

# FIDELIO

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## Belshazzar's Feast

Rembrandt's "Belshazzar Sees the Handwriting on the Wall" (c.1636) depicts that moment in the Old Testament narrative when the horror-stricken Belshazzar, viceroy of the world-powerful Babylonian Empire, sees a human hand materialize before the wall of his banquet hall, and inscribe a prophecy of doom for his empire. Lyndon LaRouche has cited this Biblical story as an apt image of the budget debate in the U.S. Congress, which has proceeded oblivious to the "handwriting on the wall" that foretells the collapse of the I.M.F.-dominated world financial system.

In the apocalyptic *Book of Daniel*, the arrogant tyrant Belshazzar summons a feast of a thousand nobles, at which the oligarchs celebrate their superiority over the God of Israel by offering sacrifices to gods "of gold and silver, wood and stone," using vessels looted from the Temple at Jerusalem. When the terrifying hand scratches out its cryptic message, Belshazzar and his magicians cannot understand it, and the Jewish prophet Daniel is summoned.

At first, Daniel speaks of Belshazzar's predecessor Nebuchadnezzar, the tyrant who, "his

heart swollen with pride and his spirit stiff with arrogance," had suffered a most cruel punishment: he "was driven from the society of men, his heart grew completely animal; he lived with the wild asses; he fed on grass like the oxen"—that is, madness stripped him of that which made him human, the creative reason which is God's image, degrading him to the condition of an animal.

So Daniel accuses the proud Belshazzar, who worships idols "which cannot either see, or understand," and he interprets the Aramaic inscription *Mene Mene Tekel Upharsin*, in a moment of judgment that has echoed down the millenia: "*Mene*: God has measured your sovereignty and put an end to it; *Tekel*: you have been weighed in the balance and found wanting; *Parsin*: your kingdom has been divided and given to the Medes and the Persians." The violation of natural law by Belshazzar and his nobles, whose empire had looted the known world for centuries, would soon be ended. And that very night, Belshazzar was killed, and "Darius the Mede" received the kingdom.

The accelerating crisis of the I.M.F.-dominated financial system foretells a breaking point comparable

to that moment in the *Book of Daniel*. As Lyndon LaRouche has repeatedly observed, whether mankind can rise to the challenge posed before it, depends largely upon our ability to self-consciously recognize, and transform, the axioms of thought upon which our political and economic concepts are based. And so LaRouche turns to our experience of Classical music and poetry, to guide our understanding of the creative thought process and enable us to strike at the root of the problem which must be solved, in order for solutions to the political and economic crisis to be found.

How can we act today, to bring into existence the future which must be created? LaRouche writes: "*It is the governance of each moment of the mid-performance by the guiding role of the idea of the entire composition's perfected result, which is causality in the musical domain of Haydn, Mozart, Beethoven, Schubert, and Brahms*. This is the notion of causation (Reason) in Kepler's work. This is causality for the founder of modern science, Nicolaus of Cusa, and for Plato before them all. . . . The method of Classical composition which we identify as *Motivführung*, or motivic thorough-composition, is the mode of composition which provides the appropriate model of mental state for the accomplished scientific discoverer."\*

And it is only as scientific discoverers that we will be able to gain mastery over "the handwriting on the wall" that looms before humanity at this moment of its greatest danger and greatest promise.

—Kenneth Kronberg

\*"That Which Underlies Motivic Thorough-Composition," *Executive Intelligence Review*, Vol. 22, No. 35, Sept. 1, 1995, pp. 50-63.

# FIDELIO

*"It is through beauty that one proceeds to freedom."*

—Friedrich Schiller

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*Fidelio* is dedicated to the promotion of a new Golden Renaissance based upon the concept of *agapē* or charity, as that is reflected in the creation of artistic beauty, the scientific mastery of the laws of the physical universe, and the practice of republican statecraft for the benefit of our fellow men.

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**On the Cover**

Rembrandt van Rijn, *Belshazzar Sees the Handwriting on the Wall* (c.1636) (detail). SEE inside front cover for analysis. (Reproduced by courtesy of the Trustees, The National Gallery, London)

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# The End of Modern History And the Coming Civilization of Love

As we approach the new millennium, we are entering a qualitative phase-change in the very history of mankind, which can only be described as the End of Modern History. As Lyndon H. LaRouche, Jr. has uniquely emphasized, the crisis facing humanity today, and therefore the solution to this crisis, can only truly be grasped from the vantage point of universal history.

From that standpoint, the current global financial crisis is not merely a cyclical depression collapse such as occurred in the 1930's. Rather, it is an existential crisis only comparable to the collapse of the Venetian-dominated banking system during the middle of Europe's Fourteenth century. See Paul Gallagher's article in this issue on "How Venice Rigged the First, and Worst, Global Financial Collapse." That is the meaning of the "hand-writing on the wall" today.

Modern history began with the Fifteenth-century Golden Renaissance, which was centered around two events—the Council of Florence (1439-1440) and the establishment of the first modern nation-state, that of France under King Louis XI (1461-1483). However, in 1510 the League of Cambrai failed to eliminate the Venetian oligarchy. As a result, from 1510 until 1963, there existed a symbiotic balance in the conflict between the institution of the modern nation-state and the relics of the pre-Fifteenth-century oligarchical institutions.

Beginning 1964, a paradigm shift was effected. The 1510-1963 symbiosis became a purely parasitical relationship, with the introduction of the so-called "New Age" policies of "post-industrialism," Malthusianism, and the attempt to eliminate the institution of the nation-state altogether. This is the aim of the anti-human Gingrichite, so-called "Third Wave," Contract on America.

It is the persistent application of these "New Age"

policies to the shaping of economic policy, which is the direct, cumulative cause of the presently ongoing disintegration of the I.M.F.-centered global monetary and financial system. And it is only through the elimination of this parasitical system that the current crisis can be resolved, and the otherwise inevitable descent into a new Dark Ages be avoided.

But to do this requires that we examine and eliminate in our own thinking those false axiomatic assumptions, which are responsible historically for the failure of the institution of the nation-state to become globally hegemonic and eliminate the oligarchical system.

## EDITORIAL

*It is a necessity that we free the Renaissance from the Enlightenment.*

In "Non-Newtonian Mathematics for Economists," Lyndon LaRouche both exposes the most fundamental false axiomatic assumptions of linearity and entropy characteristic of the Isaac Newton variety of mathematical physics which underlies the parasitical system, and shows how and why his own LaRouche-Riemann method is uniquely capable of representing a healthy, not-entropic physical-economic process. Based upon this fundamental distinction, LaRouche concludes as follows:

1. The cause of the not-entropic characteristic of healthy physical-economy, is the exercise of the developable and sovereign mental-creative potential of the individual human mind. It is the input to that potential, which produces the efficient not-entropy as an output.
2. The crucial social part of the process is the correlated form of individual potential for being stimulated to replicate the relevant act of discovery.
3. The human precondition, is the development of the individuals and their relations within society to foster this generation and replication of such ideas.
4. The efficient practice of this social process depends

upon the preparation of man-altered nature to become suitable for the successful (not-entropic) application of these discoveries to nature. Those are the axioms governing that causation essential to the geometry of physical-economic processes.”

Since the same creative method of discovery is valid both in respect to the arts and the sciences, we also devote much of this issue to a discussion of the principle of *Motivführung*, or motivic thorough-composition, in poetry and music.

In her article entitled “Motivic Thorough-Composition in the Poetry of Friedrich Schiller,” Helga Zepp-LaRouche demonstrates Friedrich Schiller’s use of this method in composing poetry, through the example of his poem, “The Song of the Bell,” an English translation of which appears in this issue as well. On the occasion of Beethoven’s upcoming 225th birthday, Anno Hellenbroich indicates the significance of this method in understanding especially Beethoven’s late compositions. We then report on a revolutionary master-class seminar taught by Prof. Norbert Brainin, first violinist of the legendary Amadeus Quartet, and conclude with a brief note by Lyndon LaRouche, “Norbert Brainin on *Motivführung*,” which helps elucidate the issue for economics and the physical sciences, as well as for music and poetry.

Professor Brainin’s seminar took place Sept. 20-22 in Slovakia, under the sponsorship of the Schiller Institute, the Slovakian “Solupatricnost” Foundation, and the Slovakian Schiller Foundation for the Protection of Life and Human Rights. We are pleased, therefore, to include in this issue a commentary by the chairman of the latter foundation, Dr. Josef Mikloško, who is the former Vice Prime Minister of post-communist Czecho-Slovakia. Dr. Mikloško reports on the more than thousand-year history of Slovakia, on the crisis of post-communist reconstruction, and on the role of the Church in today’s crisis, including an eyewitness account of the recent visit to Slovakia of Pope John Paul II.

In the words of Dr. Mikloško, the Pope told the people of Slovakia, much as he told the people of the United States during his visit to this country: “Build the bridge between the second and third millennia, consecrate yourself entirely to the work of the new evangelization. . . . Divine Providence gave you the gift of freedom. That is the opportunity and summons to build a new Civilization of Love. Here may you be ever united and free; you were bound together by faith, hope, and love, which were the guarantee of your freedom.”

## Idea

All spirits are attracted by perfection. All—there are aberrations here, but no single exception—all strive after the condition of the highest free expression of their powers, all possess the common drive, to extend their activity, to attract all to themselves, to assemble in themselves, to make their own what they recognize as good, as excellent, as fascinating. Intuition of the beautiful, of the true, of the excellent is the instantaneous taking possession of these properties. Whichever condition we perceive, we enter into it ourselves. In the moment when we think of them, we are the proprietors of a virtue, the authors of an action, inventors of a truth, owners of a happiness. We ourselves become the perceived object. . . .

The inner feeling already tells everyone something similar. When we, for example, admire an act of generosity, of bravery, of intelligence, does not a secret consciousness stir here in our heart, that we were capable of doing the same? . . .

I wanted to prove . . . that perfection becomes ours at the moment wherein we awaken in ourselves a conception of it, that our pleasure in truth, beauty, and virtue is resolved at last in the consciousness of our own ennobling, our own enriching; and I believe I have proven it.

Every perfection, therefore, which I perceive, becomes mine own, it gives me joy, because it is mine own, I desire it, because I love myself. Perfection in nature is no property of matter, but rather of the spirit. All spirits are happy through their perfection. I desire the happiness of all spirits, because I love myself. The happiness, which I present to myself, becomes my happiness, therefore I desire to awaken these presentations, to multiply and to elevate them—therefore, I desire to extend happiness all around me. What beauty, what excellence, what enjoyment I bring forth outside me, I bring forth within myself; that which I neglect, destroy, I destroy within myself, I neglect within myself—I desire the happiness of others, because I desire mine own. Desire for the happiness of others we name benevolence, *love*.

—Friedrich Schiller  
from the “*Philosophical Letters*”

# Non-Newtonian Mathematics for

by Lyndon H. LaRouche, Jr.

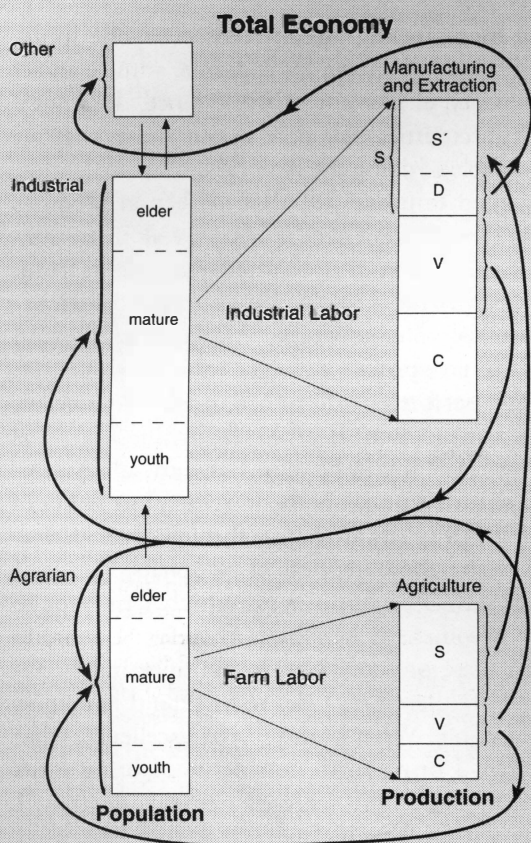
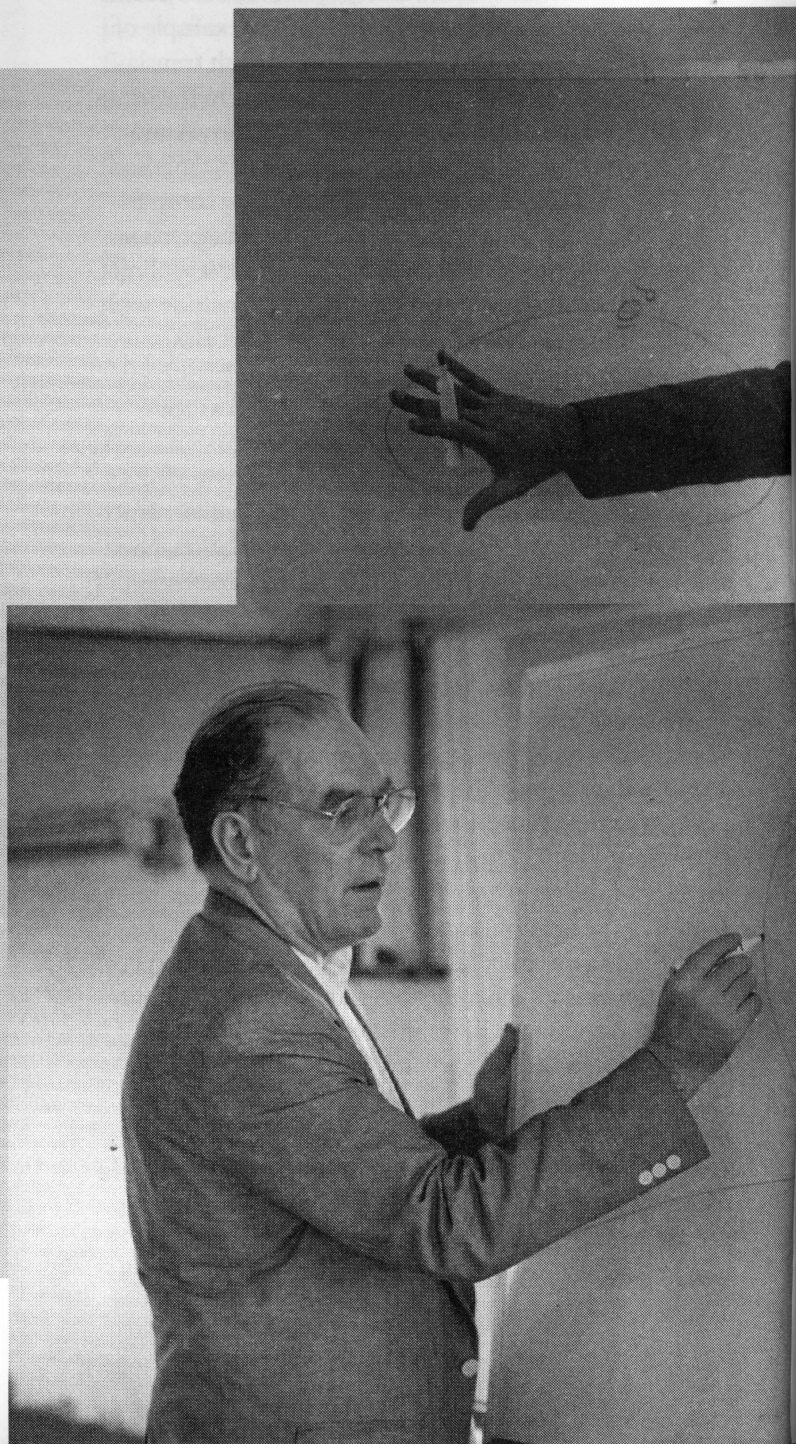


Diagram of the physical-economic process. Vertical bars represent 100% of population and production; internal divisions represent the critical ratios, or inequalities, that define productivity, capital-intensity, and rate of profit of an economy [SEE Box, p. 14]. New modes of production, engendered by scientific discovery and technological innovation, force non-linear transformations of the internal composition of the whole.

EIRNS/Stuart Lewis



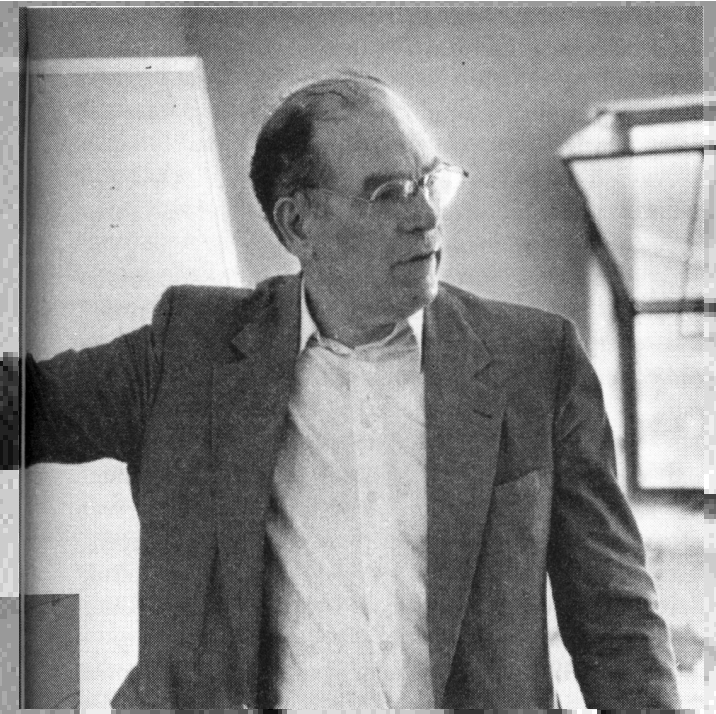
# Economists

The onrushing process of collapse of the International Monetary Fund-dominated global monetary and financial system, demonstrates, among other points, that all generally accepted mathematical representations of economic processes are devastatingly incompetent. The relevant alternative is named the LaRouche-Riemann method. However, a world which has suffered so much under the policies of the U.S. Nobel Prize-winners, should not be asked to accept an alternative economic teaching on blind faith. Therefore, it is not sufficient to know that the LaRouche-Riemann method works; it is necessary to render transparent both how, and why it works.

Two problems must be addressed, in selecting a method of measurement for representing real economic processes. The primary task is to define a method for representing the physical-economic process as such: This process is characteristically “not-entropic.”<sup>1</sup> The secondary, but also crucial task, is that of representing the interaction between that economic process and a superimposed, characteristically linear (and, therefore entropic) monetary and financial system.

The method required for representing the real economy, the physical-economic process, is described, step-by-step, as follows.

1. On the subject of the present writer’s use of the term “not-entropy.” It has been widely accepted classroom doctrine, for more than a century, that all inorganic processes tend to run down; this argument was posed by Britain’s Lord Kelvin, during the middle of the last century. On Kelvin’s instruction, his doctrine was given a mathematical form by two German academics, Rudolf Clausius and Hermann Grassman, who employed their own kinematic model of heat-exchange, in an imaginary, confined, particular gas-system, as a purported explanation of French scientist Sadi Carnot’s caloric theory of heat. Kelvin and his collaborators defined the “frictional” loss of extractable work in such a mechanical model of a thermodynamical system, as “entropy.” This was Kelvin’s Second Law of Thermodynamics. During the 1940’s, the Massachusetts Institute of Technology’s Prof. Norbert Wiener employed the term “negative entropy” (shortened to the neologism “negentropy”) to signify the statistical form of “reversed entropy,” in the sense of a famous reconstruction of the Clausius-Grassman model by Ludwig Boltzmann: Boltzmann’s so-called H-theorem. Wiener’s argument was employed to found what has become known as “information theory.” In this connection, Wiener claimed that the H-theorem provided a statistical means for measuring the “information content” of not only coded electronic transmissions, but also human communication of ideas. Earlier usage had identified “negative entropy” as a characteristic of the apparent violation of Kelvin’s so-called “Second Law” by living processes in general, as distinct from the ostensibly entropic characteristics of ordinary non-living phenomena. For several decades, beginning 1948, this writer insisted that only the first meaning of “negentropy,” as typified by the commonly characteristic distinction of living processes, should be accepted usage. Recently, for practical reasons, he has substituted the term “not-entropy.”



EIRNS/Stuart Lewis

**Lyndon H. LaRouche, Jr.** *in a rare opportunity for informal classroom instruction.*

*This article was originally published as a sequel to the author’s “Why Most Nobel Prize Economists Are Quacks.”\* In that feature, the author referenced the reader to his relevant work on the issues of mathematical representation of the cause-effect relations characteristic of real economic processes. In the current work, he summarizes the method to be employed.*

*\*Executive Intelligence Review, Vol. 22, Nos. 30 and 32, July 28 and Aug. 11, 1995, respectively.*

## LaRouche's Discovery

The discovery upon which that LaRouche-Riemann method is based, was initially developed during the interval 1948-52. It originated in a commitment to a narrower purpose, that of showing the absurdity of Prof. Norbert Wiener's insistence that the communication of human conceptions could be measured in the terms of his statistical "information theory."<sup>2</sup> The decision to use the facts of physical economy for this refutation of Wiener, led to the discovery.

That original argument deployed against Wiener's presumption, was that human "ecology" differs from that of lower species in the same general sense, that living processes differ characteristically from what we regard conventionally as non-living processes. This argument was premised on the fact, that the increase of the *potential relative population-density*<sup>3</sup> of the human species, through such means as technological progress, represented a succession of clearly distinguishable phase-shifts: that these characteristic phase-shifts in the development of society, distinguish the human species absolutely from all lower species.

The initial representation of this distinction between mankind and the inferior species, was elementary: the standpoint of geometry. Any logically consistent form of mathematical mapping of an existing range of technology can be described, with effective approximation, in the form of a deductive theorem-lattice. Any valid discovery of a superior principle, has the effect upon mathematical physics, for example, of requiring a corresponding change in the set of formal and ontological axioms underlying the pre-existing, generally accepted form of

mathematical physics. It is the cumulative succession of such efficiently progressive, axiomatic changes in human knowledge for practice, which corresponds to the succession of phase-shifts in range of society's potential relative population-density.

This view defined an implied, functional ordering-principle underlying the increase of potential relative population-density. The initial thesis of the 1948-52 interval was, summarily, as follows. Let the physical and related consumption by households and the productive cycle, be regarded as analogous to the use of the term "energy of the system" in undergraduate thermodynamics. Societies rise or fall, in the degree to which they not only meet that "energy of the system" requirement, but also generate a margin of increased output of those qualities of requirement, which is analogous to "free energy." We have thus, implicitly, a ratio of "free energy" to "energy of the system."

An additional consideration is crucial. The development of society requires that a significant portion of that "free energy" be "re-invested" in the form of "energy of the system." This must not merely expand the scale of the society; it must increase the relative "capital-intensity" and "energy-intensity" of society's production, *per capita* and *per* unit of land-area employed. Thus, some minimal value of the ratio of "free energy" to "energy of the system" must be sustained, despite rising "capital-intensity" and "energy-intensity" of the mode used for the productive cycle. This constraint (array of inequalities) was employed to define the proper use of the term "negentropy," in counterposition to Wiener's use of the term. Recently, the term "not-entropy" was adopted as better serving this purpose [SEE Box, p. 14].

About 1949-50, the argument against Wiener assumed this form. Since the characteristic distinction of the human species is the series of phase-shifts in potential relative population-density, describable in this way: The *ideas* which are characteristic of the successful thinking of cultures, are those ideas represented efficiently as the changes in practice which tend to increase the potential relative population-density of the human species. It is this implicit social content of each valid axiomatic-revolutionary discovery in science or art, which defines human knowledge: not Wiener's mechanistic, statistical approach.

It was already apparent, at that point in the investigation, that no conventional classroom mathematics was adequate for mapping this kind of "not-entropic" economic process. The central function of valid axiomatic-revolutionary ideas, locates the function of economic growth in the revolutionary changes in axioms as such. The mathematical problem so presented, is that changes

- 
2. Norbert Wiener, *Cybernetics, or Control and Communication in the Animal and the Machine* (New York: John Wiley, 1948). As of 1948, there existed two principal, previously developed premises in this writer's knowledge, for his competence to assault Wiener's thesis. During the late 1930's, this writer, already a dedicated follower of Gottfried Leibniz, had been deeply involved in constructing a proof of the absurdity of the arguments against Leibniz central to Immanuel Kant's *Critique of Pure Reason*. In 1948, he recognized the crucial fallacies of Wiener's "statistical information theory" to be a crude replication of the central argument, on the subject of the theory of knowledge, in Kant's three famous *Critiques*. Secondly, by 1946-47, the writer's interest had become absorbed with his own somewhat critical view of the use of the notion of "negative entropy" in biology, as, for example, by LeComte du Nouy.
  3. Lyndon H. LaRouche, Jr., *So, You Wish To Learn All About Economics?* (New York: New Benjamin Franklin House, 1984), *passim*. "Relative" in "potential relative population-density" signifies, simply, the differences in quality of man-developed, and man-depleted habitat referenced.



in the sets of axioms underlying deductive theorem-lattices, have the form of *absolute mathematical discontinuities*. That is: There is no formal method for reaching the new lattice deductively from the old. Such a mathematical discontinuity has a magnitude of unlimited smallness never reaching actual zero. That implies the existence of very powerful, extremely useful sorts of mathematical functions, but no ordinary notion of mathematics can cope with functions which are expressed in terms of such discontinuities. To apply the writer's original discovery, this problem of mathematical representation had to be addressed next. *A mathematical solution would be desirable, but a conceptual overview was indispensable.*

Thus, the next step, in early 1952, proved to be a study of Georg Cantor's treatment of those kinds of mathematical discontinuities.<sup>4</sup> The study of Cantor's work on the subject of the mathematically transfinite, especially his so-called *Aleph*-series, pointed toward access to a deeper appreciation of the 1854 habilitation dissertation of Bernhard Riemann. Conversely, Riemann's fundamental discovery respecting the generalization of "non-Euclidean" geometries, showed how we must think of Cantor's functional notion of *implicitly enumerable density of mathematical discontinuities per arbitrarily chosen interval of action*.

That notion of relative density of discontinuities is the proper description of the culture which society transmits to its young.<sup>5</sup> This notion of "density," references the accumulation of those valid scientific and artistic discoveries of principle (e.g., valid axiomatic-revolutionary changes), which mankind to date has accumulated to transmit to the educational experience of the young individuals.

