under oligarchical traditions, the circumstances of practical life cause that person to be self-dominated by relatively brutish, "practical" considerations. Therein lies that evil among the "ordinary people," by means of which, usually, oligarchy preserves its control over the popular will.

The great issue of culture, is the task of freeing the majority of the population from that moral and intellectual self-degradation which tradition imbues within prevailing popular opinion.

The issue of individual human freedom, is not the issue of "democracy," not democracy as the moral degenerates of today's National Endowment for Democracy misuse the term, not like degenerates such as John Dewey, nor as Nazi-like existentialists such as Schopenhauer, Nietzsche, Heidegger, and Jean-Paul Sartre generally define democracy. The issue is the right of every newborn child to be developed in a way which represents access to, and imposition of the rule of truth and justice, to ensure that quality of progress in the human condition which meets the need of the individual to be a world-historical personality, to be a resident of the simultaneity of eternity. This means the obligation of society to direct the shaping of the policies of practice of the society to bring about progress in such upward directions of individual world-historical participation in ideas.

The essential feature of persons who lack freedom, is their emulation of the condition of human cattle. They are conditioned to respond to what human cattle would consider the matters of personal self-interest, the motives of the "Seven Deadly Sins," the motive of my narrowly defined personal and family self-interests, and of society as a whole, either a poor second, or, like the typical existentialist, virtually not at all. It is their attachment to those baser motivations which constitutes the shackles upon the self-enslaved individual degraded to a moral condition like that of virtual human cattle. These are the motivations of the Ku Klux Klanner and similar Jacobin rabble. For such human cattle, the definition of "freedom to choose" is nothing other than those depravities by which they are self-enshackled into the moral condition of virtual human cattle. It is by such libertarian's moral self-debasement, pursued "in my personal interest," or, "my freedom to choose," that the popular masses usually choose the pathway to their own self-debasement and oligarchical enslavement.

It is these world-historical concerns which define morality and true Classical culture. It is those principles of culture, of social and political life, which correspond to advancement of the condition of the individual and society to higher states, to relatively more not-entropic states, which represent the m-fold manifold of culture. The relationship between the m-fold and n-fold manifolds, is that the social requirements of progress in the former respect must direct the practical requirements of the latter respect.

The essence of freedom, is the right to define oneself as a world-historical individual, rather than some self-debased libertarian fool.

The essential difference between the raw, half-educated human being, and what Schiller identifies as "the beautiful soul," is located in the kind of change in the adolescent personality (for example) accomplished by aid of the kind of Classical-humanist education upon which stress is placed here. The point at which the individual passes over from a raw, morally semi-literate brute, into a "beautiful soul," is the point at which the student (for example) makes a qualitative transition, from selfishness to the moral impulses of an efficiently conscious world-historical personality. It is at the point, that the moral imperative of judgment, of personal commitment, is located entirely in a sense of devotion to one's world-his-

torical soul. That transformation in the individual's sense of personal, world-historical identity, is the proper object of education; that transformation represents the threshold at which the immature adolescent (of all ages) is superseded by spiritual metagenesis into emerging as a true, world-historical citizen of a republic.

6. Classical Composition

The general moral requirement which sets Classical forms of artistic culture apart from, and above all alternatives, is the urgency of freeing human beings from the degraded state describable as "symbol-mindedness."

In plastic art, for example, Leonardo da Vinci exemplifies the duality of all Classical art. This duality is expressed, on the one side, as the obligation to subordinate the composition of plastic art to scientific truthfulness. On the other side, truth demands that we recognize the ironies, the metaphors, to which we must be led by any truthful scrutiny of principles of composition. Leonardo's revolutionary view of the vanishing-point, is an example of this ironical principle.[58] The role of two sources of light in Leonardo's *Virgin of the Rocks,* is a model of such metaphor.[59] The fact that Raphael Sanzio's *The School of Athens*[60] and *Transfiguration* must be conceptualized as the integration of the ambiguity of two (lower versus higher) viewpoints, is another.[61]

These ambiguities oblige the mind to abandon the literalness of sense-certainty, to subsume contradictory impressions by a resolving metaphor resident within the domain of ideas. In other words, to abandon deceitful sense-certainty, and also the intellectual and moral degradation expressed by the symbolic, or, related, "mannerist" views of art, in favor of truth.