Once one recognizes that Cantor's work is retracing the discovery made earlier by Riemann, there is an obvious advantage of choosing Riemann's geometrical

approach, over the relatively formalistic route used by Cantor.<sup>6</sup> In the design of productive and related processes in modern economy, the conceptions which underlie the design of scientific experiments, and of derived machine-tool conceptions, are intrinsically geometric in nature. To think about production and economy, one must think geometrically, not algebraically.

Hence, the present writer's use of Riemann's work to address the mathematical implications of his own earlier discovery in economics, acquired the seemingly anomalous, but precisely descriptive name of the "LaRouche-Riemann Method."<sup>7</sup> Examine the most elementary of the

6. As a result of the control of the Berlin Academy of Science by the Newton devotee Frederick II of Prussia, and the subsequent, post-1814 takeover of France's Ecole Polytechnique by the Newtonians Laplace and Cauchy, the geometric method of Plato, Cusa, Leonardo da Vinci, Kepler, and Leibniz tended to be supplanted by the method of algebraic infinite series. Most significant was Leonhard Euler's attack upon Leibniz, on the issue of infinite algebraic series: Euler's denial of the existence of absolute mathematical discontinuities. The political success of the Newtonians, over the course of the Nineteenth century, in establishing Euler's infinite series for natural logarithms as a standard of mathematical proof, led into the positivism of the Russell-Whitehead *Principia Mathematica*, and the, related, wild-eyed extremism of present-day "chaos theory." Thus, Karl Weierstrass and his former pupil, Georg Cantor, while attacking the same general problem of mathematics as Riemann, the existence of discontinuities, engaged the Newtonian adversary on his own terrain, infinite series, whereas Riemann attacked the problem from the standpoint of geometry: hence, Riemann's notably greater success for physics.

7. Although this writer consistently referenced this debt to Riemann during his one-semester course taught at various campuses during the 1966-73 interval, the first published use of the term "LaRouche-Riemann" method originated in November 1978, when the term was adopted for the purposes of a joint forecasting venture undertaken by the *Executive Intelligence Review*, in cooperation with the Fusion Energy Foundation. At that time, the prompting consideration was the fact that isentropic compression in thermonuclear fusion, as predefined mathematically by Riemann's 1859 *Über die Fortpflanzung ebener Luftwellen von endlicher Schwingungsweite*, has mathematical analogies to the propagation of the "shock-wave"-like phase-shifts generated through technological revolutions. (See Riemann, *Werke*, cited in footnote 8 below, pp. 157-75.) As a by-product of this same, highly successful, forecasting project, a translation of the Riemann paper was prepared by the same task-force; this appeared in *The International Journal of Fusion Energy*, Vol. 2, No. 3, 1980, pp. 1-23, under the title, "On the Propagation of Plane Airwaves of Finite Amplitude." This emphasis on Riemann's "shock-wave" paper, reflected an ongoing, friendly quarrel of the period, between the writer's organization and Lawrence Livermore Laboratories, on the mathematics of thermonuclear ignition in inertial confinement. Notably, that conflict reflected the influence of the U.S. Army Air Corps' Anglophilic science adviser, Theodore von Karman, in promoting Lord Rayleigh's fanatical incompetency against Riemann's method. On the success of the 1979-83 *EIR Quarterly Economic Forecasts*, see David P. Goldman, "Volcker Caught in Mammoth Fraud," *Executive Intelligence Review*, Vol. 10, No. 42, Nov. 1, 1983.

4. Georg Cantor, *Beiträge zur Begründung der transfiniten Mengenlehre*, in *Georg Cantors Gesammelte Abhandlungen mathematischen und philosophischen Inhalts*, ed. by Ernst Zermelo (1932) (Berlin: Verlag Julius Springer, 1990), pp. 282-356 [hereinafter, "Abhandlungen"]. The standard English translation of this work, by the Franco-English critic of Cantor, Philip E.B. Jourdain, is published as Georg Cantor, *Contributions to the Founding of the Theory of Transfinite Numbers* (New York: Dover Publications, 1955). The publisher's note for the current reprint edition implies, erroneously, that Dover first published this in 1956. The author's original copy of the Dover reprint of the Jourdain translation (still in the writer's possession) was purchased, in a Minneapolis, Minnesota bookstore, in 1952. Caution is suggested in reading Jourdain's Preface and lengthy Introduction to this translation; in real life, that translator was not quite the faithful collaborator of Cantor which he pretends to have been.

5. Or, one might say, relative *cardinality* or *power*.

relevant features of Riemann's habilitation dissertation.<sup>8</sup> For the purpose of clarity, the following passages repeat several of the points stated immediately above.

In the conclusion of his famous, 1854 habilitation dissertation, "On the Hypotheses Which Underlie Geometry," Riemann summarizes his argument: "This leads us to the domain of another science, into the realm of physics, which the nature of today's occasion [i.e., mathematics—LHL] does not permit us to enter."<sup>9</sup> In present-day classroom terms, that statement of Riemann's has the following principal implications bearing upon the construction of a mathematical schema capable of adequately representing real economic processes.

Any *deductive* system of mathematics can be described as a formal theorem-lattice. A *theorem* in such a lattice is any proposition which is proven to be not inconsistent with an underlying set of interconnected *axioms and postulates*.<sup>10</sup> The relevant model of reference for this notion of a theorem-lattice, is either a Euclidean geometry, or, preferably, the constructive type of geometry associated with the famous names of Gaspard Monge, Adrien M. Legendre, and Bernhard Riemann's geometry instructor, Jacob Steiner.

This presents the difficulty, that any alteration within that set of axioms and postulates, generates a new theorem-lattice, which is pervasively inconsistent with the first. This inconsistency between the two, is expressed otherwise as a *mathematical discontinuity*, or a *singularity*. When defined in this proper way, to show the existence of such a discontinuity signifies, that no theorem of the second theorem-lattice can be directly accessed from the starting-point of the first, unless we introduce the notion of the operation responsible for the relevant change within the set of axioms.

8. Bernhard Riemann, "Über die Hypothesen, welche der Geometrie zu Grunde liegen (On the Hypotheses Which Underlie Geometry)," in *Bernhard Riemanns gesammelte mathematische Werke* [hereinafter referenced as "Riemann, *Werke*"], ed. by Heinrich Weber (New York: Dover Publications [reprint], 1953), pp. 272-87. [For a passable English translation of the text, see the Henry S. White translation in David Eugene Smith, *A Source Book in Mathematics* (New York: Dover Publications, 1959), pp. 411-25.] Those concerned with the formal-mathematical implications of the dissertation as such, are referred to the later (1858) Paris representation of this: "Commentatio mathematica, qua respondere tenatur questionii ab III<sup>ma</sup> Academia Parisiensi propositae," in *Werke*, pp. 391-404 (Latin), with appended notes by Weber, pp. 405-23 (German).

9. "Es führt dies hinüber in das Gebiet einer andern Wissenschaft, in das Gebiet der Physik, welches wohl die Natur der heutigen Veranlassung nicht zu betreten erlaubt." *Loc. cit.*, p. 286.

10. Plato's term for the set of axioms and postulates underlying a theorem-lattice is *hypothesis*.

In other words, we must depart *pre-existing* mathematics, and detour, by way of *physics as such*, to reach the second of the two mathematical theorem-lattices. The crucial term of reference which we must introduce at this juncture, as Nicolaus of Cusa prescribed in his work founding modern science,<sup>11</sup> as Riemann does, is "measurement."<sup>12</sup> Consider this writer's favorite, frequently referenced classroom illustration of the principle involved.

Consider the estimation of the size of the Earth's polar meridian, by the famous member of Plato's Academy of Athens, Eratosthenes; a measurement of the curvature of the Earth made during the Third century B.C., twenty-two centuries before any man was to have seen the curvature of the Earth.<sup>13</sup> The twofold point to be made, is, briefly, as follows.

Using astronomy to determine a North-South line (a meridian of longitude), choose two points of significant, but measurable distance along that line, between them. Measure that distance. Construct identical sundials at each of the two points. Measure the shadow which a vertical stick casts, at noon on the same day, and compare the angles of the respective shadows. The difference between the two angles is adumbrated by the fact, that the Earth is not flat, but has a definite curvature [SEE Figure 1]. Using the geometric principle of similarity and proportion, estimate the size of the circle passing through the Earth's two poles on the basis of the measured length of the arc-distance between the two points. Eratosthenes was off by about fifty miles, in estimating the polar diameter of the Earth.<sup>14</sup>

The two points illustrated by this example, are as follows.

First, this example illustrates what Plato signifies by an *idea*. Since this measurement was made twenty-two centuries before anyone had seen the curvature of the Earth, what was measured was not an object defined by sense-perception. The senses were employed, of course; but, the idea of curvature was derived from the certainty that the evidence of the senses was self-contradictory:

11. Nicolaus of Cusa, *De Docta Ignorantia* (1440), *passim* [trans. by Jasper Hopkins as *Nicholas of Cusa on Learned Ignorance* (Minneapolis: Arthur M. Banning Press, 1995)].

12. Riemann, "II. Maßverhaeltnisse, deren eine Mannigfaltigkeit von n Dimensionen fähig ist . . .," *op. cit.*, in *Werke*, pp. 276-83.

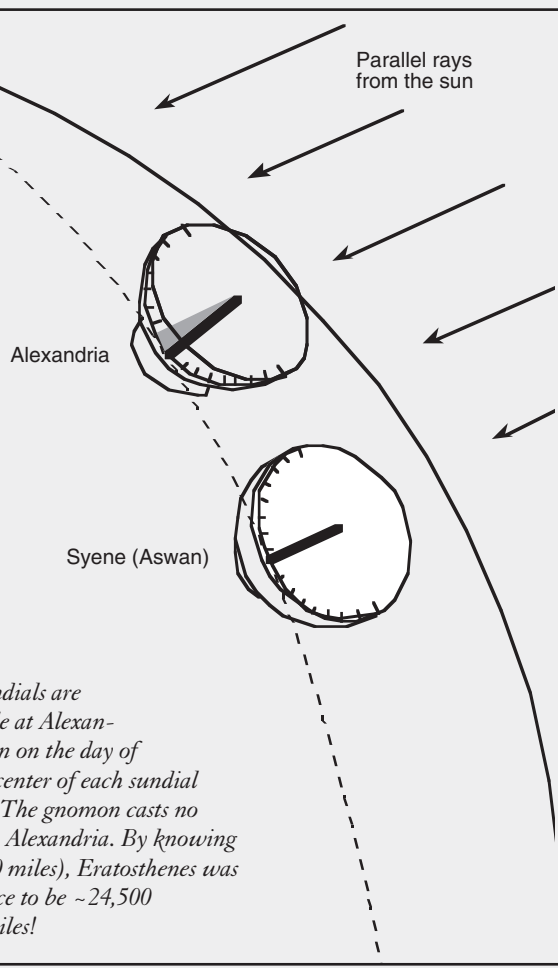
13. See *Greek Mathematical Works, Vol. II*, trans. by Ivor Thomas (Cambridge, Mass.: Harvard University Press, Loeb Classical Library, 1980), pp. 266-73. Cf., Lyndon H. LaRouche, Jr., "What Is God, That Man Is in His Image?," *Fidelio*, Vol. IV, No. 1, Spring 1995, pp. 28-29.

14. *Ibid.*

FIGURE 1. Eratosthenes' method of measuring the size of the Earth.

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

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



Some reader might be tempted to object: “Why not say simply ‘trigonometry’; why use the term which is probably stranger to the layman, ‘geodesy’?” The critic would be committing a serious error, a type of error which is of direct relevance to the point at hand. Expressed as a recipe, the relevant rebuttal of the criticism is: *We should always state what we claim to know in terms of the manner in which we came to know it.* It is through recognizing, Socratically, that either we or those who taught us, might have overlooked a significant step of judgment actually taken, or omitted, in forming a conception, that crucial errors of assumption are uncovered, and corrected. More broadly, it is by reconsidering the

The difference in the angles of the shadow at the two points was the empirical expression of that self-contradictory quality. It was necessary to go to conceptions which existed outside the scope of sense-perceptions: into the realm which Plato defines as that of ideas.<sup>15</sup>

Second, this, like related ancient Greek discoveries, leads into the modern geodesy developed by Riemann's chief patron, Carl F. Gauss: the measurement of distances along the surface of the Earth, under the control of reference to astronomical measurements.<sup>16</sup>

way in which we acquired conceptions, by taking that process as an object of epistemological scrutiny, that a true scientific rigor is cultivated. In layman's terms: that we might come to know what we are talking about.

We should define Eratosthenes' act of discovery in the manner we might competently replicate it. It was through astronomy that Eratosthenes estimated the polar circumference of the Earth. He did this by methods which are related to the earlier proof, by Aristarchus, that the Earth orbited the sun, and, also, the methods by

15. Divide the domain of science as a whole among three topical areas, areas differentiated from one another by the limitations of man's powers of sense-perception. Let what can be identified as a phenomenon, by the sense-perceptual apparatus, be named the domain of *macrophysics*. What is inaccessible in the very large (such as seeing directly the phenomenon of the distance between the Earth and the moon), belongs to the domain of *astrophysics*. Phenomena which occur on a scale too small for discrimination directly by our senses, are of the domain of *microphysics*. Thus, the most elementary physical ideas of astrophysics and microphysics belong entirely to the domain of Platonic ideas. It is the student's

practice of rigor in reliving the discoveries of Plato's Academy at Athens, and of Archimedes, from the Fourth and Third centuries, B.C., which is the prerequisite training of the student's powers of judgment, for addressing the domains of astrophysics and microphysics. More fundamental, is what might be set aside, for purposes of classroom discussion, as a fourth department of scientific events: *causality*. The senses could never show us the *cause* of even those events which sense-perception might adequately identify: Cause exists for knowledge only in the domain of Platonic ideas.

16. See *C.F. Gauss Werke* (New York: Georg Olms Verlag, 1981), vol. IX, *passim*.

which Eratosthenes estimated the distance of the moon from the Earth, the latter a distance which no man was to have seen until about twenty-two hundred years later. That is what we know in this matter; it should never be reformulated in a different fashion.

It is violations of our methodological prescription here, which are key to the way in which Isaac Newton, for example, stumbled into his fraudulent *et hypotheses non fingo*, and that numerous other frauds of Newton and his devotees were generated, and credulously adopted by later generations of students. As Riemann emphasized, contrary to Newton's somewhat hysterical insistence that he made no hypotheses, Newton made a very obvious hypothetical assumption, on which his mathematical physics depends entirely. Riemann identified one aspect of that error<sup>17</sup>; but one may apply the same method used by Riemann there, to show that the entirety of the Newtonian system, in the present-day classroom, rests upon that same fallacious hypothesis. Had Newton, or his followers, paid closer attention to the method by which the Newtonians actually reached the opinions which they claimed as their knowledge, they probably would not have dared continue such blunders, nor chant their ritual *hypotheses non fingo*.

Those who profess to know the answer because they looked it up in the back of the textbook, or because someone has told them, have merely "learned" that sort of answer, somewhat as a dog might have learned to retrieve a stick. Those who have not merely learned, but who *know* the answer, know it only because they have either made the original discovery, or have relived it, step by step. What we *know*—*knowledge*—is not the fruit of sense-certainty, but, rather, that which came to us through the rigorous demonstration of the kinds of ideas which could not be merely the interpretation of eyewitness observations. This point, respecting transparency of method, is the most obvious and crucial blunder of virtually all those generally accredited as economists, to date, who have claimed to address what is, in fact, such an ontologically complex subject-matter as the mathematical view of real economic processes.

For the competent economist, as for thoughtful physicists, the essential fraud of all empiricism, is: Akin to the traditional Aristotelianism from which it is derived, empiricism insists that it addresses only the measurement of observed phenomena, free of the assumption of any governing hypothesis. This fraud is typified by Newton's *et hypotheses non fingo*. Contrary to that fraud, the indispensable role of the continuing improvement of formal mathematics as such, is to provide more powerful instru-

ments of analysis for testing the consistency of any given formal theorem-lattice. Economy of effort in science requires, that we be able to expose, more directly and quickly, the nature of inconsistency between the axiomatic basis underlying a theorem-lattice and some given, empiricist or other, presumption respecting how we ought to measure.<sup>18</sup> Eratosthenes' referenced measurement of the meridian is a simple illustration of that principle of science: the principle of scientific, i.e., Platonic, ideas.

In mathematics, or mathematical physics, such a Platonic form of idea is exemplified by the form of a set of axioms underlying any formal system, as what Plato and Riemann recognize as *hypothesis*. When we are speaking of formal theorem-lattice systems, such as a formal mathematics, "hypothesis" signifies the set of axiomatic assumptions underlying all provable theorems of a particular type of theorem-lattice (such as a Euclidean geometry, a linear algebra, etc.).<sup>19</sup>

The pupil who had received a good secondary education, a Classical humanist form of such education, would already have mastered some of the precedents for this:

1. He would be familiar, from the work of Plato's Academy at Athens, and Archimedes, with the distinction between systems of mathematics limited to "commensurables," and the so-called "incommensurables."
2. He would know Nicolaus of Cusa's conclusive proof of the division of the domain of the "incommensurables," between what we term the "irrationals" and the "transcendentals."
3. In his introductory education in the calculus, that student would also have come to understand how Leibniz and Jean Bernoulli showed the incompetence of Descartes' and Newton's "algebraic methods" (e.g., "infinite series"), and why, from the standpoint of the physics of refraction of light, "algebraic" methods must be replaced by "non-algebraic," or "transcendental" notions of mathematical function.
4. He might also know, that the emergence of the notion

18. Such an inconsistency does not prove, intrinsically, either that the proposition, or the mathematics is wrong. It forces us to conceptualize the idea of the existence of such an inconsistency.

19. In short, when a speaker employs the term "hypothesis" as a synonym for "conjectured," or "intuited" solution to a riddle, for example, the speaker is showing himself to be illiterate in science. However, that sort of illiteracy does not identify the precise sense in which Isaac Newton misuses the same term; Newton's argument is that of the radical philosophical empiricists in the tradition of Sarpi, Galileo, Hobbes, Descartes, *et al.*: Newton is asserting that he relies solely upon sense-certainty. Newton is insisting—however wrongly—that there are nothing but "natural ingredients" of sense-phenomena in his system.

17. Riemann, *Werke*, p. 525.

of the Riemann Surface function and Cantor's *Aleph*-series, is traceable from those notions of mathematical discontinuities central to the mathematical work of Cusa and Leibniz's articulation of a differential calculus, the notion of discontinuities hysterically denied by Newton devotee Leonhard Euler.

In each historical case, such as the subsumption of all notions of magnitude under the generalization of "incommensurables," mathematics undergoes an axiomatic change within its underlying assumptions, its *hypothesis*. So, by the proof, cued to Ole Rømer's crucial measurement of the speed of light, of the experimentally demonstrable nature of generalized refraction of light, Leibniz and Bernoulli established the domain of the transcendental, as earlier demanded by Nicolaus of Cusa, who introduced the *isoperimetric principle*,<sup>20</sup> this the axiomatic basis for the mathematics of the transcendental domain. The linear hypothesis of Euclidean space-time (axiomatic self-evidence of points and lines), was superseded by the principle of the cycloid: a space-time in which (Cusa's) isoperimetrisism, least time, and least action govern in a unified way.<sup>21</sup> The Riemann Surface function, and Cantor's *Aleph*-series, implicitly define a physical universe in which the existence of not-entropic (e.g., living and cognitive) processes is not merely permitted, but necessary. Riemann's habilitation dissertation, his work on the Riemann Surface, upon plane air waves, and so on, all address this historical evolution of the notions of geometry under the impact of those ideas erupting from the domain of physics.

For the economist, the crucial point is, that economic processes exist only within the last of the types of geometry we have just listed: that of not-entropic processes, of the process of mankind's increasing domination of the universe: *per capita*, *per* family household, and *per* relevant unit of the Earth's surface area. That domination signifies, that the universe we are addressing is, itself, a

not-entropic process. Any mathematics not appropriate to this sort of not-entropic process, is intrinsically incompetent for economic analysis.

Eratosthenes' referenced discovery, like related discoveries, implies a qualitative change in the way we should think about measuring differences along the surface of the Earth, and also the way in which astronomical observations are read. The corroborating differences in measurement to which we are led, axiomatically, by those ideas, posed in that way, reflect the *efficiency* of such a discovery: the proof of any axiomatic-revolutionary, or related discovery, is not its apparent formal consistency with an existing mathematics, but, rather, that it increases the human species' power in the universe.

The referenced examples of changes in types of mathematics, illustrate the point. As illustrated by the Eratosthenes case, once that type of proof of an idea is obtained, we must then modify the axioms of geometry to such effect that we have constructed a new mathematics, a new theorem-lattice. This step takes us into the midst of the discovery which Riemann presents in his habilitation dissertation.

## Riemann's Discovery

It must be emphasized here, that the opening two paragraphs of Riemann's habilitation dissertation, which are subtitled "Plan of the Investigation," represent an utterance ranking, for its pungency, force, and direction, in the front rank among all scientific statements ever made.<sup>22</sup> That pungency reflects the fact, that this is one of the most fundamental discoveries in the history of science as a whole. That quality, which permeates the dissertation, demands that the work be read and studied with a clear head, as few putative authorities appear to have done, to the present date: even including the Albert Einstein who praised the work.<sup>23</sup> We now summarize the crucial impli-

20. Nicolaus of Cusa, *op. cit.*, *passim*. Cusa reworked Archimedes' theorems on quadrature of the circle, producing what he identified as a superior approach to Archimedes' determination of  $\pi$ . This discovery was incorporated in *De Docta Ignorantia* (1440), but Cusa supplied a formal elaboration in his "On the Quadrature of the Circle" (1450) (trans. by William F. Wertz, Jr., *Fidelio*, Vol. III, No. 1, Spring 1994, pp. 56-63). The new principle of hypothesis, which Cusa develops on the basis of his proof that  $\pi$  is transcendental, is known as the isoperimetric principle: The Euclid axioms, that point and straight line are self-evident, are discarded, and replaced by that isoperimetric principle which, in first approximation, treats the existence of circular action as primary (e.g., "self-evident").

21. See "20. John and Jacob Bernoulli, The Brachystochrone," in *A Source Book in Mathematics, 1200-1800*, ed. by D.J. Struik (Princeton, N.J.: Princeton University Press, 1986), pp. 391-99.

22. Riemann, "Plan der Untersuchung," *op. cit.*, in *Werke*, pp. 272-73.

23. Despite the early influence of Ernst Mach's positivism, Einstein repeatedly showed himself a moral, as well as most capable scientist. His acknowledgment of the debt to Bernhard Riemann's habilitation dissertation, as to Johannes Kepler, like his later collaboration with Kurt Gödel, typifies this. There is a consistent quality to these expressions of his morality in science; Einstein's expression of disgust with the fraudulent physics adopted by the 1920's Solvay Conferences, "God does not play dice," illustrates this. This morality centers around a consistent commitment to the rule of the universe by some efficient principle of Reason, in the sense that Plato, Nicolaus of Cusa, Kepler, Leibniz, Gauss, and Riemann are committed to that principle of science. However, as in his qualified defense of Max Planck, against the savagery of Mach's fanatically positivist devotees, he halts at the point the issue demands a thorough-going repudiation of the essential assumptions of empiricism.

cations of Riemann's discovery for economics, restating the case in the terms of the writer's own thesis.

Mathematics, all geometry included, is not a product of the senses, but of the imagination. In the principal part, our mathematics are rooted within the ideas of geometry; what most persons, including professional devotees of the Galileo-Newton tradition, consider mathematics, is derived from a naive conception of simple Euclidean solid geometry. Now focus upon a more narrowly defined aspect of the general problem so posed: the fallacies inhering in the attempt to construct mathematical economic models on the basis of a Newtonian form of today's generally accepted university-classroom mathematics.

That mathematics is derived from a special view of a conjectured Euclidean model for space-time. That space is assumed to be ontologically an empty space, defined by three senses of perfectly continuous, limitless extension: up-down, side-to-side, and backward-forward. This space is situated within a notion of time, as also perfectly continuous extension, in but one sense of direction: backward-forward. This can be identified usefully as a notion of geometry derived from the naive imagination. Those four senses of perfectly continuous, limitless extension (quadruply-extended space-time) constitute the distinguishing hypothesis of that geometry as a theorem-lattice.

To this is added a simplistic notion of imaginary *physical space-time*, which might be fairly described, otherwise, as "Things do rattle about if placed in an otherwise empty bucket." Given, an object, assumed to correspond to an actual or possible sense-perception. According to the hypothesis for simple space-time, a point, whose intrinsic space-time size is absolute zero, can be located as part of that object, and also as a place in quadruply-extended space-time. Extending that notion, any object can be mapped as occupying a relevant region of space-time; this mapping is done in terms of a large density of such points common, as places, to the object, and to space-time.

It is assumed, next, that motion of objects can be tracked in this manner (in quadruply-extended space-time). However, physical experience shows that space-time alone could not determine the motion of objects. The variability in the experienced motion, is assumed to correspond to what we may term *physical attributes*, such as mass, charge, smell, and so on. The notion of extension can be applied to each of these attributes. This prompts us to think of *physical space-time*, to think in terms of multiply-extended magnitudes in a way which is more general than the intuitive notion of simple space-time.

If it is adopted as part of the hypothesis for the system, that apparent cause-effect relations affecting motion can be adequately expressed in terms of manifold such

assumedly physical factors of extension, the result of such attempted constructions of a physical space-time, is describable as an assumed *physical space-time manifold*. That geometry of the naive imagination, is the general map for the empiricist mathematical physics of Paolo Sarpi and such of his followers as Galileo Galilei, Francis Bacon, Thomas Hobbes, René Descartes, Isaac Newton, Leonhard Euler, Lord Rayleigh, and so on.<sup>24</sup>

That simplistic approach to mathematical physics, is the implicit basis for what are, presently, generally accepted notions bearing upon economics, both within the profession, and among illiterates, alike. This mechanistic schema of the Newtonians, is otherwise the pervasive misconception of the term "science" itself. This is the customary referent for use of the cant-phrase "scientific objectivity."

Riemann introduces this consideration in the two opening paragraphs. He attacks the problems of that naive geometry itself, thus:

It is known, that geometry presupposes both the conception of space, and the first principles for constructions in space, as something given. It gives only nominal definitions, while the essential determinations appear in the form of axioms. The relation of these presuppositions remains in darkness; one has insight neither, if and how far their connection is necessary, nor, *a priori*, if they are possible. From Euclid to Legendre, to name the most famous of recent workers in geometry, this darkness has been lifted neither by the mathematicians, nor by the philosophers who have busied themselves with it. . . . A necessary consequence of this [the foregoing considerations—LHL], is that the principles of geometry cannot be derived from general notions of magnitude, but rather that those properties, by which space is distinguished from other thinkable three-fold extensions of magnitude, can be gathered only from experience.<sup>25</sup>

24. See discussion of Sarpi and his followers, in Lyndon H. LaRouche, Jr., "Why Most Nobel Prize Economists Are Quacks," *Executive Intelligence Review*, Vol. 22, No. 30, July 28, 1995, *passim*.

25. Riemann, *op. cit.*, in *Werke*, pp. 272-73: "Bekanntlich setzt die Geometrie sowohl den Begriff des Raumes, als die ersten Grundbegriffe für die Constructionen im Raume als etwas Gegebenes voraus. Sie giebt von ihnen nur Nominaldefinitionen, während die wesentlichen Bestimmungen in Form von Axiomen auftreten. Das Verhältniss dieser Voraussetzungen bleibt dabei im Dunkeln; man sieht weder ein, ob und wie weit ihre Verbindung nothwendig, noch a priori, ob sie möglich ist. Diese Dunkelheit wurde auch von Euklid bis Legendre, um den berühmtesten neueren Bearbeiter der Geometrie zu nennen, weder von Mathematikern, noch von den Philosophen, welche sich damit beschäftigten, gehoben. . . . Hiervon aber ist eine notwendige Folge, dass die Sätze der Geometrie sich nicht aus allgemeinen Größenbegriffen ableiten lassen, sondern dass diejenigen Eigenschaften, durch welche sich der Raum von anderen denkbaren dreifach ausgedehnten Größen unterscheidet, nur aus der Erfahrung entnommen werden können."

Or, as Riemann puts the latter point at the conclusion of the same dissertation, within “the domain of physics,” as distinct from mathematics *per se*.<sup>26</sup>

The first mathematical challenge posed by the mere general idea of a *physical space-time manifold* is embodied in the fact, that such an idea precludes all notions of a static geometry. Since the close of the last century, it has been noted frequently, that once we take into account the fact, that we can not reduce the variability of velocities of motion, among even simple objects, to some principles of bare space-time, the bare notions of space and time must be expelled from mathematical physics.<sup>27</sup> Since our notions of mathematics are derived from the three-fold space of our imagination, how shall physics account mathematically for the distortion which the evidence of a physical space-time manifold imposes upon the possibility of representing motion in space-time?

Let us interrupt the description of Riemann’s dissertation briefly, to inform the reader that, in the next few paragraphs, we are now about to address, not all of the crucial points of the dissertation, but several which all bear implicitly upon the problems of “economic modeling”; one of these most explicitly.

In addressing the first of a series of implications, on the concept of an *n*-fold extended magnitude,<sup>28</sup> Riemann states he has found but two existing literary sources which have been of assistance to him: Gauss’ second treatise on biquadratic residues,<sup>29</sup> and a philosophical investigation of Johann Friedrich Herbart.<sup>30</sup> Then, in the opening paragraph of the next subsection, on the relations of

measure,<sup>31</sup> he states a crucial point on which our attention will be fixed: “Consequently, if we are to gain solid ground, an abstract investigation in formulas is indeed not to be evaded, but the results of that will allow a representation in the garment of geometry. . . . [T]he foundations are contained in Privy Councillor Gauss’ treatise on curved surfaces.”<sup>32</sup> Let the echo of “a representation in the garment of geometry” resonate throughout reflections upon what now follows.

In 1952, when the writer re-read this Riemann dissertation in the light of Cantor’s *Aleph*-transfinites, the writer’s own relevant form of “relations of measure,” was already the same principle of measurement subsumed by that same general conception of physical-economic “not-entropy” described here. Define the “not-entropy” of a physical-(macro)economic process in the general terms employed above. Consider the following preparatory steps required for broadly defining the meaning of “relations of measure” applicable to such an economic process.

Assign some small, but significant “free energy” ratio, such as the suggested 5 percent figure. This ratio subsumes the following included inequalities: The potential relative population-density, must rise; the demographic characteristics of family households and of the population as a whole, must improve; the capital-intensity and power-intensity, measured in physical terms, must increase, *per capita*, *per* household, and *per* unit of relevant land-area employed; a portion of the “free energy” margin sufficient to sustain a value constantly not less than 5 percent free-energy ration, must be reinvested in the productive

26. *Ibid.*, p. 286.

27. This issue was already stated, in their own terms, by Leibniz and Jean Bernoulli, in the 1690’s. Once Christiaan Huyghens learned, in 1677, that, during the previous year his former student, Ole Rømer, had given a measurement of approximately  $3 \times 10^8$  meters per second for the “speed of light,” Huyghens recognized immediately the implications of a constant rate of retarded light propagation for reflection and refraction. [See Poul Rasmussen, “Ole Rømer and the Discovery of the Speed of Light,” *21st Century Science & Technology*, Vol. 6, No. 1, Spring 1993. See also, Christiaan Huyghens, *A Treatise on Light* (1690) (New York: Dover Publications, 1962).] Leibniz’s attacks on the incompetence, for physics, of the algebraic method employed by Newton, and his understanding of the requirement of a “non-algebraic” (i.e., transcendental) method, instead, reflected most significantly the demonstration of principles of reflection and refraction of light consistent with a constant rate of retarded propagation which is independent of the notions possible in terms of a naive physical space-time.

28. Riemann, “I. Begriff einer *n*-fach ausgedehnten Größe,” *op. cit.*, in *Werke*, pp. 273-76.

29. C.F. Gauss, “Zur Theorie der biquadratischen Reste,” in *C.F. Gauss Werke*, *op. cit.*, Vol. II, ed. by E. Schering, pp. 313-85, including notes by Schering.

30. J.F. Herbart was a famous opponent of the philosophy of

Immanuel Kant. He came under the influence of Professor of History Friedrich Schiller at the Jena University, and became later a protégé of Wilhelm von Humboldt, assigned to Kant’s former university at Königsberg for a long period. During the middle of the 1830’s, Herbart was invited to C.F. Gauss’ Göttingen University, where he delivered a famous series of lectures. It was in this connection that Riemann was first exposed to him. Riemann’s critical references to some of Herbart’s arguments contain the material referenced at this point in his “Hypothesen”; see Riemann, “I. Zur Psychologie unter Metaphysik,” in *Werke*, pp. 509-20.

31. Riemann, “Maßverhältnisse, deren . . .,” *op. cit.*, in *Werke*, p. 276.

32. “Es wird daher, um festen Boden zu gewinnen, zwar eine abstracte Untersuchung in Formeln nicht zu vermeiden sein, die Resultate derselben aber werden sich im geometrischen Gewande darstellen lassen. . . . [S]ind die Grundlagen enthalten in der berühmten Abhandlung des Herrn Geheimen Hofraths Gauss über die krummen Flächen.” *Op. cit.*, in *Werke*, p. 276. Riemann is referencing one of the most famous, and influential discoveries by C.F. Gauss, made doubly famous by the problems of Special Relativity. Gauss’ summary work on this subject was originally published, in Latin, in 1828, under the title “Disquisitiones Generales Circa Superficies Curvas” (in *C.F. Gauss Werke*, *op. cit.*, vol. IV, pp. 217-58). However, it would be useful to read, also, Gauss’ “Theorie der krummen Flächen” (in *ibid.*, vol. VIII, pp. 363-452).

# Relations of Measure Applicable to Physical

from *So, You Wish To Learn All About Economics?*, by Lyndon H. LaRouche, Jr.

Since we are measuring increase of potential relative population-density, we must begin with population. Since the unit of reproduction of the population is the household, we measure population first as a census of households, and count persons as members of households. We then define the labor force in terms of households, as labor-force members of households, as the labor force “produced” by households.

We define the labor force by means of analysis of the demographic composition of households. We analyze the population of the household first by age interval, and secondly by economic function.

Broadly, we assort the household population among three primary age groupings: (1) below modal age for entry into the labor force; (2) modal age range of the labor force; and (3) above modal age range of the labor force. We subdivide the first among *infants, children under six years of age, pre-adolescents, and adolescents*. We subdivide the second primary age grouping approximately in decade-long age ranges. We subdivide the third primary age grouping by five-year age ranges (preferably, for actuarial reasons). We divide the second primary group into two functional categories: household and labor force, obtaining an estimate such as “65% of the labor-force age range are members of the labor force.”

We assort all households into two primary categories of function, according to the primary labor-force function of that household. The fact that two members of the same household may fall into different functional categories of labor-force employment, or that a person may shift from one to the other functional category is irrelevant, since it is *change in the relative magnitudes* of the two functional categories which is more significant for us than the small margin of statistical error incurred by choosing one good, consistent accounting procedure for ambiguous instances. This primary functional assortment of households is between the *operatives* and *overhead expense* categories of modal employ-

*Excerpted from “So, You Wish to Learn All About Economics?: A Text on Elementary Mathematical Economics” (New York: New Benjamin Franklin House, 1984), pp. 73-76. For a further summary statement of the issues, see the author’s “On the Subject of God,” Fidelio, Vol. II, No. 1, Spring, 1993, sections on “Physical Economy” and “Demography,” pp. 24-28. SEE Appendix, this issue, p. 22, for an application of the LaRouche-Riemann method to today’s U.S. economy.*

ment of associated labor-force members of those households.

At this point our emphasis shifts to the operatives’ component of the total labor force. All calculations performed are based on 100% of this segment of the total labor force. The operatives’ segment is divided between agricultural production, as broadly defined (fishing, forestry, etc.), and industrial production broadly defined (manufacturing, construction, mining, transportation, energy production and distribution, communications, and operatives otherwise employed in maintenance of basic economic infrastructure).

The analysis of production begins with the distinction between the two market-baskets and the two subcategories of each’s final commodities. The flow of production is traced backwards through intermediate products and raw materials to natural resources.

This analysis of production flows is cross-compared with the following analysis of production of physical-goods output as a whole: 100% of the operatives’ component of the labor force is compared with 100% of the physical-goods output of the society (economy). This 100% of physical-goods output is analyzed as follows.

**Symbol V:** The portion of total physical-goods output required by households of 100% of the operatives’ segment. *Energy of the System.*

**Symbol C:** Capital goods consumed by production of physical goods, including costs of basic economic infrastructure of physical-goods production. This includes plant and machinery, maintenance of basic economic infrastructure, and a materials-in-progress inventory at the level required to maintain utilization of capacity. This includes only that portion of capital-goods output required as *Energy of the System.*

**Symbol S:** *Gross Operating Profit* (of the consolidated agro-industrial enterprise).

$$T [= \text{total physical-goods output}] - (C+V) = S.$$

**Symbol D:** *Total Overhead Expense.* This includes consumer goods (of households associated with overhead expense categories of employment of the labor force), plus capital goods consumed by categories of overhead expense. *Energy of the System.*

**Symbol S’:** *Net Operating Profit* margin of physical-goods output.  $(S-D) = S'$ . *Free Energy.*



# Economy

If we reduce Overhead Expense ( $D$ ) to a properly constructed economic-functional chart of accounts, there are elements of Services which must tend to increase with either increase of levels of physical goods output or increase of productive powers of labor. For example: a function subsuming the notions of both level of technology in practice and rate of advancement of such technology, specifies a required minimal level of culture of the labor force, which, in turn, subsumes educational requirements. Scientific and technical services to production and to maintenance of the productive powers of labor of members of households, are instances of the varieties of the accounting budgeter's Semi-Variable Expenses which have a clear functional relationship in magnitude to the maintenance and increase of the productive powers of labor. Large portions of Overhead Expense as a whole have no attributable functional determination of this sort; in a "post-industrial society" drift, the majority of all Overhead Expense allotments should not have been tolerated at all, or should have been savagely reduced in relative amount. For this reason, we must employ the parameter  $S'/(C+V)$ , rather than  $S'/(C+V+D)$ , as the correlative of the ratio of free energy of the system.

For purposes of National Income Accounting, we employ:

**Symbol  $S/(C+V)$ :** *Productivity* (as distinct from "productive powers of labor").

**Symbol  $D/(C+V)$ :** *Expense Ratio*.

**Symbol  $C/V$ :** *Capital-Intensity*.

**Symbol  $S'/(C+V)$ :** *Rate of Profit*.

These ratios require the conditions:

1. That the market-basket of consumer goods *per capita*, for households of the operatives' segment of the labor force, increases in relative magnitude and quality of content as Capital-Intensity ( $C/V$ ) and Productivity [ $S/(C+V)$ ] increase.
2. That the social cost of producing this market-basket declines secularly, despite the required increase in magnitude and quality of its content.
3. That Productivity [ $S/(C+V)$ ] increase more rapidly than the Expense Ratio [ $D/(C+V)$ ].

cycle, to the effects of increasing the capital-intensity, the power-intensity, and the scale of the process [SEE Box, p.14]. The requirement of the constant 5 percent growth-factor, serves as a rule-of-thumb standard, to ensure that the margin of growth is sufficient to prevent the process from shifting, as a whole, into an entropic phase.

Those are the effective relations of measure characteristic of successful national economies. Adopting those relations of measure, to what sort of physical space-time are we implicitly referring? Look back to the earlier history of development of modern science; there, one encounters some useful suggestions.

The founding work of modern science, Nicolaus of Cusa's *De Docta Ignorantia*, introduced the notion in the form of a self-subsisting process, the isoperimetric principle, to supersede the axioms of point and straight line. This isoperimetric principle, in the guise of the cycloid of generalized refraction of light, became associated with the notions of "least action," "least time," and "least constraint." From the referenced work of Rømer and Huyghens, through Jean Bernoulli and Leibniz, and beyond, the notion of a principle of retarded propagation of light, as associated with the isoperimetric principle, etc., has served as the yardstick, the "clock," of relative value for physical science in general. Now, noting that, define the motion of a not-entropic economic process relative to the measure provided by the "clock."

As measured by that "clock," we measure, in first approximation, the relations of production and consumption in societies taken as integrated entreties. This is a statistical beginning, but not the required standard of measure. These first estimates must be expressed in a second approximation, in terms of *rates of change of the relations of production and consumption*; that, in turn, must be expressed as *rates of increase of potential relative population-density*.

This, in turn, requires that we re-examine the notion of economic not-entropy. The content of the not-entropy is not measured in terms of the increase of the numbers of market-basket objects, and of the ratio of production to consumption. Rather, the validity of efforts to measure performance in those market-basket terms, depends upon the coherence of that estimate with increase of the potential relative population-density. In other words, economic not-entropy, expressed as we have described its statistical approximation above, must parallel increase of the potential relative population-density. It is the increase of the potential relative population-density, as such, which is the ontological content of the not-entropy being estimated.

So, instead of measuring distance in physical-economic space-time in centimeter-gram-second, or analogous

qualities of units, we measure that not-entropic effect expressed as increase of potential relative population-density. The value of the action is expressed *implicitly* in the latter measure. As we wrote, near the outset here: It is the implicit social content of each valid axiomatic revolutionary discovery in science or art, which defines human knowledge: not Norbert Wiener’s mechanistic, statistical approach. That implicit social content, is the efficiency of practiced ideas, to the effect of maintaining and also increasing the rate of increase of society’s potential relative population-density.

Consider the implications, for mathematics, of the points we have just summarized.

The first step in constructing a “physical-economic space-time manifold,” uses the countable categories of items indicated for such statistical studies. That second step is to employ that data-base to provide a means of measuring relations within the system in terms of the estimated relative not-entropy of the ongoing economic process as an integrated entirety. The third step, is to estimate the rate of not-entropy, as checked with and corrected by a comparison with the rate of not-entropy expressed in terms of potential relative population-density. The third step’s results must be reflected, as correction, upon the standards earlier estimated for the second step; that latter correction, must, in turn, be reflected upon the valuation of the statistical categories employed in the first step. Riemann’s work provides a conceptual guide for that multifaceted effort.

By introducing the principle, that relations of measure in physical-economic space-time are governed by the principle of rate of increase of potential relative population-density, we have located the mathematical representation of economic processes within non-Euclidean geometry, as Riemann’s dissertation defines the notion of such a geometry. To wit: In the graphs which we are able to construct, using appropriate market-basket data, we have embedded our standard of measure [SEE Appendix, p. 22].

In Eratosthenes’ time, to the eye of the observer, the Earth was flat, and, therefore, it must be measured according to what passed for principles of plane geometry at that time. By showing that method of measurement to lead to a devastating contradiction, if regarded in a certain way, Eratosthenes required what became known later as principles of geodesy to be employed—the principles governing measure in curved surfaces, in place of the standards of plane geometry.

As we noted, above: Later, during the last quarter of Europe’s Seventeenth century, once the astronomical researches of Ole Rømer had established a definite rate for retarded propagation of light radiation, the combined work

of Huyghens, Leibniz, and Jean Bernoulli established the necessity for replacing the naive, Sarpi-Galileo form of perfectly continuous Euclidean space-time by a physical space-time of five-fold extension, a space-time which, according to Leibniz, was not perfectly continuous.<sup>33</sup> In addition to quadruply-extended space and time, the rate of retarded propagation of light must be added as another extension. To reflect that, it was necessary to adopt Cusa’s notion that the idea of triply-extended space must be subordinated to what Cusa was first to define, what was later named the transcendental domain, in which the isoperimetric principle, rather than axiomatic points and lines, defines the hypothesis underlying measure.

And, so on, in history since then.

In that tradition, aided by Riemann’s work, we are able to present the geometric shadow of the corresponding *n*-fold physical space-time manifold of physical economy, as an image in a triply-extended domain. Which is as if to say with the 27-year-old Riemann,<sup>34</sup> that “an abstract investigation in formulas is indeed not to be evaded, but the results of that will allow a representation in the garment of geometry.” The essential qualifications are, that we must never forget that that is precisely what we have done.<sup>35</sup>

To understand the relevant contribution by Riemann in the degree required for our purposes here, we must return to read Riemann in the very special way this writer re-read Riemann’s dissertation back in 1952. We must focus upon the specificity of that deeper insight into Riemann’s discovery which had been prompted by this writer’s study of Cantor’s work.

## Density of Discontinuities

If the later *Beiträge*<sup>36</sup> is Georg Cantor’s most important formal contribution to mathematics, his most important contribution to the philosophy of mathematics came

33. This was the issue of Newton devotee Leonhard Euler’s notorious 1761 attack upon Leibniz’s *Monadology*. See Lyndon H. LaRouche, Jr., “Appendix XI: Euler’s Fallacies on the Subjects of Infinite Divisibility and Leibniz’s Monads,” *The Science of Christian Economy* (Washington, D.C.: Schiller Institute, 1991), pp. 407-25.

34. Riemann was born on Sept. 17, 1826 (*Werke*, p. 541); the presentation of his habilitation dissertation occurred on June 10, 1854 (*ibid.*, p. 272n).

35. If that fact were not made plain to students, and other “consumers” of economists’ work-product, the result would tend to be the type of superstition already typical of most Nobel-Prize-winning economists and their dupes. What we know is that for which we are able to account in terms of the manner in which we came to know it.

36. Georg Cantor, *op. cit.*

in writings during the middle 1880's, from the appearance of his 1883 *Grundlagen*<sup>37</sup> to nearly a decade prior to his 1897 *Beiträge*.<sup>38</sup> This includes a series of communications on the subject of the historical, philosophical, and methodological implications of the notion of the *transfinite*. From the *Grundlagen* onwards, during this interval, Cantor addressed chiefly formal issues of the mathematical transfinite, but, also, if in passing, of the *ontological transfinite*.<sup>39</sup>

Briefly, among the historical-philosophical observations, Cantor identifies his notion of the transfinite to be coincident with Plato's *ontological* notion of *Becoming*, and his notion of the mathematical *Absolute* to be coincident with Plato's *ontological* conception of the *Good*. For the application of this to Riemann's discovery, the relevant issues are summarily implicit in Plato's *Parmenides* dialogue. The case in point is as follows.

In the *Parmenides*, Plato's Socrates lures Parmenides, the leader of the methodologically reductionist Eleatic school, into exposing the inescapable and axiomatically devastating paradoxes of the Eleatic dogma. The paradox is both formal and ontological, most significantly ontological. In the dialogue itself, Plato supplies only an ironical, passing reference to the solution for this paradox: Parmenides has left the principle of *change* out of account. The functional relationship of Plato's implicit argument to Riemann's discovery, is direct; Cantor's references to Plato's *Becoming* and *Good*, are directly relevant to both. Riemann himself supplies a significant clue to these connections, in a posthumously published, anti-Kant document presented under the title "*Zur Psychologie und Metaphysik*."<sup>40</sup>

The relevant aspects of the common connections are essentially the following.

Reference the stated general case of a series of theorem-lattices, considered in a sequence corresponding to increases in potential relative population-density of a culture. We are presented, thus, with a lattice of theorem-lattices, each separated from the other by one or more absolute, logical-axiomatic discontinuities (e.g., mathematical discontinuities). Question: What is the ordering relationship among the members of such a lattice of theo-

rem-lattices? Consider this as potentially an ontological paradox of the form treated by Plato's *Parmenides*.

Some discoveries may occur, in reality, either prior to or after certain other discoveries; however, they must always occur after some discoveries, and prior to some others. This is true for discoveries in the Classical art-forms and related matters, as for natural science. In other words, each valid axiomatic-revolutionary discovery in human knowledge, is identifiable as a term of the lattice of theorem-lattices, exists only by means of a necessary predecessor, and is itself a necessary predecessor of some other terms. This is the historical reality of the cumulative valid progress in knowledge, to date, of the human species as a whole. This is, for reasons broadly identified above, the function which locates the cause for successive increases in mankind's potential relative population-density. Question: What is the ordering-principle which might subsume all possible terms of this lattice of theorem-lattices?

On the relatively simpler level, if the series of terms being examined is of a certain quality, the solution to the type of paradox offered in the *Parmenides* is foreseeable. If the collection of terms can be expressed as an ordered series, or an ordered lattice, the terms can be expressed as either all, or at least some of the terms generated by a constant ordering principle, a constant concept of difference (change) among the terms. In that case, the single notion of that difference (change) may be substituted for a notion of each of the terms of the collection. In terms of the Plato dialogue, the *Many* can be represented, thus, by a *One*.

Cantor's principal work is centered upon the case of the representation of the *Many* of an indefinitely extended mathematical series, by a *One*. The treatment of the notion of mathematical *cardinality* in this scheme of reference, leads toward the notion of the higher transfinite, the *Alephs*, and to the generalization of the notion of counting in terms of cardinalities as such. The latter corresponds, most visibly, to the idea of the density of formal discontinuities represented by compared accumulations of valid axiomatic-revolutionary discoveries. Question: How is the latter *Many* to be represented by a constructible, or otherwise cognizable *One*?

The notion associated with the solution to that challenge is already to be found in the work of Plato: the notion of *higher hypothesis*. However, using the terms from Riemann's dissertation, the conceptualization of this solution, actual knowledge of this notion of *higher hypothesis*, as an ontological actuality, "will be gathered only from experience."

Consider the case of the student who has been afford-

37. Georg Cantor, *Grundlagen einer allgemeinen Mannigfaltigkeitslehre* (Leipzig: 1883). Originally published as *Über unendliche lineare Punktmannigfaltigkeiten*, in *Abhandlungen, op. cit.*, pp. 139-246.

38. See footnote 4.

39. E.g., "Mitteilungen zur Lehre vom Transfiniten," in *Abhandlungen, op. cit.*, pp. 378-440.

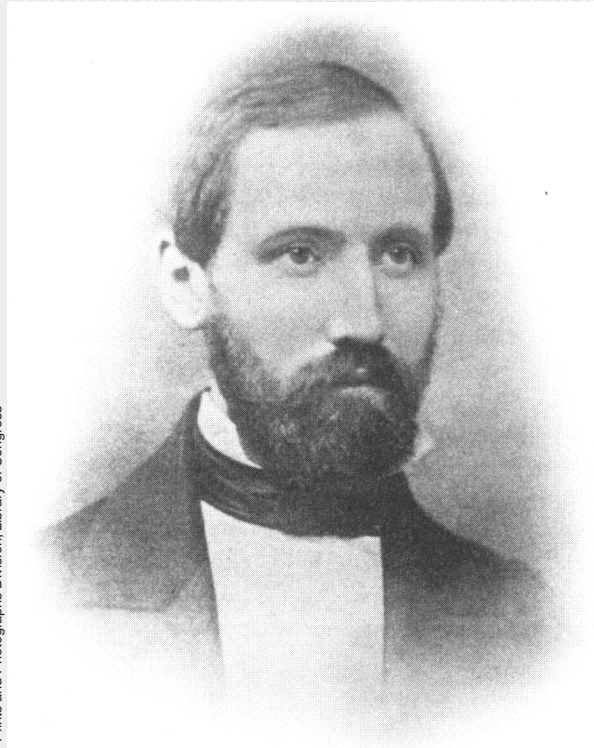
40. Riemann, in *Werke*, pp. 509-20. My colleague, Dr. Jonathan Tenenbaum, has pointed out C.F. Gauss' devastating ridicule of Kant's work. Cantor, in the "Mitteilungen," expresses similar contempt for Kant.

*Like Leibniz before him, Riemann's discovery demonstrates that formal mathematical-physics schemes do not embody the potentiality of a truth-doctrine. To find truth, we must depart the domain of mathematics, and go over into another domain, the realm of experimental physics.*



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Carl Friedrich Gauss (1777-1855)



Bernhard Riemann (1826-1866)

## How LaRouche

The study of Cantor's work on the subject of the mathematically transfinite, especially his so-called *Aleph*-series, pointed toward access to a deeper appreciation of the 1854 habilitation dissertation of Bernhard Riemann. Conversely, Riemann's fundamental discovery respecting the generalization of "non-Euclidean" geometries, showed how we must think of Cantor's functional notion of *implicitly enumerable density of mathematical discontinuities per arbitrarily chosen interval of action*.