Take the exemplary case of the Acropolis. Studies show that the Acropolis is the result of the unfolding of a single, coherent plan, always subsumed by the Classical Greek notion of Golden-Section-pivotted beauty in plastic art.[62] In effect, the resulting construction has the quality of a single, if "polyphonic" act of composition.[63]

Now, shift the focus: to, first, the principle of Classical tragedy, next, science in its aspect as a moral principle of art, and, finally, the substance which subsumes the process of development of Classical motivic thorough-composition, from J.S. Bach's development of polyphony, through the elaboration which Haydn, Mozart, Beethoven, Schubert, Brahms, *et al.* developed on the basis of the always-polyphonic foundation supplied by the later composers' study of Bach's work.

In their entirety, the dialogues of Plato, are exemplary works of Classical art. When the Homeric epics and the related Classical Greek tragedies are taken as the standpoint of reference for the entire body of Plato's collection of dialogues, we are able to trace the modern tragedies of Shakespeare and Schiller from this route, and also situate, similarly, the role of Plato's and other Classical-Greek models in the late-Eighteenth- and early-Nineteenth-century efforts to revive the Classical tradition in poetry and drama. The most fruitful standpoint from which to view this entire Classical tradition, from ancient Greece into the Nineteenth century, is the standpoint of historian-poet-tragedian Schiller's intended audience, the audience transformed into better people leaving the theater than had entered it a few hours earlier.

The essential feature of the Classical tragedy, and poem, is to induce the members of the audience to situate themselves as world-historical figures, as persons provoked into viewing the Classical performance as the prompting of the viewing of the subject-matter from a world-historical standpoint. In other words, the member of the audience must adopt a sense of world-historical responsibility for the real-life issues addressed by the drama or poem: "Could such characters not see the nature and consequences of their folly, for their society in their time? Must we, in our time, not learn the lesson of this, that we, in our time, must address the issues specific to our historical setting as those should have done in the historic specificity of the time shown on stage?"

To this end, it is essential that a Classical tragedy never be dressed up in modern costume, or otherwise presented

58. See Nora Hamerman, "Leonardo da Vinci and the Scientific Revolution of Renaissance Visual Arts," *Fidelio,* Winter 1993 (Vol. II, No. 4); Karel Vereycken, "The Invention of Perspective," *Fidelio,* Winter 1996 (Vol. V, No. 4).

59. Leonardo da Vinci, *The Virgin of the Rocks,* Louvre Museum, Paris. As noted by art historian D. Stephen Pepper; see Nora Hamerman, *op. cit.*

60. Raphael Sanzio, *The School of Athens,* Vatican Museum. *Cf.* Lyndon H. LaRouche, Jr., "The Truth About Temporal Eternity," *Fidelio,* Summer 1994 (Vol. III, No. 2), pp. 25-27.

61. Raphael Sanzio, *The Transfiguration,* Vatican Museum; see Nora Hamerman, *op. cit.*

62. On the Golden Section, see *Timaeus,* in *Plato: Vol. IX,* Loeb Classical Library (Cambridge, Mass.: Harvard University Press, 1975); see also, the translation commissioned by Lyndon H. LaRouche, Jr., "Plato's *Timaeus*: The Only Authentic English Language Translation," *The Campaigner,* February 1980 (Vol. 13, No. 1).

63. Pierre Beaudry, "The Acropolis of Athens: The Classical Idea of Beauty," *The New Federalist,* June 24, 1988 (Vol. 2, No. 24). *Cf.* Lyndon H. LaRouche, Jr., "The Classical Idea: Natural and Artistic Beauty," in *A Manual on Tuning and Registration, op cit.,* pp. xix-xx.

If reason must be controlled by passions, rather than the dead hand of mere logic, what shall govern these passions? How do we distinguish, those passions and forms of passion which are irrational, from those contrary forms which are the seat and substance of reason? This is the issue of culture, the issue which places Classical culture morally and otherwise apart from and above all currently popular misconceptions of culture.

© The British Museum. Drawing recently re-attributed to van den Eeckhart, a student of Rembrandt.

"St. Paul Preaching at Athens," pen and bistre, wash (c.1637).

as a timeless fable equally appropriate to past or present times.

The essence of history is the history of ideas. History is a record of variously forward, backward, and sideways movements in the course of mankind's obligation to progress to the level of higher manifolds of both physical-scientific and moral practice. The sundry diverging and intertwining branches of the sundry, forward, sideways, and degenerative developments, are the skein of history, the skein of reality. The essential problem of historiography, as Classical tragedy exemplifies this, is to develop and maintain a sense of historic specificity in respect to the evolving mental, moral, and physical condition of mankind.

This sense of historic specificity, is best conveyed by Schiller's work in his functioning as both historian and tragedian. Significant ideas, if they are true, are never mere fiction; they are matters of historically specific kinds of ideas as they are situated, as a matter of principle, with respect to specific historical problems. It is a keen sense of the actual history in which these ideas are situated, which enables an audience to adduce a truthful sense of the solution to the paradox presented by the Classical tragedy.

The same rule of historic specificity applies to the history, and prehistory of modern music. Without the influence of the Fifteenth-century Florentine *bel canto* voice-training, the development of Classical well-tempered polyphony, by J.S. Bach, would not have been possible. Without the indirect influence of J.S. Bach, as through C.P.E. Bach, Haydn's pre-1782 contributions to musical development would not been possible. All of this is intermingled with the influences of the Italian schools, such as Alessandro Scarlatti *et al.*, on the musical development of pre-Nineteenth-century northern-Germany and southern-Germany music. Without the direct influence of J.S. Bach upon Mozart, Beethoven, *et al.*, from the early 1780's onward, the post-1781 works of Mozart, Haydn, Beethoven, *et al.* had not been possible.[64] The entirety of the development of well-tempered, polyphonic forms of motivic thorough-composition, from Bach through Brahms, is a sequentially ordered process of successive developments of musical ideas.

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64. Mozart participated in the weekly Sunday afternoon music seminars held at Baron Gottfried van Swieten's home in Vienna, at which the manuscripts of Bach and Handel were studied and played. See Bernhard Paumgartner, *Mozart* (Zurich: Atlantis Verlag, 1945), pp. 300-308; Hermann Abert, *W.A. Mozart* (Wiesbaden: Breitkopf & Härtel, 1983), pps. 75-79, 117-165; David Shavin, "Mozart and the American Revolutionary Upsurge," *Fidelio,* Winter 1992 (Vol. I, No. 4).

This process of development, in music, in Classical tragedy, in Classical plastic arts, has a metrical quality. There are sequences, if not always simple, linear ones, and there is also a sense of density. Both notions, of sequence and density, are to be compared with the notion of Riemannian and quasi-Riemannian notions of interacting *m*-fold and *n*-fold manifolds.

The Case of Music

In our focussing upon the case of music, here, we emphasize the importance of situating the particular development and performance of Classical musical composition in some medium whose primary content is nothing but sequence and density. This signifies that we must define a specific quality of impassioned idea which parallels and underlies the development of the composition and performance of Classical polyphony. This medium of passion is not hearing as such, but rather an idea of composition, addressed to the medium of hearing, but an idea superimposed upon hearing.