Once one recognizes that Cantor's work is retracing the discovery made earlier by Riemann, there is an obvious advantage of choosing Riemann's geometrical approach,

ed that Classical-humanist form of education, in which relieving the act of original axiomatic-revolutionary discoveries of principle, is the only accepted standard for knowledge. That student has the repeated experience of applying a principle of discovery which leads consistently to valid axiomatic-revolutionary discoveries. That repeated experience, that reconstructed mental act of discovery, has been rendered an object—an *idea*—accessible to conscious reflection, an object of thought. Like any such object of thought, that state of mind can be recalled, and also deployed. How should we name this quality—this *type*<sup>41</sup>—of thought-object?

Just as Plato identifies a valid new set of interdependent axioms, underlying a corresponding theorem-lattice, as an *hypothesis*, so he references the type of thought-object to which we have just made reference as an *higher hypothesis*. The fact that the mode of effecting valid axiomatic-revolutionary hypotheses may be itself improved, signifies a possible series of transitions to successively superior (more powerfully efficient) qualities of *higher hypothesis*, a state of mental activity which Plato's method recognizes as *hypothesis*

*and the higher hypothesis*. The latter is congruent with Cantor's general notion of the transfinite; in other words, Plato's ontological state of *Becoming*.<sup>42</sup>

In the posthumously published paper, "*Zur Psychologie und Metaphysik*," Riemann identifies both "hypothesis" and "higher hypotheses" as of a species he names *Geistesmassen*. This term is synonymous with Leibniz's use of "Monad," and the present writer's preference for the term "thought-object": ideas which correspond to the types of formal discontinuities being considered here. Every person who has re-experienced, repeatedly, valid axiomatic-revolutionary discoveries in the Classical-humanist manner referenced, is familiar with the existence of such ideas.

Now, that said, back to Plato's *Parmenides*. Consider the case, that the principle of change, the One, ordering the generation of the members of the collection, the Many, is of the form of higher hypothesis. This is the case, if the members of the collection termed the Many, each represent valid axiomatic-revolutionary discoveries.

41. Using the term "type" in Cantor's sense.

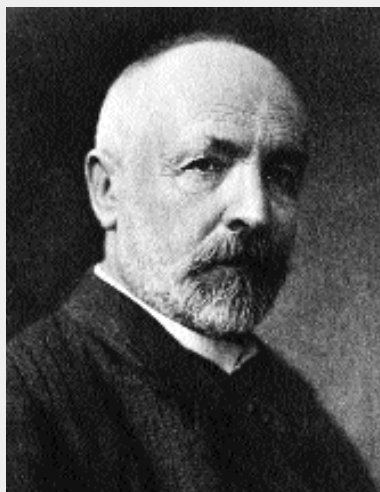
42. It is not necessary to treat the subject of the *Good* in the present context. On that, see Lyndon H. LaRouche, Jr., "The Truth About Temporal Eternity," *Fidelio*, Vol. III, No. 2, Summer 1994, *passim*.

## Transformed Riemann's Discovery

over the relatively formalistic route used by Cantor. In the design of productive and related processes in modern economy, the conceptions which underlie the design of scientific experiments, and of derived machine-tool conceptions, are intrinsically geometric in nature. To think about production and economy, one must think geometrically, not algebraically.

Hence, the present writer's use of Riemann's work to address the mathematical implications of his own earlier discovery in

economics, acquired the seemingly anomalous, but precisely descriptive name of the "LaRouche-Riemann Method."



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Georg Cantor (1845-1918)

Contrary to Kant's *Critiques*,<sup>43</sup> the principle of valid axiomatic-revolutionary discovery is cognizable, and that from the vantage-point already identified here.

Also, contrary to Kant's notorious *Critique of Judgment*, the same principle governs Classical forms of artistic creativity: as in the history of the pre-development of the method of motivic (modal) thorough-composition. The discoveries associated with this form of creativity are exemplified by Mozart (1782-86) and by Beethoven's revolution in motivic thorough-composition, as exemplified by the late string quartets.<sup>44</sup> Johannes Brahms is also a master of that method of coherent musical creativity.

The immediately foregoing several summary observations serve to indicate the accessibility of the notion of a

43. *Critique of Pure Reason* (1781), *Prolegomena to Any Future Metaphysic* (1783), *Critique of Practical Reason* (1788), and *Critique of Judgment* (1790).

44. See Lyndon H. LaRouche, Jr., "Mozart's 1782-1786 Revolution in Music," *Fidelio*, Vol. I, No. 4, Winter 1992, and Bruce Director, "What Mathematics Can Learn From Classical Music," *Fidelio*, Vol. III, No. 4, Winter 1994. The late Beethoven string quartets referenced are: E-flat major, Op. 127; C-sharp minor, Op. 131; A minor, Op. 132; B-flat major ("Große Fuge"), Op. 133; and, F major, Op. 135.

comprehensible ordering of a lattice of theorem-lattices. Relative to the economic-theoretical implications of Riemann's dissertation, the point to be added here, is that this notion is not only intrinsically cognizable. This is a physically efficient notion, and is ontological in that sense. It is also ontological in a sense supplied earlier by Heracleitus and Plato.

The question is at least as old as these two ancient Greeks.

Once the ontological issue of Plato's *Parmenides* is taken into consideration, the following question is implicitly posed. The subsuming One is a *perfect* expression for the domain typified by the subsumed Many. Consequently, does the ontologically intrinsic, relative *imperfection* of that Many signify that the ontological actuality reposes in the One, rather than the particular phenomena, or ideas of the Many? The One always has the content of *change*, relative to the particularity of each among the Many. Does this imply that that *change* is ontologically primary, relative to the content of each and all of the Many? In other words, is this *ontological* significance of Heracleitus' "nothing is constant but change" to be applied?

That is the type of significance which the term "ontologically transfinite" has, when applied to the formally or geometrically transfinite orderings presented, respectively, by Cantor and Riemann's dissertation.

Put the same proposition in the context of physical-economic processes.

Let the term "lattice of theorem-lattices" identify an array of theorem-lattices generated by a constant principle of axiomatic-revolutionary discovery: an higher hypothesis. Then, that higher hypothesis is the One which subsumes the Many theorem-lattices. Relative to any and all such theorem-lattices, it is that higher hypothesis which is, apparently, the efficient cause of the not-entropy generated in practice. It is that higher hypothesis which is (again: apparently) the relatively primary, efficient cause of the not-entropy. It is that higher hypothesis, which is, relatively primary, ontologically.

As Leonhard Euler, and, later Felix Klein,<sup>45</sup> refused to

45. Felix Klein, *Famous Problems of Elementary Geometry* (1895), trans. by W.W. Beman and D.E. Smith, ed. by R.C. Archibald (New York: Chelsea Publishing Co., 1980), pp. 49-80. Klein is probably aware that the proof that  $\pi$  is transcendental, was first given, from the standpoint of geometry, by Nicolaus of Cusa; he knows, without question, that the transcendental character of  $\pi$  was conclusively established by Leibniz *et al.*, during the 1690's. Yet, he insists that the transcendence of  $\pi$  was first proven by F. Lindemann, in 1882! The reason for Klein's gentle fraud, is that he is defending Euler's attack on Leibniz in the matter of "infinite series." Thus, Klein is motivated by his insistence upon an Euler-based algebraic "proof" (and, no other!) even at the expense of perpetrating a monstrous fraud on the history of science.

take into consideration: Correlation, even astonishingly precise correlation, is not necessarily cause. The cause is not the *formal* not-entropy of such a lattice of theorem-lattices; *the cause is expressed in those hermetically sovereign, creative powers of each individual person's mental processes: the developable potential for generating, receiving, replicating, and practicing efficiently the axiomatic-revolutionary discoveries in science and Classical art-forms.* This notion of causation, drawn from “experience,” is the crux of the determination of a Riemannian physical-economic space-time.

Mankind's success in generating, successfully, upward-reaching phase-shifts in potential relative population-density, demonstrates that the universe is so composed, that the *developable* creative-mental potential of the individual human mind is capable of mastering that universe with increasing efficiency. On this account, the very idea of “scientific objectivity” is a fraud, particularly if expressed as an empiricist, or “materialist” notion. *All knowledge is essentially subjective; all proof is, in the last analysis, essentially subjective.* It is our critical examination of those processes of the individual mind, through which valid axiomatic-revolutionary discoveries are generated, or their original generation replicated, which is the source of knowledge. This is shown to represent a valid claim to knowledge, at least relatively so, by the success of axiomatic-revolutionary scientific and artistic progress, in increasing mankind's potential relative population-density. It is through the critical self-examination of the individual mental processes through which such discoveries are generated, and their generation replicated, that true scientific knowledge is attained: the which, therefore, might be better termed “scientific subjectivity.”

Notably, valid axiomatic-revolutionary discoveries can not be “communicated” explicitly. Rather, they are caused to reappear in other minds only by inducing the other person to replicate the process of the original act of discovery. One may search the medium of communication for eternity, and never find a trace of the original communication of such an idea to any person. What is communicated is the catalyst which may prompt the hearer to activate the appropriate generative processes within his or her own fully autonomous creative-mental processes. The result may thus appear, to the “information theorist,” to be the greatest secret code in the universe: In effect, by this means, the means of a Classical-humanist mode of education, vastly more “information” is transmitted than the band-pass is capable of conducting.

Thus, the following:

1. The cause of the not-entropic characteristic of healthy physical economy, is the exercise of the developable and sovereign mental-creative potential of the individual human mind. It is the input to that potential, which produces the efficient not-entropy as an output.
2. The crucial social part of the process is the correlated form of individual potential for being stimulated to replicate the relevant act of discovery.
3. The human precondition, is the development of the individuals and their relations within society to foster this generation and replication of such ideas.
4. The efficient practice of this social process depends upon the preparation of man-altered nature to become suitable for the successful (not-entropic) application of these discoveries to nature.

Those are the axioms governing that causation essential to the geometry of physical-economic processes. The not-entropic image of an implied cardinality function in terms of densities of singularities per chosen interval of relevant action, is the reflection of those axioms and their implications. The set of constraints (e.g., inequalities), governing acceptable changes in relations of production and consumption, must therefore be in conformity with such a notion of a not-entropic cardinality function: that set of inequalities must be characteristically not-entropic in effect.

As was noted near the outset here: *A mathematical solution (in the formal sense) would be desirable, but a conceptual view was indispensable.* The most important thing, is to know what to do. Above all, we must be guided by these considerations in defining the policies of education and popular culture which we foster and employ for the development of the mental-creative potential of the individual in society, especially the young.

## Epilogue: The Interaction Principle

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**Respecting the interaction of the two, axiomatically inconsistent systems: the characteristically entropic, linear monetary-financial process and the characteristically not-entropic physical-economic process.**

There are three typical states to be considered:

1. The two processes, the monetary-financial parasite

and the physical-economic process, are “symbiotically” inter-linked, with the parasite dominant, but with such constraints that a phase-shift of the economic process into an entropic mode does not occur;

2. The two processes are similarly linked, but the dominating monetary-financial process progressively decouples itself from the economic process; and
3. The physical-economic process is employed by government to regulate the monetary and financial process to such a degree, that the latter becomes a subsidiary institution of the former

The first, was what might be termed the “normal” state of symbiosis within the industrialized economies, during the several centuries preceding 1963. The second, is the presently, hyperbolically degenerating state of the combined world economy and monetary-financial systems. The third, is the preferred arrangement, implicitly defined by the George Washington administration of the U.S. Federal republic: the so-called “model” represented by the Franklin-Hamilton-Carey-List “American System of political economy.”<sup>46</sup>

The crucial issue of the interaction, is the role of the sovereign nation-state form of national economy. “Experience,” in Riemann’s referenced sense of *Erfahrung*, informs us that the achievement of the most desirable, third form of interaction requires a strong role of a sovereign nation-state’s government in the economy. The U.S.A.’s historical experience clearly indicates what the outlines of those governmental functions, on several levels, must be.

The national government must retain sovereign responsibility for regulation of the currency and national credit, monetary, and financial affairs generally, and conditions of trade. This sovereign authority must be applied most emphatically to international affairs, and, as may be deemed necessary for national economic security, in some limited aspects of domestic commerce. Government, at the various national, regional,<sup>47</sup> and local levels, must assume responsibility for providing essential basic economic infrastructure, including measures to ensure adequate quality of universal education, health-care delivery, and promotion of scientific and technological progress.<sup>48</sup>

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46. See, for example, *The Political Economy of the American Revolution*, ed. by Nancy Spannaus and Christopher White (New York: Campaigner Publications, 1977).

47. In the U.S.A.’s Federal constitutional tradition, the regional authority lies primarily with the Federal state, except as national interest may prescribe a Federal responsibility.

It is desirable that the preponderance of remaining economic activity be accomplished through privately owned farms and other enterprises. The economic principle governing this is encountered as early as the Fifteenth-century France of Louis XI, and, more generally, in the nation-states of western Europe. Exemplary of those origins of the modern private enterprise, is the use of governmental patents to grant limited-term monopolies on manufacture and sale to inventors and their business associates; this is the origin of the limited-term, modern patent issued to inventors. The social function of private ownership, is to foster the application of the creative powers and intellectual prudence and courage of the individual entrepreneur, as a person, to the fostering of the generation and efficient use of improvements in methods and practices to the economic advantage of the nation and humanity more generally.

The division of authority and responsibility between the state and the private entrepreneur, is defined essentially by the nature of the social responsibilities implicitly assumed, or neglected by each. The development of basic economic infrastructure, represents the requirement, that a responsibility be met to the entire land-area of the relevant political unit, to the population considered as a whole, and to those general matters in which only government can assume efficient direct responsibility. Within the framework of governmental responsibility to provide or to regulate, the private entrepreneur should enjoy a broad, if nonetheless delimited authority.

That is not, as some misguided ideologues would describe it, a “mixed economy”; it is the only sane construction of a modern economy.

The most efficient performance of national economies has been achieved through what President Charles de Gaulle’s France knew as “indicative planning.” The state employs its combined monopolies of regulation and scale of economic operations, to foster the rate of investment and growth in those projects and other special categories of enterprise, which will supply the relatively greatest rate of well-balanced growth of the economy as a whole. The use of national credit, to foster beneficial and needed public works, and large-scale science-driver programs,

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48. National water-management, including principal ports and inland waterways, watersheds, and relevant sanitation are included. Also, general public transportation should be either a governmental economic responsibility, or government-regulated area of private investment. The organization and regulation of adequate national power-supplies, adequately provided for the regions and localities, is a key governmental responsibility. Basic urban infrastructure is also a governmental responsibility, chiefly of local government under national guidance and state regulation as to standards.

such as aerospace development ventures, are typical of the strategic uses of concentrating public credit to foster the relatively highest rates of long-term growth and development in the economy as a whole.

A monopoly on the creation of public credit, as provided by Article I of the U.S. Federal Constitution, and the focussing of that public credit to foster full employment in combined public and private enterprises most beneficial to the general interest in sustained technological progress, is the principal instrument through which the government fosters optimal rates of growth of income, output, and tax-revenue base, in the economy as a whole.

The general rule which ought to be applied, is that, in

the physical economy as such, the state must foster relatively high rates of capital-intensity, power-intensity, and scientific and technological progress. This is achieved chiefly, by the use of tax-incentives and deployment of low-cost public credit, to favor the recycling of margins of relative “free energy” in economic output into technology-driver forms of productive and related investment.

In short, the problem of the interaction between the two axiomatically distinct kinds of processes, is almost entirely a matter of the responsibility, by governments of sovereign national economies, to regulate monetary and financial affairs. The object of such regulation must be to bring about and maintain the third of the three possible forms of interaction identified here.

## APPENDIX

# A LaRouche-Riemann Analysis of the Last 30 Years of the U.S. Economy

by Christopher White

What does it take to make citizens who can usefully contribute to the advancement of the society that has produced them? We’re talking about the *reproduction of human society*, about a species which has the unique capability to develop ideas which can transform the conditions of its own existence, in such a way as to increase its power to transform its existence.

If, since the mid-1500’s, mankind has had at our command principles of knowledge which have enabled us to

willfully increase our mastery over nature; if, over the last two hundred years, those principles were applied with increasing success, as the development of modern methods of food production attest; then why, for heaven’s sake, must four-fifths of mankind continue to be excluded from such benefits? Look to the populations of India and China if you want to know the significance of such a market-basket approach in historical terms. Look to the populations of India and China if you want to know what the significance of the documented reversal in U.S economic policy since the period 1963-67 has been. If the then-greatest economic power ever assembled on the Earth turns its back on the universal principles which made its development possible, what then becomes of the rest of the world?

What follows is a presentation, in summary form, of the work we have done on assembling such a standard

market-basket. Let me now develop briefly what the summaries are based on. What you will be seeing, is the third level, so to speak.

On the first of those levels, we isolated a selection of products, and activities, essential to modern life, and classified them according to whether they are consumed as household goods, or as producer goods. We then traced out the bills of materials required to produce those products, or activities. This resulted in a matrix of inputs and outputs for the economy as a whole, in which, for example, the outputs would include basic economic infrastructure, transportation, power supply, water supply, social infrastructure, hospitals and schools, products of agriculture and mines, and so forth. The inputs would include the machinery, the semi-finished products, the raw materials, the fuel and power, the labor, the share of infrastructure, required to produce such output. This boils down to

*This Appendix, a summary market-basket study of the U.S. economy prepared according to the LaRouche-Riemann method of physical-economic science, has been adapted from “The End of an Era: It’s Time for LaRouche’s Remedies” (Executive Intelligence Review, Vol. 22, No. 37, Sept. 15, 1995, pp. 4-12), by EIR Economics Editor Christopher White.*



Figure 1. Input-output matrix for 1967 (percentage of total).

End-use	Inputs				Total
	Final	Inter- mediate	Raw material	Infra- structure	
Producers' goods	2%	12%	3%	8%	25%
Producers' overhead	4%	4%	1%	6%	14%
Household goods	6%	7%	2%	8%	23%
Household overhead	10%	11%	3%	14%	38%
<b>Total</b>	<b>23%</b>	<b>33%</b>	<b>8%</b>	<b>36%</b>	<b>100%</b>

a 50x50 cell matrix approximately. The inputs were then recalculated on the basis of choosing the greater of production or consumption in 1967: what would be required to produce what we consumed.

This first-level matrix was then restated. Working backwards from the final products, household goods, producer goods, we reassembled the inputs into market-baskets of goods and activities required to sustain the flow into such so-called final consumption. So, now we can say, if you want to increase food consumption, here's what you are going to need to do, all the way back down the line from the supermarket shelf, where many think food is grown, to the semi-manufactures and raw materials which supply the industrial products on which modern agriculture depends. This results in a much bigger matrix.

That second-level matrix was then restated in summary form. Figure 1 shows the result for 1967. In the left-hand rows we have our four classes of end-use: producers' goods, producers' overhead, household goods, and household overhead, which I will come back to. The column headings denote the phases of the process, from final goods back through intermediate and raw materials to infrastructure, economic and social. The cells tell us what portion of

the sum of the inputs is allocated to what activity. The column total, shows us what part of the total inputs goes to households and producers and overhead. And the row total shows us what part goes to each of the phases of economic activity.

The totals have to balance, in accountant-speak, and they have to balance all the way back to the totals in the first matrix prepared. This they do in the case of our 1967 standard, to a margin of error of rather under 2%, which is to say that our calculated inputs, by product and activity, produce a result which is about 2% less than the reported consumption of those products and activities for 1967. This is about 100 million tons out of 5 billion. Or, just to point it out, the error bar is about the same magnitude as the sum of the inputs for final producer goods. So, it's rough, but ready.

So, now we can say that we know what we are dealing with. We don't have to use sophisticated tricks like, this is going down, therefore we can say the whole thing is going down. We have an estimate of the whole, and of the parts in relation to the whole, both by function, and by the way the components of the functions are produced. We can say, using this 1967 standard, if you want to produce producers' final goods by such a margin, these are the things you will have to take into account. Or if you want

to increase household consumption, here is what the effect will be on the whole. We can now compare this whole with the organization of the population, by households, and by economic activity, e.g., employment.

We can do this in two ways. First, taking the magnitudes themselves, we can assort the physical components of society's economic activity among costs and expenses of reproducing the society. We're dealing with a unified reproductive cycle of population in its household consumption moment, and in its producer moment. We want to isolate what part of the total ought to go to households, by different age-group of the population, and what part is needed to sustain economic functioning itself. We want to separate out the costs of doing that in physical terms, from the associated administrative and other, e.g., sales, overhead, and from parasitism, speculation, and waste. Then we want to restate the whole, in terms of the ratios LaRouche developed which underlie his successful forecasting method, in more analytical statements about the productivity, or lack of it, of the whole economy [SEE Box, p. 14].

In Figure 2 we distribute the population by age-group, and by function, among the households, and allocate the total product proportionally. We see, first of all, the decline in consumption. We see the decline of the productive part of the workforce, the increase of the non-pro-

FIGURE 2. Distribution of per-household consumption (tons).

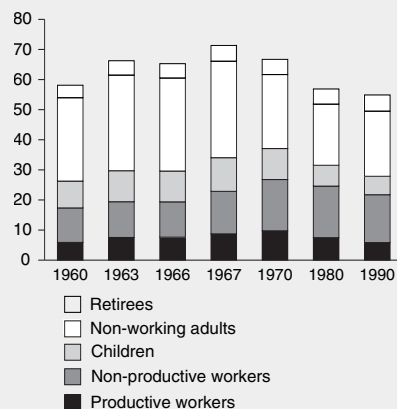
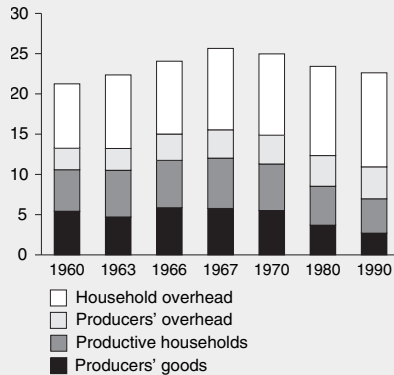


FIGURE 3. *Distribution of market-basket inputs (tons per capita).*



ductive workforce. The decline in non-working adults. The decline in the number of children. The increase in the aged.

The so-called economic experts say there isn't any systemic crisis, that administrative measures alone will work. Look, if the reproduction of society, in an improved form, is the purpose, what are they talking about? How are we providing for future generations, let alone providing them with a better future?

Look at this another way. In Figure 3 we have the total product, by principal function, taken per capita. Note, number one, that the decline is less. After all, we're producing households much faster than we are the people fill them up. Note the declining portion of the total going to producers' goods and productive households. This ought to be the engine for supplying what is needed. It is shrinking faster than the whole. The same is shown per household (SEE Figure 4).

But, wait a minute. The households

FIGURE 5. *People per household.*

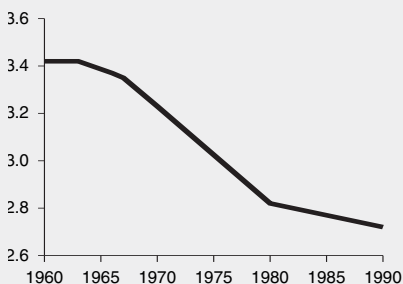
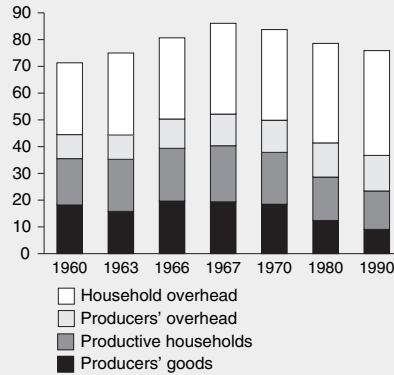


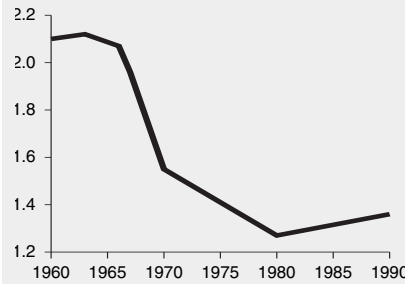
FIGURE 4. *Distribution of market-basket inputs (tons per household).*



of 1990 are not the same as the households of 1967. The workers of 1990 are not the same as the workers of 1967. Look what's happened, as shown in Figure 5. We've lost about a quarter of the population in the space of a generation. The losses are the children who never existed, thanks to the shift that occurred between 1963 and 1967. And look at this the other way round (SEE Figure 6). On a household basis, how many people depend on one worker? From over two, to just over one.

This takes us back to Gottfried Leibniz and the very beginnings of modern physical economy. The costs of employing labor are not simply the direct costs incurred as a result of the individual directly employed. The costs of employing labor must include maintaining the household which produces the labor. If you don't do that, you aren't going to have any. Earlier, we did it. Now, as we converge on a dependency ratio of one to

FIGURE 6. *Dependents per worker.*



one, which will not ever be reached for obvious reasons, we've gotten clear away from that. It's something those like Newt Gingrich and company, who want to wreck Social Security, have no interest in understanding. If there is a contribution crunch coming because system recipients are going to be growing faster than contributors, hey, it's time to start thinking about not only increasing employment, but reversing the decline in the birth rate. Away from the "me generation," and back to basics, when people were more like people.