In music, certain things come naturally. Primarily, the human speaking-singing voice is naturally predisposed to what are termed "register shifts." Although there are additional means which may be developed for the purposes of Classical-poetical coloration and dynamical expression of the human singing voice, natural registration is the dominant feature underlying both polyphony in general and the well-tempered polyphony clearly defined, in exemplary fashion, by Bach's polyphonic works for both singing and instrumental voices combined.[65]

The Florentine *bel canto* demonstrates the register-shifts most effectively. The effect of *bel canto* development, respecting the ratio of effort to what is heard, demonstrates the unique agreement of the *bel canto* voice-training with the natural potentialities of the voice. Similarly, voices which perform at a *bel canto*-determined C=256 survive longer, and better, than those burned out prematurely by overwork at artificially elevated pitches at, or above A=440, for example.

Then, once the ranges of the register shifts of the respective species of singing voices are determined, the mere task of employing a relevant counterpoint for such polyphony defines a primary approximation of a *bel canto*-determined well-tempered scale. At that point, a further refinement is required. The mind hears the inversion of any interval (e.g., C-E-G heard as G-E-C), to such effect that a simple Lydian scale is derived as an inversion of a C-minor, F♯ pivotted scale. The effort to bring the intervals represented by the scale indicated by the inversion, with the scale which has been inverted, introduces a further degree of refinement of the well-tempering. Add, then, inversions heard across the polyphonic parts to the inversions generated within each part, and a further refinement is introduced. Never is a precise, algebraic frequency determined; the infinitesimal approximation is always a non-linear one.

In other words, if we continue polyphonic and related developmental considerations, there is no simply algebraic determination of a well-tempered scale, but rather a counterpoint-determined interval of *non-constant curvature,* just as Johannes Kepler's approach, and Plato's earlier, point in that direction.

Once we pass from the level of considerations posed by J.S. Bach's *A Musical Offering* and *The Art of the Fugue,* into the generalized use of Lydian intervals by Mozart in the manner epitomized by his K.475 (and, later, Beethoven's Opus 111), the span of Classical musical development, from Mozart of 1782-1783 through Brahms' *Vier Ernste Gesänge* [*Four Serious Songs*], is opened up for us as a process of motivic thorough-compositional development, a process of increasing density, in the sense of Riemannian series of the *n*-fold type. When we combine the apparent, formal considerations with the implications of a new mode of song composition, by Mozart, Beethoven, Schubert, Schumann, Brahms, with all of the resulting interpretive considerations bearing upon the training and use of the singing voice, all Classical musical composition opens up for us through this "Rosetta Stone"-like medium of Classical song.[66]

On this account, the musician must hear with two sets of ears. One is the ear of simple hearing; the other, the mind's ear, which locates the driving passion of a composition in its developmental processes of change, the latter the ear which, like Wilhelm Furtwängler's, sings "between the notes." In music, for Pablo Casals, as for Heraclitus and Plato, nothing is constant but change. It is that principle of change which is the ontological foundation of all Classical art. In music, that foundation is located in the developmental process of constant change, which is the mind's ear.

Thus, when we sing with Bach, Haydn, Mozart, Beethoven, Schubert, Schumann, Brahms, and so on, we are expressing the essence of that playful domain in which the ontological essence of all art, and all morality, are supplied the ontological medium best suited to their

65. See *A Manual on the Rudiments of Tuning and Registration, op. cit.*, Chap. 2.

66. The exemplary case is the conflict between Goethe and Reichardt, on the one side, and Mozart, Beethoven, Schiller, and Schubert, on the opposing side. See *A Manual on the Rudiments of Tuning and Registration, op. cit.*, pp. 202-203.

expression. On this account, all great Classical music is, in its own way, sacred music, the soul's yearning toward its rightful, beautiful place in the simultaneity of eternity, as Bach's great student, Ludwig van Beethoven, best understood this.

Truth in Statecraft

At this moment, the world—including the United States itself—is securely embarked on a journey to Hell, and, although the helmsman, including the current President of the United States, might deplore the ruin reaching to engulf us all, that President, thus far, has shown no inclination to reject the course of action, in economic policy, which ensures the impending destruction of both the United States and civilization as a whole. Although the President deplores the injustice and other sufferings into which the current direction of policy is carrying us all, so far he is unwilling to reject any of those of his own current policies which contribute to ensuring the worst result.

Take the case of the modern-day Henry Morgan, British privateer George Soros. Soros is outstanding among those whose predatory role has ruined such nations as Russia, and all among the nations of Southeast Asia, and much of East and South Asia otherwise. Yet, as in the case of looted Croatia, or Russia, the U.S. government repeatedly defends the role of Soros and his kind in destroying these nations—such as Malaysia, Thailand, Indonesia, the Philippines, etc., and in fostering those lunatic policies of the I.M.F. and others which ensure the homicidal ruin of most of those economies—including our own—which the U.S. government professes itself dedicated to defend.

How is such folly possible? How is it possible that a President manifestly inclined to deeds of good will, could act so stubbornly contrary to the vital interests of his own administration, his nation, and civilization as a whole?

Two interacting factors are among those prominently to be considered. One is the political pragmatism of a heavily besieged President. The second, leading, interacting factor, is the President's own laundry-list of chosen agenda items: globalization, democracy, "information economy," "achievements of the Golden Generation," etc. On this account, the prevailing, implicitly suicidal policy-shaping trend is, that the choice of certain policies as "our policies," becomes not merely a substitute for truth, but, in practice, its direct opposite.

For example, for the better part of thirty years, the U.S. physical economy has been contracting consistently at rates averaging in excess of two percent *per* year. Over most of that period, a formerly (1946-1966) prosperous agro-industrial economy, has been looted by financial parasites, transforming a prosperous economy into what is now threatening to explode, momentarily, as the greatest financial bubble-collapse in world history. During the recent quarter-century, the physical-economic income and output of the U.S. population, *per capita*, has been contracting. The number of jobs taken, *per* household, in a futile effort to maintain a falling income-rate, does not keep up with the rate at which average household income is contracting. Yet, the current administration speaks of the successes of this economy, praising the futility of increasing the number of jobs by methods which reduce the *per-capita* family income for all but the super-rich parasites of Wall Street and like precincts! What happened to the truth?

To make short of a long list of kindred clinical evidence, we have come into a time when "democracy" has become a synonym for a fanatical sort of lying. Whatever is perceived to be popular opinion, whether it is actually popular opinion, or not, becomes the adopted policy which governs practice, that in defiance of all truthful evidence, and contrary to all sane reason.

Down among the *hoi polloi,* this folly is expressed as: "I don't care what you say, I have a right to my personal opinion," even when the evidence is entirely contrary to that misguided opinion. Truth is no longer a standard for policy-shaping practice. Such is the condition of a society which has lost the moral fitness to survive, the condition of a democracy which no longer either deserves to survive, or will survive. Such democracy is the sure road to a hellish tyranny under a regime whose subjects will, for better or worse, do precisely as they are told.

The root of this loss of moral fitness to survive, is readily and accurately traced back to such plainly immoral creatures as Paolo Sarpi's Francis Bacon and Thomas Hobbes, to John Locke, Bernard Mandeville, David Hume, Adam Smith, Jeremy Bentham, Immanuel Kant, Karl Savigny, and John Stuart Mill. On the one side, public and private morality is divorced from science; on the other side, science is divorced from morality. In the meantime, popular morality itself is degraded to the level of Mandeville's followers among the Eighteenth-century British Hell Fire Clubs, the level depicted by Hogarth, the level of Hell as depicted in the most famous triptych of Hieronymus Bosch. The essence of our self-destruction during the recent thirty-five years of our downhill slide, has been the growth of what passes today for "popular opinion" and "popular culture."

Where are the men and women fit to lead us out of this peril? Where are those who will lead in the pathway toward safety, the pathway toward rule by the principles of truth and justice, not "popular opinion"?