So, we have to restate these parameters, to make the whole consistent with 1967. And, we have to do that in such a way as to account for the missing people, and for the changed workforce. Obviously, we are going to be at least 25% down on providing for households of 1967 size. Here's what happens (SEE Figure 7). Let's apply the same kind of procedure to the workforce. Let's assume that there are overhead functions, administration, sales, etc. which are necessary, but that we will confine such functions to the 56% or so of the workforce that they comprised in 1956. Growth beyond that level is unacceptable. So we can put together a "deflator" (SEE Figure 8), to answer the question of what part of the transformation in employment patterns, other than the reduction of the productive workforce *per se*, is attributable to the effects of the post-1963-67 slide into a countercultural

FIGURE 7. *Distribution of market-basket inputs, based on 1967 household size (tons per 1967 household).*

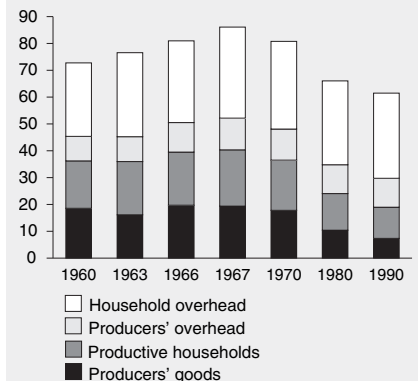


FIGURE 8. *Overhead deflator factor (1956=100%).*

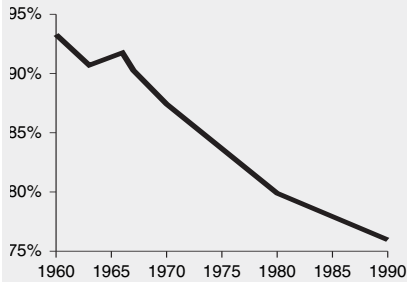


FIGURE 9. *Growth of parasitism (index 1967=100).*

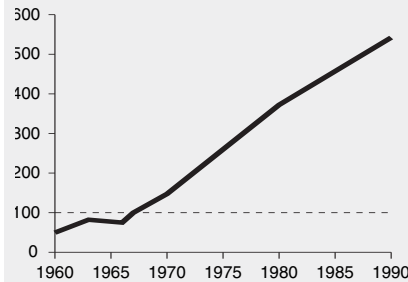
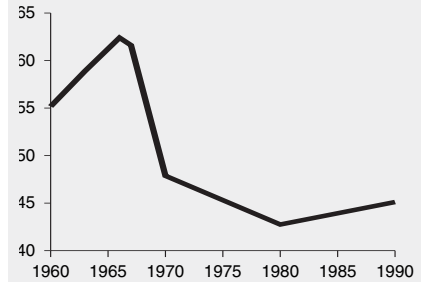


FIGURE 10. *Inputs per worker (tons).*



post-industrial society? What part of the employment represents what, from an earlier period, would have been called nothing but parasitism and speculation and waste? What part of the total product is thereby excluded from any reproductive function, because it just constitutes effort down the drain? Figure 9 shows the growth of that part of the product, which by 1990 amounted to some 20% of the whole.

The effects of the parasitism growth of overhead can be shown by restating the inputs *per worker* terms, i.e., productive workers, plus overhead employment, without compensation. In Figure 10 you see the first big increase in overhead employment, as the children of the baby-boom generation move into the

workforce comes early on. The inputs *per worker* can be expressed as a percentage of the inputs *per household*, to reflect the declining power of the workforce to support the population (SEE Figure 11).

Now we can restate these parameters in terms of not only quantity of goods and activities, but composition of households and workforce, to compare the functioning of that part of the economy which contributes to the reproductive purpose of the whole society:

Figure 12 shows this result, by function. The whole assembly has been collapsed to about 60% of where it was a generation ago, with the productive portions, as distinct from the remaining overhead, collapsed by more than 60%. The line graph of Figure 13 summarizes the overall result to emphasize the steepness of the slide.

There's one component of costs left missing: profit. Figure 14, a summary chart on "surplus or loss," is calculated by comparing the performance of the physical economy against a standard market-

FIGURE 11. *Inputs per worker, as percentage of inputs per household.*

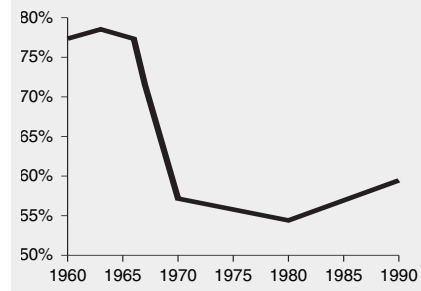


FIGURE 12. *Reproductive potential of the system (not including parasitism). (Distribution of market-basket inputs, based on 1967 household size, adjusted by overhead deflator factor) (tons of inputs per household).*

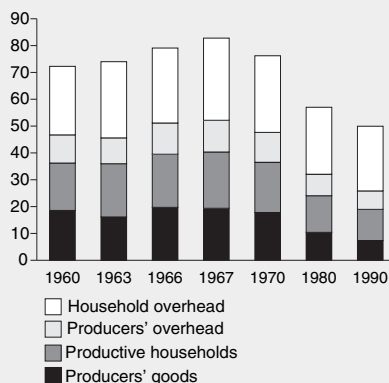


FIGURE 13. *Energy of the system (index 1967=100).*

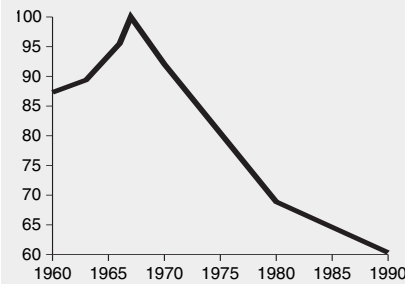


FIGURE 14. *Surplus or loss in the U.S. economy (tons, with reference to 1967 standard market-basket of goods).*

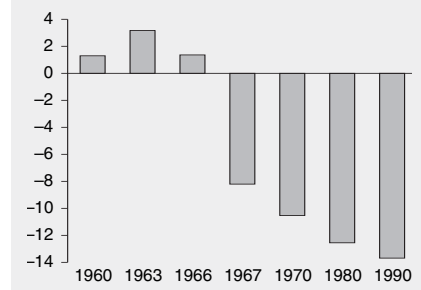


FIGURE 15. Rate of profit of the economy  $[S'/(C+V)]$ .

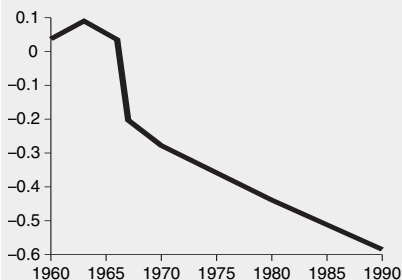


FIGURE 16. Ratio of free energy to energy of the system  $(F/ES)$ .

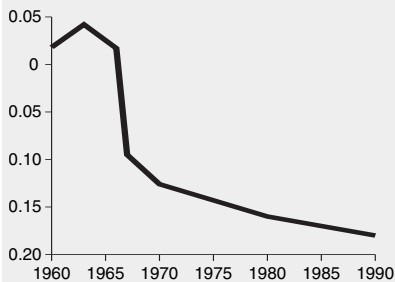
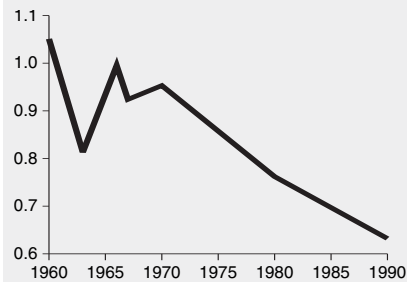


FIGURE 17. Capital-intensity of the economy  $(C/V)$ .



vestment, subsequently, that the decline plus the shortfall from the 1967 standards represent loss. Now these parameters can be restated in terms of LaRouche's productivity ratios [SEE Box, p. 14]:

Figure 15 shows how to estimate a rate of profit for the whole economy, the ratio between the net profit, or loss, and the costs, producer and household costs, of producing the profit. Note the transformation, and the slide again. We can restate this in terms LaRouche calls the "free energy ratio": net profit, or free energy, over costs plus necessary, i.e., deflated, overhead expense (SEE Figure 16).

These ratios, in a healthy economy, ought to be increasing. That's what the history of mankind's existence teaches us. And they ought to increase in such a way that the market-basket standard improves, in quantity and quality, while the capital intensity of production increases faster. This can be approximated by taking the ratio between the inputs for producers' goods, and the inputs for

household goods (SEE Figure 17). Meanwhile, overhead expenses ought to be controlled, or brought down (SEE Figure 18).

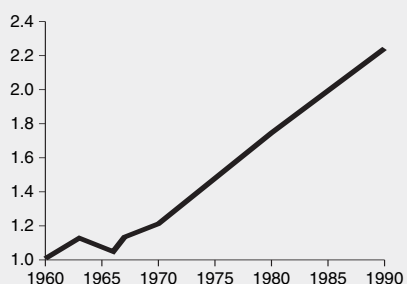
These ratios can be restated, by subtracting from the "energy of the system" version that was stripped of countercultural parasitism (SEE Figure 19). This is a better way, perhaps, of looking at the physical collapse, and the rate of collapse.

What Figures 15-19 show is, that the ratios which measure the real condition of the economy, based upon market-basket data, have been falling since the reversal of the Kennedy-era growth policies.

The physical collapse won't change until the policies which produced that result are changed. That means reversing the shift engineered beginning with the assassination of John F. Kennedy.

What will change, is something else. Let's say the overall drift, is a decline in the rate of profit of a bit more than 2% a year over thirty years or so, and the decline in the free energy ratio is about half that. What's happened on the mone-

FIGURE 18. Expense ratio of the economy  $[D/(C+V)]$ .



tary side of things? Well, without worrying about prices, let's simply take the growth of debt service and taxes, over the same period: 12-fold, or 1,200%—about 40% a year (SEE Figure 20). You see, it doesn't work. Restate this in terms of the growth of debt service *per* unit decline in the rate of profit, as in Figure 21. This is why, as LaRouche has warned, things won't be kept together.

FIGURE 19. "De-parasitized" (1956 base) energy of the system, minus rate of profit  $S'/(C+V)$ .

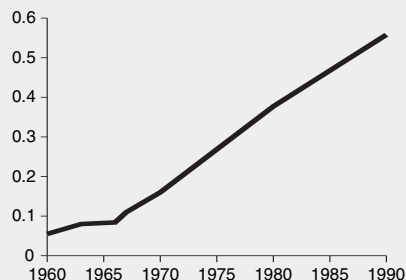


FIGURE 20. Debt service plus taxes, compared to inputs (index 1966=100).

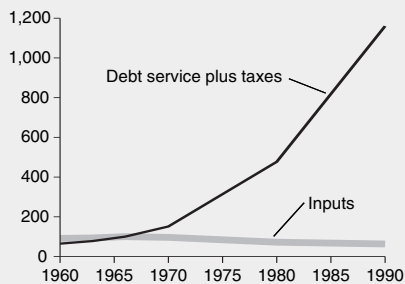
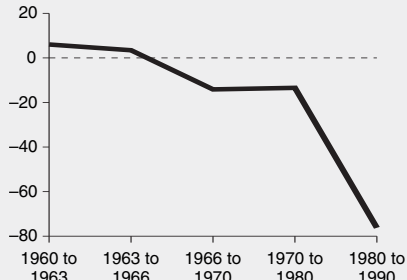


FIGURE 21. Ratio of debt service and taxes to unit decline in energy of the system.





Right: Survey of Venice.  
Below: Dance of Death, 1348.



# How Venice Rigged The First, and Worst, Global Financial Collapse

by Paul B. Gallagher

Six hundred and fifty years ago came the climax of the worst financial collapse in history to date. The 1330's Great Depression was a mild and brief episode, compared to the bank crash of the 1340's, which decimated the human population.

The crash, which peaked in A.D. 1345 when the world's biggest banks went under, "led" by the Bardi and Peruzzi companies of Florence, Italy, was more than a bank crash—it was a financial disintegration. Like the disaster which looms now, projected in Lyn-

don LaRouche's "Ninth Economic Forecast" of July 1994, that one was a blow-out of all major banks and markets in Europe, in which, chroniclers reported, "all credit vanished together," most trade and exchange stopped, and a catastrophic drop of the world's popula-

*A political prisoner in Virginia, Paul Gallagher is the author of "Aeschylus' Republican Tragedies" (Fidelio, Vol. II, No. 2, Summer 1993) and "Population Growth Is Caused by Renaissances" (Fidelio, Vol. II, No. 4, Winter 1993).*

tion by famine and disease loomed.

Like the financial disintegration hanging over us in 1995 with the collapse of Mexico, Orange County, British merchant banks, etc., that one of the 1340's was the result of thirty to forty years of disastrous financial practices, by which the banks built up huge fictitious "financial bubbles," parasitizing production and real trade in goods. These speculative cancers destroyed the real wealth they were monopolizing, and caused these banks to be effectively bankrupt long before they finally went under.

The critical difference between 1345 and 1995, was that in the Fourteenth century there were as yet no *nations*. No governments had the national sovereignty to control the banks and the creation of credit; or, to force these banks into bankruptcy in an orderly way, and replace fictitious bank credit and money with national credit. Nor was the Papacy, the world leadership of the Church, fighting against the debt-looting of the international banks then as it is today; in fact, at that time it was allied with, aiding, and abetting them.

The result was a disaster for the human population, which fell worldwide by something like 25 percent between 1300 and 1450 (in Europe, by somewhere between 35 percent and 50 percent from the 1340's collapse to the 1440's).

This global crash, caused by the policies and actions of *banks* which finally completely bankrupted themselves, has been blamed by historians ever since on a king—poor Edward III of England. Edward revolted against the seizure and looting of his kingdom by the Bardi and Peruzzi banks, by defaulting on their loans, starting in 1342. But King Edward's national budget was dwarfed by that of either the Bardi or Peruzzi; in fact, by 1342, his national budget had become a sub-department of theirs. Their internal memos in Florence spoke of him contemptuously as "Messer Edward"; "we shall be fortunate to recover even a part" of his debts, they sniffed in 1339.

A "free trade" mythology has been developed by historians about these "sober, industrious, Christian bankers" of Italy in the Fourteenth century—"doing good" by their own private greed; developing trade and the beginnings of capitalist industry by seeking monopolies for their family banks; somehow existing in peace with other merchants; and expiating their greedy sins by donations to the Church. But, goes the myth, these sober bankers were led astray by kings (accused *governments!*) who were spendthrift, warlike, and *unreliable in paying debts*, which they had forced the helpless or momentarily foolish bankers to lend them. Thus, emerging "private enterprise capitalism" was set back

by the disaster of the Fourteenth century, concludes the classroom myth, noting in passing that 30 million people died in Europe in the ensuing Black Death, famine, and war. If only the "sober, Christian" bankers had stuck to industrious "free trade" and prosperous city-states, and never gotten entangled with warlike, spendthrift kings!

## The Real Story

Two recent books help to overturn this cover story, although perhaps that is beyond the intention of their authors. Edwin Hunt's 1994 book *The Medieval Super-Companies: A Study of the Peruzzi Company of Florence*,\* establishes that this great bank was losing money and effectively going bankrupt throughout the late 1330's, as a result of its own destructive policies—in Europe's agricultural credit and trade in particular—before it ever dealt with Edward III. "Indeed, the great banking companies were able to survive past 1340 only because news of their deteriorated position had not yet circulated." Just as in 1995.

And Hunt adds a shocker for the historians, based on exhaustive restudy of all the surviving correspondence and ledgers of the Bardi and Peruzzi. He concludes that their lending to King Edward III was done with such brutal "conditionalities"—seizing and looting his revenues—that his true debt to them may have been no more than 15-20,000 pounds-sterling when he defaulted. Mr. Hunt himself works for an international bank, so he knows how such "conditionalities" of lending work today. He probably knows that the true international debt of Third World countries today is a small fraction of what the banks and the International Monetary Fund claim they owe. He definitely understands that Fourteenth-century England was a Third World country to the Bardi, Peruzzi, and Acciaiuoli international banks. They loaned Edward II and Edward III far less than their promises—but their promises have been dutifully added up as "total loans" by historians, starting with their fellow banker Giovanni Villani.

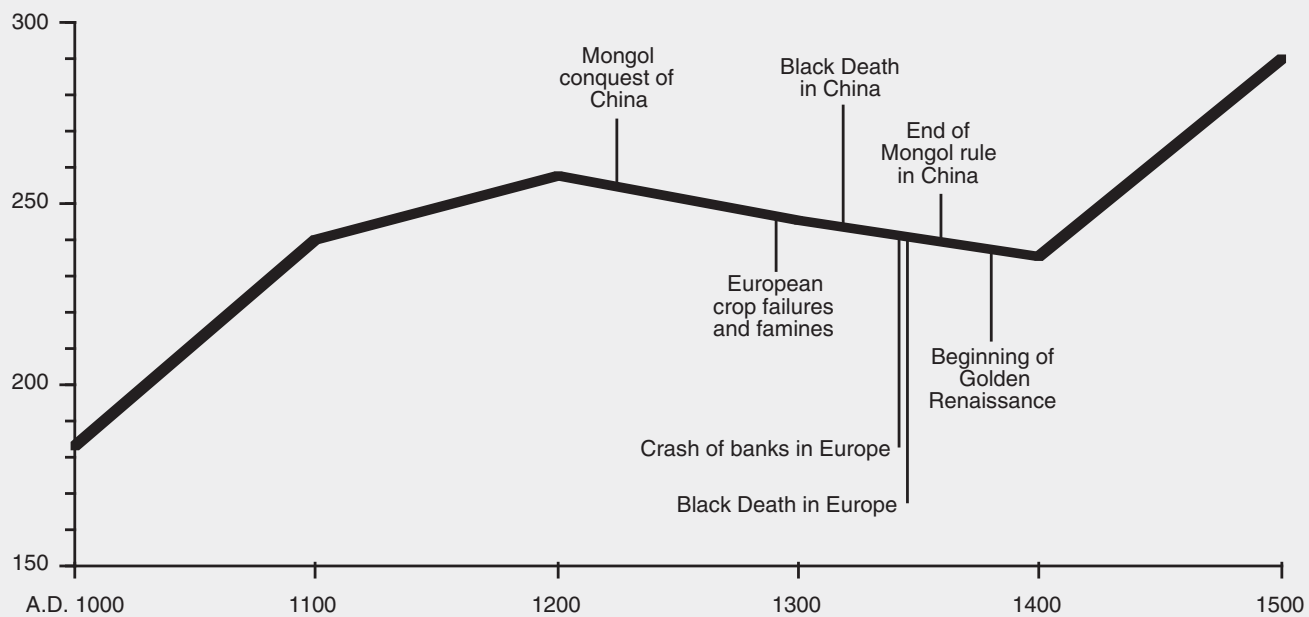
Even if we accept the highest figures ever given for Edward III's 1345 default against the bankers of Florence, the debt to them of the city government of Florence (which they controlled) was 35 percent greater, and those bonds were also defaulted upon.

More revealing is the latest work of the historian of Venice, Frederick C. Lane, *Money and Banking in*

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\* Edwin Hunt, *The Medieval Super-Companies: A Study of the Peruzzi Company of Florence* (London: Cambridge University Press, 1994).

FIGURE 1. Combined population of Europe, India, and China, A.D. 1000–1500 (millions).



Source: McEvedy and Jones, *Atlas of World Population History*

*Medieval and Renaissance Venice.*† This work shows that it was Venetian finance which, by dominating and controlling a huge international “bubble” of *currency speculation* from 1275 through 1350, rigged the great collapse of the 1340’s. Rather than sharing the peace of mutual greed and free enterprise with their “allies,” the bankers of Florence, the merchants of Venice bankrupted them, and the economies of Europe and the Mediterranean along with them. Florence was the Fourteenth-century “New York,” the apparent center of banking with the world’s biggest banks. But Venice was “London,” manipulating Florentine bankers, kings, and emperors alike, by tight-knit financial conspiracy and complete dominance of the markets by which money was minted and credit created.

As long ago as the 1950’s, in fact, one historian—Fernand Braudel—consciously demonstrated that Venice, leading the Italian bankers of Florence, Genoa, Siena, etc., willfully intervened from the beginning of the Thirteenth century, to destroy the potential emergence of national governments, “modern states foreshadowed by the achievements of Frederick II.”§ Frederick II

Hohenstauffen was the Holy Roman Emperor in the first half of the Thirteenth century, an able successor of Charlemagne’s earlier achievements in spreading education, agricultural progress, population growth, and strong government. The great Dante Alighieri wrote his seminal *De Monarchia* in a vain attempt to revive the potential of imperial government based on Divine Law and Natural Law, which had been identified with Frederick’s reign.

Wrote Braudel, “Venice had deliberately ensnared all the surrounding subject economies, including the German economy, for her own profit; she drew her living from them, preventing them from acting freely. . . . The Fourteenth-century saw the creation of such a powerful monopoly to the advantage of the city-states of Italy . . . that the embryo territorial states like England, France and Spain necessarily suffered the consequences.” In addition to what Braudel shows, Venice intervened to stop the accession of Spain’s Alfonso the Wise, as successor to Emperor Frederick II.

This triumph of “free trade” over the potential for national government, rigged the Fourteenth century’s global human catastrophes, the worst onslaught of death and depopulation in history. It was not until the Renaissance created the French nation-state under Louis XI, one hundred years later, and then England under Henry VII, and Spain under Ferdinand and

† Frederick C. Lane, *Money and Banking in Medieval and Renaissance Venice* (Baltimore: Johns Hopkins University Press, 1985).

§ Fernand Braudel, *Civilization and Capitalism, From the 15th to the 18th Century* (New York: Harper & Row, 1982), Vol. III.

Isabel, that the human population would begin to recover.

## Population: The Fundamental Measure

The clearest measure of the destruction wrought by the merchants and bankers of Venice and its “allies” in the financial crash of the Fourteenth century, is shown in Figure 1. What had been 400-600 years of increasing population growth in Europe, China, and India (altogether, three-fourths of the human population), was reversed. The *world's* population collapsed. Famines, bubonic and pneumonic plagues, and other epidemics, killed more than 100 million people. Wars, dominated by military slaughters of civilians—as in Rwanda and Bosnia today—raged throughout Eurasia; Mongol armies alone slaughtered between 5 and 10 million people. This depopulation did not begin with the 1340's banking crash, however, although it accelerated after that for nearly a century. The policies of Venetian-allied finance

were already reversing human population growth for forty to sixty years before their speculative cancer completely exhausted what it monopolized, bringing on the 1340's rolling crash of all the major banks that had not collapsed earlier.

How did free-enterprise finance, with no government able to control it, collapse all the economies of the Eurasian continent? How could banks concentrated in one part of Europe—tiny on the scale of modern banks—work such a global catastrophe?

## A Cancer on Production

In the Eleventh, Twelfth, and into the Thirteenth centuries, the growth and development of population both in Europe and particularly in China, was accelerating. China's population doubled in two hundred years during the Neo-Confucian Renaissance of the S'ung Dynasty, to 120 million; meanwhile, the population density of northern France and northern Italy began to

# Population Grows Through Scientific and Cultural

The basis of human economic progress is clear and common to all three great monotheistic religions, as set forth first in the *Book of Genesis* of the Hebrew Scriptures: “And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth and subdue it” (*Gen. 1:28*). The human species' uneven progress to fulfill this injunction has taken hundreds of thousands of years; succeeding through scientific renaissances and the creation of cities and great nations through which individuals could make their contributions, to climb from a few million to more than 5 billion people alive today.

History proves that whenever a nation achieves political sovereignty, economic development, individual rights, and general education—Abraham Lincoln's “government of, by, and for the people”—its population and population density grows rapidly, even if its inhabited territory expands.

- China's population stagnated at 60 million for eight hundred years (A.D. 200-1000), but with the Tenth- and Eleventh-century Neo-Confucian Renaissance of science and the unification under the S'ung Dynasty, the Chinese population doubled in two hundred years, to 120 million by A.D. 1200. Then, when China split into three kingdoms and was conquered by

the Mongols, its population growth ceased, and its population was only 150 million in 1700: a growth of just 30 million in five hundred years!

- The populations of Egypt, Iraq, Turkey, Syria, and Iran grew rapidly in the Ninth, Tenth, and Eleventh centuries during the great Islamic Renaissance of science, philosophy, and art, when the Caliphates were far more powerful, densely populated, and urbanized than was Europe. Their populations fell when that renaissance of learning was ended in the Twelfth century, leading also to Mongol conquest. These nations only recovered their Eleventh-century population levels in the Twentieth century.

- The Fifteenth-century “Golden Renaissance” of European civilization formed powerful, unified nation-states and set off a population growth which dwarfs all others in human history. The populations of the European nations grew by 10-14 times in five hundred years or so, reaching the highest population densities on Earth.

- But within Europe, Austria's population did not grow with the rest, until the educational and political reforms of Emperor Joseph I at the time of the American Revolution. Thereupon, Austria's population tripled within a century.



approximate the levels these regions have today. As a result of huge increases in the amount of agricultural land productively cultivated, Europe's population had been growing at a steadily increasing rate for seven hundred years up to A.D. 1300, following the collapse and depopulation of the Roman Empire from A.D. 300 to 600. In addition, there had been several periods in which the rural technologies for using the plow, seeds, animal power, water power, and wind power, leaped forward. Classical education of youth in monastery schools (*oblates*) was spreading up through the Twelfth century, when the great cathedral-building movement arose in France. These advances spread particularly rapidly, owing to the impetus of Charlemagne and his English and Italian allies from 750-900, and then again from 1100-1250, the period of the Hohenstauffen Holy Roman Emperors in Germany, Italy, and Sicily, ending with Frederick II.

But about the turn of the Fourteenth century, the growth of food production and of population stopped in

Europe (China's population was already being devastated, on which more below). There were major famines (multiple successive crop failures or extreme shortages) in 1314-17, 1328-29, and 1338-39. One historian concludes that "we gather from [the Italian chronicler] Villani's statements, that a scarcity of more or less severe character put in an appearance about three times each decade. About once each decade the scarcity became so intense, as to assume the proportions of a famine." The most productive rural regions of northern Italy and northern France began to be depopulated from about 1290 onward, while the population of the towns and cities merely stagnated. (The Milan region was a counter-example, owing to aggressive construction of government infrastructure, water-management works, three thousand hospital beds in a city of 150,000, etc.)

The production of wool in England began to decline from about 1310. English and Spanish wool were the basis of European clothing production, although cotton cloth was just beginning to be produced. "In England, beginning with the reign of Edward I (1291-1310) and reaching a climax with Edward III, the Bardi and Peruzzi had acquired a status that gave them a practical monopoly of the procuring and export of wool."

From 1150 onward, the famous Champagne Fairs had been the hub of trading in cloth and clothing, iron-work, woodwork, wool, agricultural implements and food for all of Europe; year-round fairs were held in six cities in the Champagne region around Paris. Merchants had been accustomed to make profits of 3-4 percent annually in hard-cash and goods trading here. The Venetian and Florentine bankers intervened into these fairs with large amounts of *credit* and bank branches, and with luxury goods "from the East," and took them over. By 1310, an Italian banker from Lucca boasted that he could raise 200,000 French *livres tournois* in credit on the spot at the Fair of Troyes—but the actual trade in physical goods at the fairs was declining. Hunt's analysis of the successive sets of books of the Peruzzi bank shows that the Florentine bankers expected 8-10 percent annual profit up to 1335. This was far above the rate at which the physical economy of Europe was producing real surplus; in fact, that physical rate of production was falling. The Venetians expected much higher rates of profit still, for reasons outlined below. "At the end of the Thirteenth century, a slowdown in trade hit commodities first; credit operations kept going longer, but the fairs went into severe decline," wrote Braudel.

In the late 1330's, the beginning of the Hundred Years War between England and France led to the clothing

## Renaissances

- Japan's population was 29 million in 1700, and still only 32 million in 1850; but after the Meiji Renaissance and unification of Japan from the 1860's on, its population surged to 45 million in 1900, 84 million in 1950, and 110 million in 1975.

- India and Pakistan's combined population grew only 50 percent in the Nineteenth century under British colonial oppression, but has nearly *quadrupled* in the Twentieth century, in which their independence was won.

- The United States' population grew by ten times in one century after the American War of Independence. Speaking of one state (New York), James Fenimore Cooper wrote, "Within the short period we have mentioned (1785-1831), the population has spread itself over five degrees of latitude and seven of longitude, and has swelled (from 200,000) to 2 million inhabitants, who are maintained in abundance. . . . Those settlements have conduced to effect that magical change in the power and condition of the State, to which we have alluded." In the 1860's, President Abraham Lincoln confidently expected the U.S. would have 500 million people before the year 2000.

—PBG

industry of Flanders—the main clothing production region of Europe—being boycotted and completely shut off from wool; by the late 1340's, this industry was in complete decline, and was actually moving out of the towns and cities into tiny “cottage industries” in the countryside.

On top of all this, from the 1320's on, there was a “massive flight of silver *oltremare* [“over the sea,” that is, to Venice's maritime empire in the Middle East and Byzantium—PBG], which upset the equilibrium of Europe in the mid-Fourteenth century.” Venetian exports of silver from Europe from 1325-50 equalled “perhaps 25 percent of all the silver being mined in Europe at that time.” Standard silver coin had been the stable currency of the Holy Roman Empire in Europe, and of England, since Charlemagne's time. This massive export from Venice to the East “created chronic balance of payments problems as far away as England and Flanders,” and severe problems in making payments in trade. France “was emptied of silver coinage.” King Philip's mintmaster estimated that 100 tons of silver had been exported “to the land of the Saracens” (the Islamic Middle East).

Thus, production of the most vital commodities in Europe had been severely reduced, and the trade and circulation of its money completely disrupted, over the decades *before* the 1340's crash, by Italian banks which *appeared* to be making usurious rates of profit. “The Florentine super-companies resembled very closely in their operations the huge international grain companies of today, such as Cargill and Archer-Daniels Midland,” writes Hunt. “They used loans to monarchs to dominate and control trade in certain vital commodities, especially grain, and later wool and cloth.” Their dominance and speculation progressively reduced the production of these commodities.

We can see this in more detail, but keeping in mind that the story of the Florentine bankers and the Fourteenth-century crash and Black Death, is itself a coverup. These bankers were operating on an international scale limited to Western Europe and some Mediterranean islands. It was the maritime/financial empire of Venice—and Venice only—which was speculating on the scale of all of the Eurasian landmass; and on this evidence alone, it had to be the merchants of Venice who rigged the devastation and depopulation of the majority of the human race in the Fourteenth century. The Florentine bankers were sharks swimming in Venice's seas. The catastrophe of the Black Death in Europe, so often described, was exceeded by death rates in China and Islamic regions under the homicidal rule

of the Mongol Khans from 1250, until nearly 1400. The Islamic chronicler Ibn Khaldun wrote: “Civilization both in the East and the West was visited by a destructive plague which devastated nations and caused populations to vanish. . . . Civilization decreased with the decrease of mankind.”

Venice was also the “banker,” slave market, and intelligence support service for the Mongol Khans.

## The Black Guelphs

The Bardi, Peruzzi, and Acciaiuoli family banks, along with other large banks in Florence and Siena in particular, were all founded in the years around 1250. In the 1290's they grew dramatically in size and rapaciousness, and were reorganized, by the influx of new partners. These were “Black Guelph” noble families, of the faction of northern Italian landed aristocracy always bitterly hostile to the government of the Holy Roman Empire. Charlemagne, five hundred years earlier, had already recognized Venice as a threat equal to the marauding Vikings, and had organized a boycott to try to bring Venice to terms with his Empire. Venice in 1300 was the center of the Black Guelph faction which drove Dante and his co-thinkers from Florence. In opposition to Dante's work *De Monarchia*, a whole series of political theorists of “Venice, the ideal model of government” were promoted in north Italy: Bartolomeo of Lucca, Marsiglio of Padua, Enrico Paolino of Venice, *et al.*, all of whom based themselves on Aristotle's *Politics*, which was translated into Latin for the purpose. The same “coup” made the Bardi, Peruzzi, *et al.* Black Guelph banking “super-companies,” suddenly two or three times their previous size and branch structure. Machiavelli describes how by 1308, the Black Guelphs ruled everywhere in northern Italy except in Milan, which remained allied with the Holy Roman Empire—and was the most economically developed and powerful city-state in Fourteenth-century Italy.

The charter of the *Parte Guelfa* openly claimed that it was the party of the Papacy, and with Venice, the Black Guelph openly pushed for the Popes to change usury from a mortal sin to a venial (minor) sin. Lane remarks that the Venetians seemed to enjoy an effective exemption from the Popes' injunctions against usury, and also from their ban on trading with the infidel—the Seljuk and Mameluk regimes of Egypt and Syria.

A century earlier, in the 1180's, Doge (Duke) Ziani of Venice had provoked hostilities between the two leaders of Christendom, the Pope and the Holy Roman Emperor, Frederick Barbarossa, the grandfather of Frederick II.

Doge Ziani, in time-worn Venetian style, then personally mediated the “Peace of Constance” between the Pope and the Emperor. The Doge got his enemy, Emperor Frederick, to agree to withdraw his standard silver coinage from Italy, and allow the Italian cities to mint their own coins. Over the century from that 1183 Peace of Constance to the 1290’s, Venice established the extraordinary, near-total dominance of trading in gold and silver coin and bullion throughout Europe and Asia, which is documented in Frederick Lane’s book. Venice broke and replaced the European silver coinage of the Holy Roman Emperors, the Byzantine Empire’s silver coinage, and eventually broke the famous Florentine “gold florin” in the decades immediately leading into the 1340’s financial blowout—which blew out all the financiers *except* the Venetians.

## Privatization

The Black Guelph bankers of Florence did not simply loan money to monarchs, and then expect repayment with interest. In fact, interest was often “officially” not charged on the loans, since usury was considered a sin and a crime among Christians. Rather, like the International Monetary Fund today, the banks imposed “conditionalities” on the loans. The primary conditionality was the pledging of royal revenues directly to the bankers—the clearest sign that the monarchs lacked national sovereignty against the Black Guelph “privateers.” Since in Fourteenth-century Europe, important commodities like food, wool, clothing, salt, iron, etc., were produced only under royal license and taxation, bank control of royal revenue led to, first, private monopolization of production of these commodities, and second, the banks’ “privatization” and control of the functions of royal government itself.

By 1325, for example, the Peruzzi bank owned all of the revenues of the Kingdom of Naples (the entire southern half of Italy, the most productive grain belt of the entire Mediterranean area); they recruited and ran King Robert of Naples’ army, collected his duties and taxes, appointed the officials of his government, and above all sold all the grain from his kingdom. They egged Robert on to continual wars to conquer Sicily, because through Spain, Sicily was allied with the Holy Roman Empire. Thus, Sicily’s grain production, which the Peruzzi did not control, was reduced by war.

King Robert’s Anjou relatives, the kings of Hungary, had their realm similarly “privatized” by the Florentine banks in the same period. In France, the Peruzzi were the cooperating bank (creditor) of the bankers to King

Philip IV, the infamous Franzezi bankers “Biche and Mouche” (Albizzo and Mosciatto Guidi). The Bardi and Peruzzi banks, always in a ratio of 3:2 for investments and returns, “privatized” the revenues of Edward II and Edward III of England, paid the King’s budget, and monopolized the sales of English wool. Rather than paying interest (usury) on his loans, Edward III gave the Bardi and Peruzzi large “gifts” called “compensations” for the hardships they were supposedly suffering in paying his budget; this was in addition to assigning them his revenues. When King Edward tried forbidding Italian merchants and bankers to expatriate their profits from England, they converted their profits into wool and stored huge amounts of wool at the “monasteries” of the Order of Knights Hospitallers, who were their debtors, political allies, and partners in the monopolization of the wool trade. It was the Bardi’s representatives who proposed to Edward III the wool boycott which destroyed the textile industry of Flanders—because by 1340 it was the only way to continue to raise wool prices in a desperate attempt to increase King Edward’s income flow, which was all assigned to the Bardi and Peruzzi for his debts! Genoese bankers largely controlled the royal revenues of the Kingdom of Castille in Spain, Europe’s other supplier of wool, by 1325.

In the first few years of the Hundred Years War, which began in 1339, the Florentine financiers imposed on England a rate of exchange which overvalued their currency, the gold florin, by 15 percent relative to English coin. Edward III, in effect, now got 15 percent less for his monopolized wool. Edward tried to counterattack by minting an English florin: the merchants, organized by the Florentines, refused it, and he was defeated. By this action, the Bardi and Peruzzi themselves, in effect, provoked Edward’s famous default, and demonstrated his complete lack of sovereignty at the same time.

Even the famous account, by banker and chronicler Giovanni Villani, of the default of Edward III that triggered the final crash, acknowledges that his debt to the Bardi and Peruzzi included huge amounts he had already paid—just like the curious arithmetic of the I.M.F. to Third World debtors today: “the Bardi found themselves to be his creditors in more than 180,000 marks sterling. And the Peruzzi, more than 135,000 marks sterling, which . . . makes a total of 1,365,000 gold florins—as much as a kingdom is worth. This sum included many purveyances made to them by the king in the past, but, however that may be . . . .”

Even larger revenue flows came to the Papacy in the collection of its church contributions and tithes. Under John XXII, the Black Guelph Pope from 1316-1336,

“Papal tithes skyrocketed,” reaching the apparent value of 250,000 gold florins *per* year. All were collected by agents of the Venetian banks (for France, the largest source of Papal revenue) and the Bardi bank (for everywhere else in Europe except Germany). They charged the Papacy sizable “exchange fees” to transfer the collections. “Only they [the Venice-allied bankers] had the reserves of cash at Avignon [in France, temporary seat of the Papacy for about seventy years—PBG] and in Italy, to finance Papal operations. They transferred collections from Europe, and loaned them to the Popes in advance.” Thus, Venice controlled the Papal credit, and hence the continuing hostilities between the Papacy and the Holy Roman Emperors.

## Perpetual Rents

In Italy itself, these bankers loaned aggressively to farmers and to merchants and other owners of land, often with the ultimate purpose of owning that land. This led by the 1330’s to the wildfire spread of the infamous practice of “perpetual rents,” whereby farmers calculated the lifetime rent-value of their land and *sold that value to a bank* for cash for expenses, virtually guaranteeing that they would lose the land to that bank. As the historian Raymond de Roover demonstrated, the practices by which the Fourteenth-century banks avoided the open crime of usury, were worse than usury.

In the Italian city-states themselves, the early years of the Fourteenth century saw the assignment of more and more of the revenues of the primary taxes (*gabelle*, or sales and excise taxes) to the bankers and other Guelph Party bondholders. From about 1315, the Guelphs abolished the income taxes (*estimi*) in the city, but increased them on the surrounding rural areas, into which they had expanded their authority. Thus, the bankers, merchants, and wealthy Guelph aristocrats did not pay taxes—instead, they made loans (*prestanze*) to the city and commune governments. In Florence, for example, the effective interest rate on this *Monte* (“mountain” of debt) had reached 15 percent by 1342; the city debt was 1,800,000 gold florins, and no clerical complaints against this usury were being raised. The *gabelle* taxes were pledged for six years in advance to the bondholders. At that point, Duke Walter of Brienne, who had briefly become dictator of Florence, cancelled all revenue assignments to the bankers (i.e., defaulted, exactly like Edward III).

Thus were the rural, food-producing areas of Italy depopulated and ruined in the first half of the Fourteenth century. The fertile *Contado* (county) of Pistoia

around Florence, for example, which reached a population density of 60–65 persons *per* square kilometer in 1250, had fallen to 50 persons *per* square kilometer in 1340; in 1400, after fifty years of Black Plague, its population density was 25 persons *per* square kilometer. Thus, the famines of 1314–17, 1328–9, and 1338–9, were not “natural disasters.”

Some of the famous banks of Tuscany had failed already in the 1320’s: the Asti of Siena, the Franzezi, and the Scali company of Florence. In the 1330’s, the biggest banks, with the exception of the Bardi, (the Peruzzi, Acciaiuoli, and Buonacorsi) were losing money and plunging toward bankruptcy with the fall in production of the vital commodities which they had monopolized, and which their cancer of speculation was devouring. The Acciaiuoli and the Buonacorsi, who had been bankers of the Papacy before it left Rome, went bankrupt in 1342 with the default of the city of Florence and the first defaults of Edward III. The Peruzzi and Bardi, the world’s two largest banks, went under in 1345, leaving the entire financial market of Europe and the Mediterranean shattered, with the exception of the much smaller Hanseatic League bankers of Germany, who had never allowed the Italian banks and merchant companies to enter their cities.

Already in 1340, a deadly epidemic, unidentified but *not* bubonic plague, had killed up to 10 percent of many urban populations in northern France, and 15,000 of Florence’s 90–100,000 people had died that year. In 1347, the Black Death (bubonic and pneumonic plague), which had already killed 10 million in China, began to sweep over Europe.

## Venice, the World’s Mint

“Venice,” wrote Braudel, “was the greatest commercial success of the Middle Ages—a city without industry, except for naval-military construction, which came to bestride the Mediterranean world and to control an empire through mere trading enterprise. In the Fourteenth century she was in the ascendant to her greatest periods of success and power.”

And most importantly, Frederick Lane writes, “Venice’s rulers were less concerned with profits from industries than with profits from trade between regions that valued gold and silver differently.”

Between 1250 and 1350, Venetian financiers built up a worldwide financial speculation in currencies and gold and silver bullion, similar to the huge speculative cancer of “derivatives contracts” today. This ultimately dwarfed and controlled the speculation in debt, com-

modities, and trade of the Bardi, Peruzzi, *et al.* It took all control of coinage and currency from the monarchs of the time.

The banks of Venice were deceptively smaller and less conspicuous than the Florentine banks, but in fact had much greater resources for speculation at their disposal. The Venetian financial oligarchy *as a whole*, which ruled a maritime empire through small executive committees under the guise of a republic, centralized and supported its own speculative activities as a whole. The “Republic” built the ships and auctioned them to the merchants; escorted them with large, well-armed naval convoys of their empire, with naval commanders responsible to the ruling “Council of Ten” and the magistrates for the convoys’ safety. This same oligarchy maintained several public mints and did everything possible to foster the centralization of gold and silver trading and coinage in Venice.

As Frederick Lane demonstrates, this was the dominant trade of Venice by no later than 1310. Like today’s “mega-speculators” in currencies and derivatives, such as the Morgan- and Rothschild-backed George Soros and Marc Rich, the Venetian banks and bullion-dealers were backed by large pools of capital and protection.

The size of the Venetian bullion trade was huge: twice a year a “bullion fleet” of up to twenty to thirty ships under heavy naval convoy, sailed from Venice to the eastern Mediterranean coast or to Egypt, bearing primarily silver; and sailed back to Venice bearing mainly gold, including all kinds of coinage, bars, leaf, etc.

The profits of this trade put usury in the shade, although the merchants of Venice were also unbridled in that practice. Surviving instructions of Venetian financiers to their trading agents in these fleets, specify that they expected a *minimum* rate of profit of 8 percent on each six-month voyage from the exchange of gold and silver alone: 16-20 percent annual profit.

One astonishing speech to the Council of Ten by Doge Tommaso Mocenigo, from a time *after* the 1340’s financial crash, goes further. Compare the magnitude of these figures to those discussed earlier for the Papacy, for England, and for Florence (keeping in mind that the Venetian standard coin, the gold ducat, was roughly comparable to the Florentine gold florin): “In peacetime this city puts a capital of 10 million ducats into trade throughout the world with ships and galleys, so that the profit of export is 2 million, the profit of import is 2 million, export and import together 4 million [from the two annual voyages, 40 percent profit—PBG]. . . . You have seen our city mint every year 1,200,000 in gold, 800,000 in silver, of which 5,000 marks (20,000 ducats) go annually

to Egypt and Syria, 100,000 to your places on the mainland of Italy, to your places beyond the sea 50,000 ducats, to England and France each 100,000 ducats . . . .”

How was this possible? Not by private enterprise, but by imperial Venetian “state usury.” The gold from the East was being looted out of China (until then the world’s richest economy) and India by the murderous Mongol Empires, or being mined in Sudan and Mali in Africa and sold to Venetian merchants, in exchange for greatly overvalued European silver. The silver from the West was being mined in Germany, Bohemia, and Hungary, and sold more and more exclusively to Venetians with bottomless supplies of gold at their disposal. Coinages not of Venetian origin were disappearing, first in the Byzantine empire in the Twelfth century, then in the Mongol domains, and then in Europe in the Fourteenth century.

## The Crusades and The Mongols

The so-called Christian Crusades (the first in 1099, the seventh and last major one in 1291) had had only one strategic effect: expanding and strengthening the maritime commercial empire of Venice to the East. Venice provided the ships to take the Crusaders to the Middle East; Venice loaned them money, and Venetian Doges often told them what cities to try to capture or sack. Through the Crusades, Venice gained effective control of the cities of Tyre, Sidon, and Acre in Lebanon, and Lajazzo in Turkey, and strengthened its domination of commerce through Constantinople. These were the coastal entry-points for the “Silk Routes” through the Black Sea and Caspian Sea regions to China and India. During the Mongol Empires (1230-1370), these routes were virtual “Roman Roads” maintained by Mongol cavalry.

The empire of the Mongol Khans was for a century the largest and most murderous empire in human history [SEE Box, p. 36]. The Mongols eliminated, by slaughter and disease directly in their domains, perhaps 15 percent of the world’s population, and destroyed all the greatest cities from China west to Iraq and north to Russia and Hungary—including all the trading cities whose competition bothered Venice. The strategic alliance between Venice and the Mongol Khans, up to and through the financial collapse of the 1340’s, has been treated as an historical curiosity of the adventures of Marco Polo’s family. But it gave Venice final control of the trade to the East, and along with the trade through Egypt for the gold mined in Sudan and Mali, it gave them huge amounts of gold with which to dominate world currency trading in

the decades leading to the financial disintegration of the Fourteenth century.

The Mongols, in their genocidal rule of China, looted all the gold of S'ung China and of the part of India under their control, replacing it with silver currency, and for the lower castes (i.e., the Chinese), with paper money. Mongol middlemen met Venetian merchants at the Mongol-ruled Persian trading cities of Tabriz and Trebizond, and

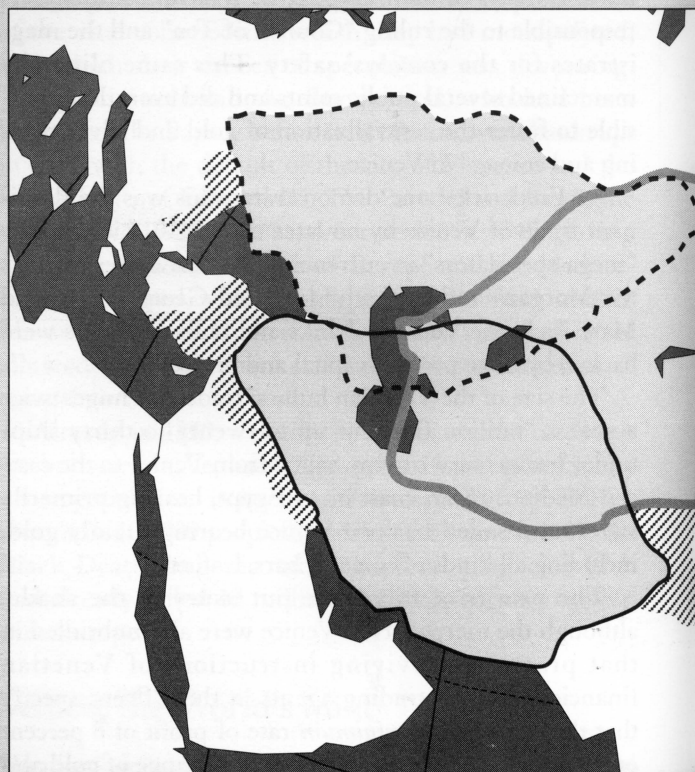
the Black Sea port of Tana, and traded gold for silver from Europe. A large-scale trade in slaves from Mongol domains was associated with this currency trading. This was the so-called "tanga gold," from the *tanghi* or uncoined pieces bearing the seal of the Mongol Khans, as well as bar and leaf gold. The silver was in small Venetian ingots called *sommi*, which "were the common medium of exchange throughout the Mongol and Tatar

Although the empire of the Mongol Khans was for a century the largest empire in human history, the Mongols were a people who "had no idea of the social function of a city," according to the historian R. Grousset. "All they knew was to destroy it and massacre its inhabitants. . . . The value of agriculture was unknown to [them]. Crops, harvests and farms were burned. Towns were plundered and then destroyed, along with their [infrastructural] works."

In the Thirteenth century, the Mongols' empire conquered all of China, the most populous areas of India, from today's Pakistan west to Syria, all of Russia, Turkey and the Balkans, and eastern Europe. In 1242, they were moving on western Europe when Ogedei Khan died and the Mongol commanders withdrew. The Mongols themselves lived at a very low standard of diet, housing, and productivity, not to mention education and literacy. Their culture allowed only a very low potential population-density—they and their allies on the steppes never exceeded two million in population, and were far outnumbered by their horses, which grazed down huge areas.

The Mongols set out, simply, to impose this low population-density on all the peoples they conquered, taking their wealth and harvests and "culling them down" by massacres, leaving only traders, artisans, military engineers, translators, and others they wanted—usually as soldiers. For example, speaking of Mongol rule in Afghanistan and Iran [Khorassam], the Islamic chronicler Ibn Khaldun wrote: "Towns were destroyed from pinnacle to cellar, as by an earthquake. Dams were similarly destroyed, irrigation channels cut and turned to swamp, seeds burned, fruit trees sawed to stumps. The screens of trees that had stood between the crops and invasion by the desert sands were down. . . . This was indeed, as after some cosmic catastrophe, the death of the earth, and Khorassam was never wholly to recover."

## The Mongol Empire



The Mongol armies destroyed both the urban infrastructure of cities and the rural infrastructure of agriculture systematically, seeking constantly to seize or create new grassy plains for their great herds of horses. They conquered Syria three times, for example, each time grazing it down in one to two years, and then leaving. Three hundred thousand Mongol horses grazed down the plains of Hungary in two years. Today's environmentalists and anthropologists would call their culture "admirably suited to the sustainable coexistence with their natural environment."

By the time the Mongol armies reached Islamic regions of West Asia in the 1220's, the intelligence service of Venice had reached agreements with the Mongol

Khanates. . . [T]he demand for silver in the Far East was continually increasing,” writes Lane. “The Venetians were able to raise the price of silver despite the existence of record quantities” coming to Venice from Europe.

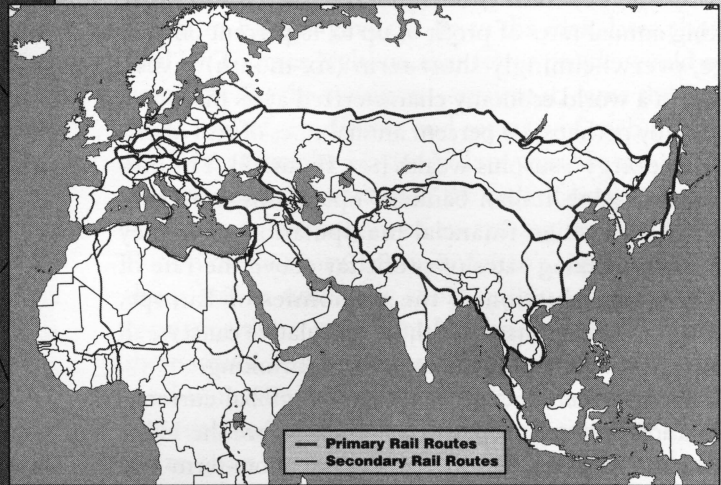
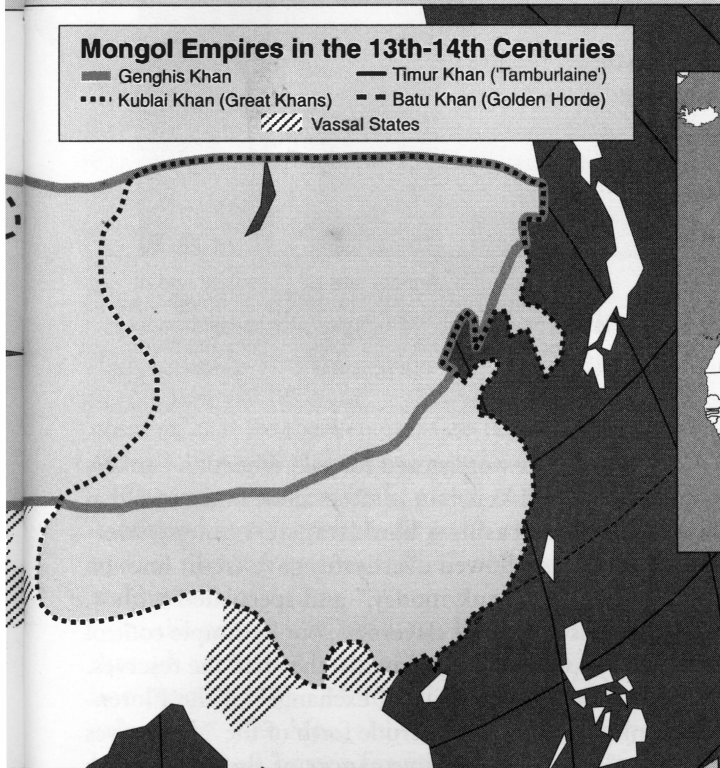
The Crusades also consolidated the alliance of Venice and its allied Black Guelph-ruled cities, the Papacy, and the Norman and Anjou kings, against the Holy Roman Empire centered in Germany, which Dante and his allies

were struggling to restore to its potential. By the late Thirteenth century, the Mongols were a conscious part of this Venetian-led alliance, and the Mongol rulers of Persia even proposed Crusades to the European kings and the Popes! Pope John XXII granted Venice the sole license to trade with the infidel Mamluk sultans of Egypt in the 1330’s. This was over-valued European silver and Mongol slaves for gold from Sudan and Mali.

## that Venice Controlled

### Mongol Empires in the 13th-14th Centuries

- Genghis Khan
- Timur Khan ('Tamburlaine')
- Kublai Khan (Great Khans)
- - - Batu Khan (Golden Horde)
- //// Vassal States



aristocracy to be their intelligence against courts and rulers all over Eurasia. Under Doge Sanuto and then a second Doge Ziani, Venice *instructed* the Mongol commanders as to which major cities to destroy, and which to leave alone. At the top of the Venetians’ “hit list” were the biggest producing and trading cities on the North-South rivers of central Europe: Kiev and Pest (Budapest). The Mongols completely destroyed these cities, killing their entire populations. Later, a Papal envoy found only a few houses standing in Kiev’s location—occupied by Venetian merchants!

The Venetian-Mongol partnership vastly increased slavery on a world scale. The largest trade, involving millions of human beings over more than a hundred

*Left: Venice deployed the Mongols to gain control over European trade with the East—especially across the Eurasian “Silk Road”—and the Mongol Khans created the largest, and most murderous, empire the world has ever seen. Above: Lyndon LaRouche’s proposal for integrated Eurasian Land Bridge development, based upon construction of high-speed rail corridors, will rebuild regions that never recovered from the destruction of the Thirteenth and Fourteenth centuries.*

years, was the Mongols’ enslavement of Russian and South Central Asian peoples they conquered. They depopulated whole areas, selling the conquered through a Venetian monopoly to the North African caliphates and sultanates.

These were the “Mamelukes,” who eventually made up the entire army of the Egyptian sultan, for example. Venice was the banker to both the sultan and the Khans. East-West trade had virtually become a Venetian merchants’ monopoly, through Mongol and Templar destruction of their competitors.

—PBG

## ‘Derivatives’

Thus, in the late Thirteenth and Fourteenth centuries, Venice provided all the coinage and currency-exchange for the largest empire in history, which was looting and destroying the populations under its rule. Venice had taken over the currency trading and coining of what remained of the Byzantine Empire, and also of the Mamluk Sultanates in North Africa. Venice, over this period, took the East off a gold standard and put it on a silver standard (it was the richer region of the world, and being more intensively looted). It took Byzantium and Europe off a 500-year-old silver standard and put them on gold standards.

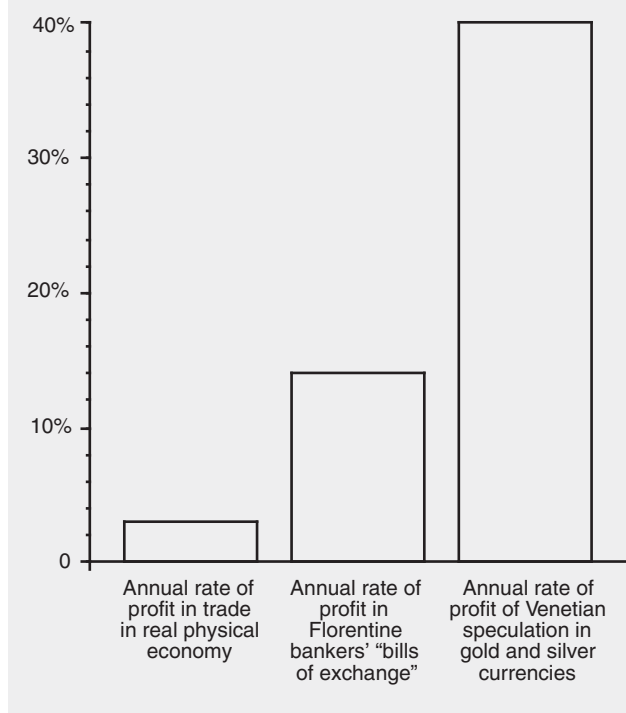
And the Venetian financiers and merchants were making annual rates of profit of up to 40 percent on very large, overwhelmingly short-term (six-month) investments, in a world economy characterized at its most productive, by perhaps 3-4 percent annual rates of real physical “free energy”: surplus wealth [SEE Figure 2]. The other Black Guelph Italian bankers’ operations were subsumed by Venetian financial manipulations, but they were also realizing rates of profit far above the rate of physical reproduction of the economies of Europe. Because of the dominance of these speculative cancers, all the major real physical economies were shrinking.

What was the effect of this Venetian global currency speculation on the European economies before the 1340’s crash and the Black Death? It was the short-term vise that caught the other European bankers and rigged the crash itself.

From 1275-1325, the ratio of the average gold price, to the average silver price, steadily rose, though with continual short-term fluctuations, from about 8:1 to, finally, about 15:1. In this period, Europe’s large production of silver was looted through Venice’s command of Mongol and African gold. “Venice had the central position as the world’s bullion market,” writes Lane, “and attracted to the Rialto [Venice’s “Wall Street”—PBG] the acceleration of buying and selling stimulated by the changing prices of the two precious metals.” From 1290 into the 1330’s, prices rose sharply for the most crucial commodities.

In this process of quickening speculation, Venice “ensnared all the surrounding economies, including the German economy” where production of silver, iron, and iron implements was concentrated. By the 1320’s, Venetian merchants no longer even travelled to Germany to trade: they compelled German producers and merchants to come to Venice and take up lodgings near the large *Fondaco dei Tedeschi* (“Warehouse of the Germans”)

FIGURE 2. Rate of profit through the Fourteenth century (percent).



where their goods were stored for sale. Venetian bankers on the Rialto (and Venetian bankers alone in the world at this time) made cashless bank transfers among merchants’ accounts, allowed overdrafts, gave credit lines on the spot, created “bank money,” and speculated with it. They did this not out of cleverness, but by simple control of currency speculation worldwide: they had the reserves.

In fact, the famous “bills of exchange” of the Florentine bankers, were really a crude form of the “derivatives contracts” of the speculative cancer of the 1990’s. The Bardi *et al.* charged fees to those involved in trade, for exchanging currencies, since there were so many regional and city currencies. These exchange fees were a cost looted out of all production and trade, and a usurious profit to the bankers. But the banker made the “bills of exchange” even more expensive, to hedge against their own potential losses in currency fluctuations being manipulated by Venetian bullion merchants. Thus bills of exchange in the Fourteenth century cost 14 percent on average, worse than borrowing at interest (usury).

Venice switched Europe to gold by force of looting silver. England, for example, from 1300-1309 imported 90,000 pounds-sterling in silver for coining; but from 1330-1339, it was only able to import 1,000 pounds. “But in Venice there was no lack of silver at all in the 1330’s.”



The Florentine bankers, with their famous gold florin, enjoyed great speculative profits in this process.

However, from 1325-1345, the process was reversed. The ratio of gold price to silver price, dominated by Venetian manipulation, now *fell* steadily from the 15:1 level, back down to 9:1. When the price of silver started rising in the 1330's, there was an unusually large supply of silver in Venice! And through the 1340's, "the international exchange of gold and silver greatly intensified again," Lane shows, and there was another wave of sharp commodity price increases.

Now the Florentine bankers were caught, having loans and investments all over Europe in gold, whose price was now falling.

After Venice triggered the fall of gold with new coins in the late 1320's, the Florentines did not attempt to follow suit until 1334 when it was too late; the king of France did not follow until 1337; and last came the pathetic effort of the king of England in 1340, mentioned above.

As Lane shows: "The fall of gold, to which the Venetians had contributed so much by their vigorous export of silver and import of gold, and in which they found profits, hurt the Florentines. In spite of their being the leaders of international finance . . . the Florentines were not in a position, as were the Venetians, to take advantage of the changes that took place between 1325 and 1345."

Venetian super-profits in global currency speculation continued right through the bank crash and financial market disintegration of 1345-47 which they had rigged, and beyond.

In the period 1330-1350, the Black Death had spread through southern China, killing between 15 and 20 million people, as the Mongols' looting process came to exhaustion. The Mongols' "horse culture" (they grazed huge herds of horses for hunting and warfare) had destroyed the infrastructure of agriculture wherever they went. It had also moved the population of plague-carrying rodents from the small area of northwest China where it had been isolated for centuries, down into southern China and westward all the way to the Black Sea.

In 1346, Mongol cavalry spread the Black Death to towns in the Crimea, on the Black Sea, and from there it was carried by ship to Sicily and Italy in 1347, and spread throughout Europe. The European population had stagnated for forty years while becoming more concentrated into cities, where water and sanitation infrastructure had decayed. In Florence, for example, all the city's bridges had been built in the Thirteenth century, none in the Fourteenth. Nutritional levels had already fallen as grain production declined. During the Crusades, the practice of

Classical education in monasteries had been viciously attacked by the "preacher of the Crusades," Bernard of Clairvaux, and his Cistercian order. In 1225, the Papacy had finally forbidden the presence of young students—*oblates*—in monasteries. Europe's broadest form of education had disappeared.

After the financial crash and the entry of the plague, Europe's population fell for a hundred years, from perhaps 90 million, to roughly 60 million.

## No More Venetian Methods

God allows evil, so that we will become better by fighting it, said Gottfried Leibniz, who founded the science of physical economy in the Seventeenth century. The Black Death in Europe gave the lie to the idea, later popularized by Thomas Malthus, that fewer people would mean better life for the survivors—against it, came the Renaissance idea of the dignity and sanctity of each individual life. The chronicler Matteo Villani wrote in the 1360's: "It was assumed, on account of the lack of people, that there would be an abundance of everything the law produces. But on the contrary, because of man's ingratitude, everything was in unusually short supply . . . and in some countries there were terrible famines. It was thought there would be a profusion of clothing and of everything the human body needs besides life itself, and just the opposite occurred. Most things cost twice as much or more than they did before the plague, and wages increased disjointedly to double."

The marked price rises in the aftermath of the Black Death and subsequent epidemics, lasted more than a generation. This then led to a sharp *deflation* and collapse of wages from about 1380.

After 1400, in the years which led to the Golden Renaissance, political forces turned against the methods of the Italian "free enterprise" bankers. In 1401, King Martin I of Aragon (Spain) expelled them. In 1403, Henry IV of England prohibited them from taking profits in any way in his kingdom. In 1409, Flanders imprisoned and then expelled Genoese bankers. In 1410, all Italian merchants were expelled from Paris. When Louis XI became King of France in 1461, he organized national forces to make it the first strong and sovereign nation-state. Along with the development of ports, roads, and support for the cities, Louis XI insisted on a single, standard national currency, created and controlled by the crown. For both Louis XI and England's Henry VII in the same period, "mercantilist forms of economic nationalism were combined with a pronounced hostility to Italian techniques of credit and clearing."

# The Question of Motivic Thorough-Composition in Schiller's Poetry

by Helga Zepp-LaRouche

The answer to the ancient controversy, whether music developed from the rhythmical movements of dance or from Classical poetry, leads directly to the similarly epistemological and moral decision, whether the domain of sensual experience and manner of expression—hence the Dionysian—or the capacity of the human mind to develop and communicate ideas, should be appealed to through music.

It is easy to demonstrate that a simple Classical poem already contains precisely those rules of composition which must also be the basis of Classical music, i.e., it must have a poetic idea as subject, which in its development must lead to a paradox or a series of jointly bound transformations, which are finally resolved on a higher level.

It is this poetic idea, its development and its conclusion, which in Classical poetry, quite clearly and without needless frills, determines the beginning and end of the poem, a principle which has been consciously abandoned, for example, by the Romantics and the Modernists.

For Friedrich Schiller, on the other hand, the identity of poetic—as musical—composition, was a theme on which he repeatedly wrote. Thus did he speak of the “dark total idea” and the musical inspiration, which pre-



*Friedrich Schiller in Weimar.*

The Granger Collection, NY

ceded conscious mental construction: “The musicality of a poem is far more frequently suspended before my soul, when I set myself to craft it, than the clear concept of its content, concerning which I am often hardly at one with myself.”

Not only does the musical idea precede the elaboration, but for Schiller there is no doubt that the same lawfulness underlies all specific forms of art, since it only merits this name when it speaks to the highest quality of the human mind, the capacity for reason: “In fact, we consider every graphic and poetic composition also as a

type of musical work, and subject them to some extent to the same laws. We also demand of colors a harmony and a tone and, in a way, also a modulation. We distinguish in each poem the unity of thought from the unity of feeling, the musical standpoint from the logical; briefly, we demand that each poetic composition, beside that which its content expresses, at the same time through its form, be an imitation and expression of feeling, and as music, work on us . . . .”

Now, however, the whole effect of music (as beautiful and not only pleasant art) consists in accompanying and rendering perceptible to the senses the inner movements of the spirit, by means of analogical external movements.

Now, since those inner movements (as human nature) proceed according to rigorous laws of necessity, thus the necessity and certainty also pass over into the external movements, through which they are expressed; and in this way it becomes intelligible how, by means of those symbolic acts, the common natural phenomena of sound and of light can participate in the aesthetical dig-

nity of human nature. Now if the composer or the landscape painter enters into the secret of these laws, which rule over the inner movements of human hearts, and if he studies the analogy, which occurs between these movements of the spirit and certain external occurrences, then he will become, from a sculptor of common nature, a true painter of souls. He steps out of the realm of caprice into the realm of necessity, and may, without hesitation, place himself on the side, not of the plastic artist, who makes the *external* man his object, but of the poet, for whom the object is the *inner* man.

The composer and poet are therefore, for Schiller, in a similar manner, artists, who can trace the laws “of the inner movements of the human hearts,” yes, even their necessity. There must accordingly be something, in the composition of Classical poetry or music, which corre-

sponds to the secret of these laws.

And as well as all of Schiller’s poems fulfill the demands imposed by him, these laws and, at the same time, the method of successful composition, are nowhere as well traceable as in his “The Song of the Bell,” which represents, from the standpoint of harmony of content and form, nothing short of a completely masterful accomplishment.

That Schiller intended that this poem, with twenty-nine stanzas, “work on us as music,” already becomes apparent by the fact that he himself put the word “song” in the title. And when the poet now depicts, artfully interwoven with each other, the process of the

*Motivführung, or motivic thorough-composition, touches upon the essence of human creativity. In this method of composition, especially as it was developed by Mozart and Beethoven, the musical and poetical idea is placed at the beginning. This idea is developed and brought to a necessary conclusion. Here the very same principle prevails as with Plato’s *Parmenides* dialogue on “the One and the Many.” In composition, the process as a whole is the One which holds the Many together. The composer and the performing artist must always have this unity in mind, and formulate the individual parts as proceeding from it. This conception of the poetical or musical idea, of the elaboration and the conclusion, is the fundamental principle of Classical composition.*

casting of the bell, the process of human life, and that of the moulding of the state, as three levels, in which, notwithstanding all the differences, yet the lawfulness and the phases of the processes are similar, then the bell thereby attains a nearly personal character, which is expressed also in the development of the language (the created, bestirred, lamenting bell). And thus also here, with the lament of the bell, the “common natural phenomenon of sound” becomes something which “participates in the aesthetic dignity of mankind,” and indeed precisely through this is it, that the life and and history accompanying the bell trace the “inner movements of the heart,” and, indeed, through the course of an entire human life.

The method with which Schiller was able to accomplish this, is the motivic thorough-composition of poetry,

which is in no way inferior to the rigor of Classical composition since Mozart's discovery of this principle.

He placed as the motto of the poem, so to speak, the following words: "*Vivos voco. Mortuos plango. Fulgura frango.*" ("I call the living. I mourn the dead. I break the lightning."). The use of the first person for the verbs points, in the first place, to the personal character of the bell. It is a reference, moreover, to the inscription on the bell of Schaffhausen, with which Schiller in all likelihood had been familiar since his youth.

The poem itself is a recitation, subdivided into ten speeches, by the Master, who comments on the construction and completion of the bell, and attaches to this his reflections on the coherence of the casting of the bell with human life. [The full text of the poem appears on page 64.]

Walled up in the earth so steady  
 Burned from clay, the mould doth stand.  
 This day must the Bell be ready!  
 Fresh, o workmen, be at hand!  
     From the heated brow  
     Sweat must freely flow,  
 That the work may praise the Master,  
 Though the blessing comes from higher.

The form of all ten speeches of the Master is identical, with eight lines composed, respectively, of the first four lines, which are trochaic, with four accented feet and with alternating end-rhyme; two short lines with three accented feet and a masculine ending; and finally another couplet with four accented feet.

The tight form of the short lines always corresponds to the orders or instructions of the Master, or his question (in the sixth speech of the Master), or as relief (seventh speech), or as cheerful admiration (ninth speech), and provides thereby the content of a corresponding expression.

If we wish to depict these stanzas, which represent, so to speak, through the exact nine-fold repetition of strophic form, a restful anchoring for the oft-times dramatically streaming poem, in schematic design, then the following picture ensues:

/ ~ / ~ / ~ / ~   a  
 / ~ / ~ / ~ /    b  
 / ~ / ~ / ~ / ~   a  
 / ~ / ~ / ~ /    b  
   / ~ / ~ /       c  
   / ~ / ~ /       c  
 / ~ / ~ / ~ / ~   d  
 / ~ / ~ / ~ / ~   d

In the line "This day must the Bell be ready!" the motif begins to sound, from which the poetic idea is developed, to which the entire composition is devoted: the process of Becoming, according to which the process of casting the bell becomes the metaphor for the course of life and the construction of the state.

In the subsequent first "reflection," Schiller establishes the level of self-consciousness over the process of bell-casting.

This it is, what all mankind graceth,  
 And thereto his to understand,  
 That he in inner heart so traceth,  
 What he createth with his hand.

These four last lines of the stanza allow a beloved theme of Schiller to begin to sound. "What graceth all mankind," and distinguishes him consequently from all other creations, is his creative mind, which outlines the plan in accordance with which the realization can then ensue in the material realm, whose validity is verified not only in the realm of sensual perception, but which is also traced "in the inner heart."

This is a variation of the conception in the poem "Columbus":

Genius stands with Nature in everlasting union:  
 What doth promise the one, surely the other fulfills.

What Schiller meant by this, is the correspondence between microcosm and macrocosm, between the lawfulness of creative reason and the laws of the universe. Genius brings forth an adequate new idea—thus in the mental realm—which then causes a change in physical nature, which in the case of Columbus, led to the lawful discovery of a new continent.

In the poem "Hope," it is written:

It is no empty, fawning deceit,  
 Begot in the brain of a jester,  
 Proclaimed aloud in the heart is it:  
 We are born for that which is better!  
 And what the innermost voice conveys,  
 The hoping spirit ne'er that betrays.

This unwavering cultural optimism, that it is the reason-begotten ideal that is responsible for every advance, because it sketches the vision which inspires everything occurring in reality—this is a philosophical-poetic fundamental motif, which resounds in a whole series of Schiller's poetry and writings. The "inner

voice,” the “genius,” as that which differentiates man from all other living creatures, “adorns him”; hence his creative reason, which constitutes his being in the image of God, is, in a manner of speaking, a *Motivführung* among the various compositions, which it unites together in a greater arc, precisely as one finds this in specific motivic ideas in the compositions of great composers.

Schiller’s poem on the bell, to which he referred repeatedly in the twelve years between the first idea of the poem and its completion, as the planned “Bell-Casting Song,” treated the working world as the concrete expression of the perfectibility of mankind. Caroline von Wolzogen stated in her biography, *Schiller’s Life*, that during his first visit to Rudolfsstadt on December 6, 1787, he had already expressed a lively interest in bell-casting. In 1793, he himself then visited the Neubert bell foundry in Ludwigsburg.

The precise knowledge of the various steps in bell-casting, which Schiller demonstrates in the ten speeches of the Master, reveals an intensive occupation with the practical side of work procedures. He also found a thorough depiction of this, and the corresponding technical terms, in the then very famous *Economic Encyclopedia of Dr. Georg Küunitz, Vol. 19*, in which a detailed work primer was given.

While the first reflection was dedicated to the correspondence between the plan in the human mind and the actual casting of the bell, in the second reflection a second theme now sounds, namely, the idea of the bell as the companion of man throughout all the phases of his life.

What here below to son terrest’al  
The ever-changing fate doth bring,  
Doth strike the crown which, made from metal,  
Uplifting it doth sound its ring.

The two first reflections were written in iambic quadrameter and alternating end-rhyme. In the third reflection, the mood of joy over the birth of the beloved child, proclaimed by the bell, is elevated to the highest bliss of first love. The lively, joyful mood will, through constant shifts between rhymed couplets and alternating end-rhymes, emphasize and culminate finally in the jubilant lines:

Oh! gentle longing, sweetest hoping,  
The first love’s time of goldenness!  
The eye doth see the heavens op’ning,  
So feasts the heart in happiness—

Oh! That it lasts forever greening,  
The beaut’ous time of love’s beginning.

In the fourth speech of the Master, the Master gives thought to whether, in the alloying for the “bell-metal,” a mixture of the first-heated copper with the quickly liquescent and therefore later-added tin, will produce the right compound.

If the brittle with the nimble  
Join together ’tis good symbol.

Now the same idea is transferred to another voice, namely, to the level of reflection on love and marriage in human life.

For where the rough is with the supple,  
Where strong itself with mild doth couple,  
The ringing will be good and strong.  
So test therefore, who join forever,  
If heart to heart be found together!

Not only does the transfer of this idea from one to another voice create an interesting ambiguity, but in this fourth reflection, the form is especially beautiful, but rigorously fits the content. At the beginning the iambic quadrameter still stands, with the festive mood of the wedding changing the meter to trochaic, while with the mood change in the fifteenth line, “The passion doth fly./Love must be enduring,” it goes over to amphibrachic.

The lively portrayal of the industrious striving of the man and the love-filled work of the wife, further in amphibrachic, leads the way into a wonderfully flowing rhythm and finds, with the two-footed iamb—“And resteth never”—a splendid closure, which, in a sense, holds fast the movement.

In the last part of the fourth reflection, the meter goes over to anapestic:

˘ ˘ / ˘ ˘ / ˘ /  
And the father with joyful glance  
˘ ˘ / ˘ ˘ / ˘ ˘ /  
From the house gable’s view oh so vast

This is followed by lines with three accented feet in dactylic-trochaic form:

/ ˘ ˘ / ˘ /  
Boasting with haughty mouth

Then goes over to a pure trochaic:

/ ˘ / ˘ / ˘ / ˘  
Yet with mighty fate supernal,  
Is entwined no bond eternal,  
And misfortune strideth fast.

It is informative how Schiller in this last part of the reflection, not only content-wise but also purely in the form, constructs here a dramatic tension, which is also reflected in the relatively swift change of meter. Joy and pride reach a high point over the fruits of their own production. Yet then it comes to the first real discontinuity, to an anomaly in the poem.

Up to this moment, the course of things was found in a joyful construction: The casting of the bell, the life course of the family—everything strived toward its perfection. Yet now a dissonance sounds, in accordance with Schiller's belief that man is the architect of his own fortune only to a certain degree, that there is a greater destiny outside the will of man, over which he has no influence:

Yet with mighty fate supernal,  
Is entwined no bond eternal,  
And misfortune strideth fast.

A mood change enters. Dark clouds brew together over the idyll of happy family life, an unearthly higher power is suddenly present. At this point in every potential musical composition, a register change must occur, and in whatever form "The Song of the Bell" is recited in performance, at this point the reciter must bring another dimension into his delivery—perhaps that he suddenly turn aside to directly face his listeners.

In the following fifth speech of the Master, the action turns back indeed yet again to the ostensibly practical level of bell-casting, at which nevertheless it comes, directly at this moment, to a dramatic sharpening: The actual casting of fire-hot fluid, a moment of highest danger ("God protect the house"), occurs.

With the subsequent reflection, Schiller now reaches, with the painting of the fire's passion, a heightened dramatic escalation, which is moved skillfully forward through metrical form in the tightest fashion.

"Beneficent is the might of flame," the beginning of this section, is in iambic, but since the dissonance in the preceding reflection, the positive assertion can also never again be brought to mind without ambiguity. Yet already with the cries of woe, the meter shifts to trochaic, and at this point, "Woe, when it is liberated,"

a register shift must occur once again.

It is no accident that precisely this phrase—"Woe, when it is liberated"—has become one of the numerous bewinged words (*loslassen*) which originated with Schiller, and which even those know, who have no idea from whence it comes. For it represents the principle of destruction, of unleashing, of senseless force, experienced at some time by every man.

In "The Song of the Bell," it is set against the constructive theme, which is transferred through all three voices, as counter-theme, so to speak, which is likewise transferred through all the voices. In a behavioral sense, one could consider the constructive theme as an interval, and the destructive as a second, and the entire tension in the poem results from the ambivalence at the time between the two in the various phases of composition in which a transformation occurs.

In his description of the catastrophe caused by the fire, longer four-foot lines and shorter two-foot lines are interchanged, three of them consisting of only a single word—*Riesengross* (giant-tall), *Hoffnungslos* (hopeless all), *Leergebrannt* (all burnt out)—and confer through this change and a supporting onomatopoeia an absolutely gripping rhythm, for instance, through the alliteration of the "w"—*wachsend ohne Widerstand* (Growing such that none withstand); the generation of fear through the "u"-vocalization—*Turm* (tower), *Sturm* (storm), *Blut* (blood), *Flut* (flood); or flight, through the use of assonance of the "i" vowels—*klirren* (quav'ring [literally, clinking]), *Kinder* (children), *irren* (wand'ring), *Tiere wimmern* (whimp'ring cattle [literally, animals whimpering]; and the alliteration of the "r" and "t"—*Alles rennet, rettet, flüchtet* (all is running, saving, flying).

But it would not be Schiller if this exquisite depiction of wild terror, and of the succeeding unearthly horror faced with the burned-out abode, weren't followed by another, brighter motif. The man casts a last look back, and "His wanderer's staff then gladly seizes," because no member of his family has come to harm.

Also here, with the shift from fear to unexpected cheerfulness, a register shift is necessary, because an important new idea should be conveyed, which is not expressed in words, but rather should come forth more significantly as a message: However much in the past, the entire joy of the family and their pride was located in the work of earning domestic wealth and the improvement of their living conditions, confronted with the question of the value of human life in relation to these material goods, the answer is indubitable: Life is the much higher Good and man can yet confront his destiny in a sovereign manner—"joyfully."

In the following sixth speech of the Master, the shorter lines with c-c rhyme occur for the first time in question form: “Should the cast not take?/Should the moulding break?” in order to lead then to the fearful, ominous lines: “Ah! perhaps whilst we are hoping,/Harm is us already gripping.”

If one has the entire leading ideas of the poem in one’s head, it is obvious that this is one of the points where, with respect to the content, it applies on each of the three levels—on the immediate level of the bell-casting; on the level of the family’s life process; and on the level, which has not yet been introduced at all, but on which this theme will be more significantly and dramatically developed: the process of the construction of the state.

The reciter of the poem must bring to expression these three-fold possibilities of interpretation, through a corresponding alteration of inflection; a composer could perhaps indicate the different dimensions through allusion to the possibility of modulation at this point to more varied keys.

In the sixth reflection, which commences with iambic quadrameter, the sorrowful tone begins to sound the death of the mother. The modulation to deepest sorrow, “From cathedral,/Anxious, long,/Bell is sounding/Funeral song,” occurs in trochaic.

It is truly masterful how Schiller does not in the least need today’s modern psychological style, yet brings about an astonishing insight into the ability of mankind to cope with the most frightening blows of fate: After the account of the tragic loss of the beloved mother, the return to concrete work and the well-deserved rest in the bell-casting are also comforting for the reader or listener.

The seventh reflection paints a small idyll, in which man and beast conclude the day, and, leading to the presupposition on which the peaceful life of the citizen depends, the words “Holy Order, blessed richly,/Heaven’s daughter . . .” now creates a transition to the third level of the poem, the formation of the state. The choice of words leaves no doubt, that the poet means the order which is based on natural law. It is also noteworthy that he depicts love of the fatherland as the most important relationship into which man can enter.

The two last lines of the eighth speech of the Master—“If the Bell be now awoken,/Be the frame in pieces broken.”—and the first two lines of the eighth reflection—“The Master can break up the framing/with wisen’d hand, at rightful hour,”—touch on a universal theme with Schiller, namely, that every expansion, every progress in knowledge, always requires that the previously existing structures of knowledge be demolished and replaced with new, more perfect ones. But he was at

the same time also deeply convinced, that such a loosening of old ideas could never happen by simply throwing existing rules overboard, but rather that a change of laws, in a lawful manner, had to happen.

As the self-liberating, red-hot bronze brings destruction: “Where senseless powers [literally, raw powers senselessly] are commanding,” so does this also hold true for the events in the affairs of states. Schiller leads once again from his first theme of bell-casting to the third, of the state, whereby the “raw powers” hold true for both voices.

Schiller’s historical point of reference was clearly the Jacobin terror of the French Revolution, which abruptly disappointed the expectations of the republican-minded contemporaries for a constitutional alteration of Absolutism, and buried the hope, which the poet had still characterized in the “Letters on Don Carlos” as the “favorite subject of the decade,” namely, the discussion about the construction of the state with the greatest possible freedom of the individual.

The transition from the previously described idyll and the peaceful order to disaster and tumult—from the line, “But woe, whene’er in brooks a-flaming”—must be expressed once again through a change in the delivery or a register shift in the composition. In this passage the tension of the line, which is kept in iambs, grows dramatically.

The meter of the line, “Liberty, Equality! Men hear sounding,” bursts the meter adhered to so far (nearly every syllable is stressed!) and supports thereby appropriately the contents of the description of the tumult. The lines follow, which at least until the educational reforms of the Brandt era were familiar to everyone in Germany:

Then women to hyenas growing  
Do make with horror jester’s art,  
Still quiv’ring, panther’s teeth employing,  
They rip apart the en’m’y’s heart  
Naught holy is there more, and cleaving  
Are bonds of pious modesty,  
The good its place to bad is leaving,  
And all the vices govern free.  
To rouse the lion, is dang’rous error,  
And ruinous is the tiger’s bite,  
Yet is most terrible the terror  
Of man in his deluded state.

Is not this description of the total licentiousness, the complete disintegration of all morals, a highly up-to-date image still today? And does not something consoling lie precisely in this exact description, as if the frightful were

## Andreas Romberg's Musical Setting of 'The Song of the Bell'

On February 25, 1805, four years before Andreas Romberg (1767-1821) completed composing his well-known setting of "The Song of the Bell," Christian Körner reported on a recitation performance of the poem to his friend Schiller:

I have news to give you, as Baron Racknitz here recently organized a performance of your poem "The Bell." During breaks in the recitation there was instrumental music—a chorale (not sung) and single pieces from opera and other larger works of various masters, as well as one from a local chamber musician, composed especially for the event. Only a couple passages were sung in chorus. Opitz performed the Master and Hartwigs the rest. . . . The music was a colorful mish-mash, which formed no whole, was not always appropriate, and interrupted the recitation at the wrong times. However, I don't believe it to be impossible, to handle the "Bell" in such a fashion skillfully. Only, the whole must be deliberately composed by one person.

Schiller answered on March 5, with remarks on the musical construction of the "Bell," which are often cited today as the justification for the Romberg composition—an assertion which, however, can in no way conceal the inadequacy of the Romberg setting (especially if one thinks of Schubert's efforts, or Beethoven's, to set Schiller's texts). Schiller wrote:

I believe, with you, that the "Bell" is very well qualified for musical presentation, but one must then also know what one intends, and not carouse about. A strong character must be given to the master bell-caster, who carries the whole and holds it together. The music must never paint words and concern itself with petty games; rather, it must follow only the spirit of the poetry as a whole.

Romberg, however, attempted to provide a simple, frequently returning, word-for-word melody for the Master's speeches. From the occasional performances staged today, one hears how the bass voice of the Master has a "familiarizing, cohesive" function throughout. But, at the same time, the essential "pivots" of development are flattened out in the Romberg setting—a result of the composer's musical tradition, which was close to that of the Berlin School. Lacking any effort to rise above the text, the musical composition's section-by-section treatment, with its alternating solo and choral voices, just cannot do justice to the multi-layered nature of Schillerian poetry. But,

thanks to the fact that Schiller's "The Song of the Bell" is well-known, the Romberg setting is the only one of his numerous compositions which is still occasionally heard today.

By way of example, Romberg handles very schematically Schiller's oft-returning theme of "progress" by alluding to that which is enduring, and to the "perfecting act of reconstruction," in his transition from the conclusion of the Master's eighth speech—"If the Bell be now awoken/Be the frame in pieces broken"—to the following, eighth reflection (in Romberg, this is the end of the fifth and beginning of the sixth section):

The Master can break up the framing  
With wisen'd hand, at rightful hour.  
But woe, whene'er in brooks a-flaming  
Doth free itself, the glowing ore!

Romberg sets the Master's speech with the traditional, well-known *andante* melody of the Master-bass. Romberg then changes key and tempo (*allegro*), and has the choral tenor voice enter first with the passage, "The Master can break up the framing/With wisen'd hand, at rightful hour," with leaps of thirds, fourths, fifths, and sixths (in *piano*), and then, in the bass choral voice, moves into the important transition point of "impending harm," with the same sequence of notes, only slightly varied now by being placed in the minor. The subsequent lines—"But woe . . .,"—are performed *forte* by all four choral voices in staggered entrances. By this setting, Romberg forfeits the opportunity to give appropriate expression to the important underlying voice of "impending harm," which tempers the entire course of the poem. This "missed chance" heightens the listener's impression of a lack of musical tension—an impression which becomes more marked as the piece draws to a close. That is the price which Romberg had to pay for his attempt to present the poem's entire text in succession, without a musical idea to encompass the "whole." For it is plainly evident that Romberg's declamatory approach—keeping in mind that this was in 1809, when Beethoven, for example, had already completed the first version of his opera *Leonore (Fidelio)*—was just not adequate for the challenge posed by a poem with the density of motivic development of Schiller's "The Song of the Bell."

—Anno Hellenbroich



bearable, by the fact that a name has been given to it?

Yet already in the following ninth speech of the Master, Schiller has man speak already once again on the luminous height, which is his alone: "Joy unto me God hath given!," proclaims the first line, which reveals the successful casting of the bell, and with which a new register shift is appropriate.

The joyful voice defines the entire ninth and final reflection, whose last eight lines represent a coda, so to speak, for the poem.

Her tongue to destiny is lending,  
Herself has heart and pity not,  
With nothing but her swing attending  
The game of life's e'er-changing lot.  
And as the ring in ears is passing,  
Sent by her mighty sounding play,  
So let her teach, that naught is lasting,  
That all things earthly fade away.

After the entire "Song of the Bell" has traversed all the phases of man's very rich life, and the poet has cultivated, so to speak, all the registers, these lines fulfill the same objective which the coda achieves in musical composition. The poet makes us once more consciously comprehend what we have previously heard to a very detailed extent. And thus is generated a higher degree of self-consciousness about the poetic composition, and the process of Becoming, of perpetual change, for which the "Bell" also stands as a metaphor, is once again made quite directly the theme.

Now the reader or listener knows that what he has experienced and suspected during the entire poem, has been brought to the point. In this poetic completion lies intellectual beauty; it would not be superfluously said, the poetic idea is now realized. With the word-play "*Freude-Friede*" (joy-peace), the song of the bell rings out "*Concordia*."

The unity of poetic composition of this poem lies not only in the coherence of the process of the three different levels and the transfer of ideas associated with the various phases from one level to another, but also this unity springs above all from the rigorous motivic thorough-composition, which is the higher idea of the poem itself.

The process of Becoming, through which "all things earthly fade away," this continuously-following-one-after-another transformation of change, in which each phase follows necessarily from the previous one, gives the poem the compactness which distinguishes a Classical work. What makes the "Bell" so perfect, relative to the

accord of content and form, is the concrete working-out of a principle, of which Plato speaks in his *Parmenides* dialogue, that is, the principle of Becoming and of Change, which drives from one element to another. This succession is the unity in the multiplicity, it is the self-same development process, and indeed on all three levels, bound one with the other, which expresses the poetic idea of the poem.

The rigorous form in which "The Song of the Bell" is written, also clearly reflects the fact that the "secret of the laws which rule over the inner movements of the human heart" consist of not less than the principle of motivic thorough-composition, for the creative mind thinks in accordance with this and no other principle, and is conscious of the "inner voice." Schiller succeeds, in this poem, precisely in rendering transparent the "analogy which exists between these emotions and certain outer appearances," and for this reason, "The Song of the Bell" is of a perfection which seeks its own example.

In a letter to Caroline von Wolzogen, Schiller wrote: "It is somewhat mysterious in the effect of music, that it moves our innermost, so that it becomes a copula between two worlds. We feel ourselves broadened, heightened, devout—what is that called, other than drawn into the universality of nature, toward God? Music is a higher, finer language than words. In moments when, to the heightened soul, each expression appears too weak, when it despairs of capturing the fine nuances of its feeling in words, there begins the art of music. Every first song had this foundation."

Schiller's poetry is best captured under the category of song. The bell-casting song represents now especially the proof of the thesis, put forward at the outset, that music has developed from Classical poetry, and not from dance rhythms, because, as it has been shown, the principles of the two are the same.

It is Andreas Romberg, who in 1809 crafted a musical composition to "The Song of the Bell," taking credit for having attempted at all to compose as complex a work as Schiller's: But he did not make use of the method of this poem, which already embodied in itself so completely the principle of motivic thorough-composition, to himself now once more motivically thorough-compose.

The basis for doing so lies in the reflections which Beethoven communicated to his student Carl Czerny: "Schiller's poems are of the uttermost difficulty for music. The composer must know how to elevate himself far above the poet. Who can do this with Schiller? With Goethe it is much easier."



# In Celebration of Ludwig van Beethoven's 225th Birthday

by Anno Hellenbroich

A number of studies have been published recently on Beethoven's late works, taking up Beethoven's creative thought process in a radically new way, with the aid of examples from his late quartets. These include: Bruce Director, "What Mathematics Can Learn from Classical Music" (1994)<sup>1</sup>; Lyndon H. LaRouche, Jr., "On the Subject of Metaphor" (1992)<sup>2</sup> and "Mozart's 1782-86 Revolution in Music" (1992)<sup>3</sup>; Jelena Wjaskowa, "The Initial Stage of the Creative Process in Beethoven: A Study, with Sketches of the First Movement of the Quartet Op. 130" (1988)<sup>4</sup>; Lyndon H. LaRouche, Jr., "Beethoven as a Physical Scientist" (1989)<sup>5</sup>; and others.<sup>6</sup>

If, today, 170 years after the debut performance of the Quartet in A minor, Op. 132, one listens to the legendary Amadeus Quartet's recording of this work, and if one goes over it repeatedly in one's mind, it cannot fail to grow into an ever greater whole—a whole which, to one's astonishment, lays bare to one's reflecting consciousness, the work's internal coherence.

All attempts to mystify this artistic actuality of the creative process in Beethoven—attempts such as those of the Romantics up through Wagner; or, on the other hand, to formalize his work, such as has been done by the Frankfurt School and its epigones (e.g., "The Formal Strategies of the Late Quartets"); or, finally, to simply deny the existence of Beethoven's unique creative accomplishment—all these attempts, when judged against the sheer greatness of his compositions, as anyone can

confirm for himself, remain just what they are: a waste of time.

## The Classical Ideal of Beauty

In the midst of creating his A minor Quartet, Beethoven wrote a letter to the Berlin lyricist and critic Ludwig Rellstab, dated May 3, 1825, asking Rellstab to convey a greeting to Carl Friedrich Zelter, "the staunch defender of true art," and ended with this postscript: "I remain extremely weak during my convalescence; please accept this small token to remind you of your friend Beethoven—'Das Schöne zu dem Guten' ('The Beautiful Added to the Good') [SEE facsimile above].

Anyone today who wants to properly understand Beethoven's powerful creative accomplishment in the latter years of his life, must always keep in mind this theme of "the Beautiful added to the Good," a theme that repeatedly crops up in Beethoven's thinking. This is because, for Beethoven, "progress" in art is "science," but a kind of science that is inextricably bound to the ultimate aim of perfecting the individual human being. Beethoven was brimming with the aspirations of great Classical humanism, among which was to "ennoble" individual human beings and mankind as a whole. Representatives of the "Vienna Circle" and the Frankfurt School, on the other hand—with Theodor Adorno in the forefront—have attempted to treat Beethoven's artistic accomplishments as something completely separate from this moral and scientific orientation toward the goal of musical lawfulness. But

THE PRINCIPLE OF  
*Motivführung*



The Bettmann Archive

*Ludwig van Beethoven (center) and the Razumovsky quartet. To the left are Joseph Haydn (seated), Beethoven's student Carl Czerny (standing), Princess Lichnowsky (standing) and the Baroness Dorothea of Erdmannsdorf (at piano). The violinist Ignaz Schuppanzigh is standing to the right of Beethoven.*

to deny the connection between these fundamental convictions and the ideal of Beauty in the late quartets, means not to understand Beethoven at all.

## Evidence of How Beethoven Worked

The celebration of Beethoven's 225th birthday is a good occasion to gain a new grip on what "creative thought processes" actually are. Amid the currently prevailing ideology of "information theory," Beethoven's work shines out like a solitary beacon of creative Reason. And more than with any other artist, there exists a wealth of written evidence of his compositional working methods. Beethoven's correspondence with his publishers, for example, provides us with a good insight into his precise, indeed excruciatingly meticulous, examination of works being prepared for publication. The more than seven thousand sheets of sketches which have been found so far, some of them from pocket notebooks he used while taking walks, and some used as household sketchbooks for initial drafts, provide invaluable insight into how compositions grew under the composer's hands. So far, only a small portion of these sketches has been made available to the broader public through transcriptions and commentaries; unfortunately, the Beethoven Archive in Bonn continues to open up this treasure-chest much too slowly. On top of this, Beethoven's conversation notebooks, dating from the time of his increasing deafness,

contain entries by his countless visitors, as well as occasional entries by Beethoven himself. Almost all of these have now been published, and are an invaluable source. And if one also takes into account the countless reports written by contemporaries, it is truly possible to gain precise historical insight into how Beethoven thought and worked.

The sheer quantity of Beethoven's output during the years of the late quartets, was monumental. After receiving a commission in 1822 from Prince Galitzin for three quartets, Beethoven worked between 1822 and 1825 on the E-flat Major Quartet Op. 127, which was first performed on March 6, 1825. In 1824 and 1825 he composed the Quartet Op. 132 (first performed in September 1825). The Quartet Op. 130 was composed between May and November, 1825, the Op. 131 over the course of 1825-26, and the Quartet Op. 135, as well as the final version of Op. 130, were completed during the last two years of his life. For the Quartet Op. 131 in C minor alone, there are over six hundred sheets of sketches, which give us a peek inside the workshop of this "constructively" creative artist. And, as is perhaps more well known, during the same period, the Ninth Symphony (1822-24) and the monumental *Missa Solemnis* (1819-23) were also composed. Much of the labor of correcting, checking, and copying other works, such as the "Consecration of the House" Overture Op. 155, and the Bagatelles Op. 126, also falls into this same 1824-25 period.

## The Late Works and the Musical Unit-Idea

Jelena Wjaskowa writes in her paper on the sketches for the first movement of the Quartet Op. 130, that “Beethoven belongs to that relatively rare type of composer, who ‘record their own process of composition,’ i.e., they set down on paper every thought which has occurred to them, every doubt, every variant—the entire course of the ‘thought process’ necessary for the realization of their intent.” Concerning this creative process, Lyndon LaRouche wrote in his pioneering essay “Beethoven as a Physical Scientist”: “It ought to be obvious that Beethoven’s last quartets, beginning with the Op. 127, and including the Große Fuge Op. 133, must be treated as a unit-series of exposition of the same species of musical idea, in the same sense that the Op. 106, 109, 110, and 111, must be viewed as a unit-idea series. This sequence of unit-idea series, in Beethoven’s last period of composition, begs comparison with a succession of stages of valid scientific revolutions. Each unit-series of compositions is much more than a specific musical composition; it is a musical scientific revolution, from which music must not turn backwards. Hence, the occurrence of these so emphatically in clusters of closely related compositions, even much more so than in Beethoven’s earlier publishing practice.”

This question of the “sequence of unit-idea series,” ruled by the Classical ideal of Beauty, as the central theme of any work of Classical art, and of its aesthetic effect, was addressed by Friedrich Schiller in his philosophical essays. Schiller introduced a concept of “bounding,” which later came to have an increasingly important influence in the development of geometry, and especially in the mathematics of Georg Cantor. Cantor defined “generative principles,” as well as a “principle of bounding or constraint,” in the determination of infinite manifolds of increasing power (“cardinality”).<sup>7</sup>

Since Beethoven’s later works increasingly show “new musical solutions” as “successive discoveries” of new connections, we must seek, from our present-day standpoint, to replicate this conception of “higher Types of musical manifolds” in our understanding of Beethoven’s compositional method—without, however, raising any claim that Beethoven explicitly thought in those terms. Yet, that is, in fact, the way he composed. For example, the central importance of the development of the C-minor figure—the “Royal Theme” from J.S. Bach’s *Musical Offering*—in giving generations of Classical composers, especially Mozart and Beethoven, the challenge to offer ever bolder “solutions” and extended “thought-objects” of great, musical “metaphors,” has been shown.<sup>8</sup>

In this connection, Schiller’s notion of the “overcom-

ing of constraints,” or, in musical terms, of the creation of new orders of lawfulness within the well-tempered system, is of crucial importance for understanding the laws of construction of Beethoven’s late works. In a much too little noticed essay against Kant, “On the Estimation of Aesthetic Magnitude,” Schiller writes:

A certain maximum magnitude is prescribed to every thing, either through its *species* (if it is a work of nature), or (if it is a work of freedom) through the *constraints* arising from its underlying cause and purpose. We employ this measure of magnitude, more or less consciously, in every observation of objects; but our perceptions are very different, depending upon whether the measure we apply is more fortuitous or more necessary. If an object exceeds the idea of its species-magnitude, it will, to a certain degree, put us into a state of *bewilderment*. We will be surprised, and our experience expands, but insofar as we take no interest in the object itself, what remains is simply a feeling, that the magnitude which we expected has been exceeded. We have derived this measure merely from a series of empirical experiences, and there is no necessity whatever at hand that it must always fit. If, on the other hand, a product of freedom exceeds the idea which we established for ourselves about the constraints of its cause, we will no doubt feel a certain sense of *admiration*. What startles us in such an experience is not merely the exceeded expectation, it is at the same time that the constraints have been cast off. There, in the earlier case, our attention simply remained on the *product*, which was of indifferent concern in itself; here, our attention is drawn toward the *generative force*, which is moral, or is at least associated with a moral being, and as such it must necessarily interest us. This interest will increase just to that degree, that the force constituting the active principle is the more noble or more weighty, and the constraint which we find exceeded is the more difficult to overcome.<sup>9</sup>

Schiller’s observation here, that in the case of compositions (“works of freedom”), the creative output (“generative force”) in the overcoming of the bounds of given musical rules—such as the use of the “Lydian” to replace the major-minor system (the “casting off of constraints”)—produces amazed admiration, quite precisely describes Beethoven’s own working principles in his later works.

## Opus 132 and the Lydian

Let us use a concrete example to explicate the foregoing point. Numerous attempts have been made to explain the A minor Quartet, especially its third movement, which bears the inscription: “Heiliger Dankegesang eines Genesenden an die Gottheit, in der lydischen Tonart” (“A convalescent’s holy song of thanks to the Deity, in the Lydian mode”). Many descriptive musical commentators of the

FIGURE 1. Ludwig van Beethoven, *String Quartet Op. 132 in A minor, measures 1-12.*

“old school” have ascribed this work, “programmatically,” to Beethoven’s successful recovery from a serious illness on April 25. A more serious approach, however, is offered in a study by the head of the Beethoven Archive, Sieghard Brandenburg. With the help of sketches, and also from verifiable information about the state of historical knowledge in Beethoven’s musical tradition, Brandenburg has been able to present some of the background to the question of the “chorale” and of Beethoven’s dealings with the “Lydian.”<sup>10</sup>

But it was the work of Bruce Director *et al.*, that first pointed out an aspect of the “Lydian musical interval” (meaning, narrowly defined, the interval between F and B-natural), which yields a much more far-reaching understanding of the internal composition the entire quartet, as well as of Beethoven’s much more complex conception in the opening bars of the first movement. The construction of the entire quartet has been shaped, of course, in a “vocal-recitative” manner, and connections to the Ninth Symphony are quite apparent. But from a compositional standpoint, here in this quartet Beethoven has created a “unit-idea” of the “Lydian interval,” whose far-reaching significance has not been adequately recognized heretofore. Already in the eight-measure exposition of this “multiply intertwining manifold” (*Assai sostenuto*), Beethoven, in his juxtaposition of the four

instrumental voices, which are united by the ‘cello’s playing of the basic interval-idea—a fifth A-E “constrained” by half-steps on either side (the “leading tone” G# upwards, or, in inversion, F downwards)—produces, on every beat beginning with measure 3, an ever denser number of “Lydian intervals”—if we consider merely the “vertical” juxtaposition of the voices. If one then considers the further unfolding of the first movement has a “succession of increasing manifolds” of musical unit-ideas, we see that Beethoven has created a “generative,” but at the same time “constraining” principle (in the form of the Lydian interval). Thus, as is demonstrated in “What Mathematics Can Learn from Classical Music,” the sequence A-B-C-B-A-A-G#, which is actually presented in the ‘cello’s upper register, can be “replicated” in the mind as the first “derivative” of the preceding “work” of the first ten measures [SEE Figure 1]. This tone-sequence has much the appearance of a “motive” or “theme” developed earlier by Haydn and Mozart for thorough-composition; but Beethoven composed it on a new “plane” of manifold lawfulnesses, creating thereby a “new metaphor.” This creative process in Beethoven can be better understood today from the standpoint of our knowledge of the development of the Cantor and Riemann’s “theory of manifolds.” To put it in the words of Georg Cantor (whose 150th birthday was celebrated this

year in his hometown of Halle, Germany):

Theory of manifolds: With this term I describe a very comprehensive pedagogical concept which, up to now, I have only attempted to elaborate in the special form of a theory arithmetic or geometric aggregates. Namely, by “manifold” or “aggregate” I generally mean that Many which can be thought of as One—i.e., that totality of determinate elements which can be united into a whole by means of some law; and with this I believe I am defining something related to the Platonic *eidōs* or *idea*, and to what Plato, in his dialogue *Philebos*, or, *The Highest Good*, calls *mikton*. To this, Plato counterposes the *apeiron*, i.e., the Unlimited, Indefinite—which I, for my part, call the non-genuine infinite—as well as *peras*, i.e., boundary, and declares the former to be an ordered “mixture” of the latter two.

### ‘The Whole . . . Inside My Head’

It is striking that Beethoven’s later works are increasingly dominated by the paradox of “that Many, which can be thought of as One,” as the “totality of determinate elements which can be united into a whole.”

Beethoven himself, in a number of remarks, referred to the significance of the “whole” in the creative process. Thayer-Deiters-Riemann report in the celebrated *Life of Beethoven*,<sup>11</sup> that among the sketches for the Quartet Op. 95 (circa 1810) one finds the following entry in Beethoven’s handwriting: “Sich zu gewöhnen gleich das ganze—alle Stimmen wie es sich zeigt im Kopfe, zu entwerfen” (“Get accustomed right away [to] the whole—sketch out all voices, as it appears in my head.”) Thayer (Riemann, Deiters) comments on this: “This surely means (the comma after “Kopfe” is missing in the original) that in the future, Beethoven wanted to accustom himself to jotting down not only the melody lines in his sketchbooks, but also the harmony or contrary voices—the whole, as it sounded within his own imagination. Apparently, he occasionally had the experience that when the same idea re-emerged in his imagination, certain things no longer appeared along with it, and that loss was bothersome to him.”<sup>12</sup> It is certainly indisputable that memory is essential in the creation of new works. Yet this commentary fails to acknowledge Beethoven’s crucial conviction—that of the Platonic *eidōs* or *idea*—which Beethoven expressed in this note to himself.

Thayer also mentioned a recollection of Charles Neate (an English pianist and promulgator of Beethoven’s works in England) of a conversation he had in 1815 with Beethoven while on a walk near Baden. Neate was attempting to impose an interpretation of the “Pastoral” Symphony (No. 6) by insisting that Beethoven had a great “gift” for “drawing musical pictures.” Beethoven, however (according to Neate) answered by giving an

entirely different meaning to the word “picture”—namely, in the sense of the *eidōs*, the thought-object: “I always have a picture in my thoughts when I am composing, and I work toward it.”<sup>13</sup> Here, as in his work on the Quartet Op. 95, Beethoven had in mind “the whole” in the creative sense, and thus the One, in the Platonic sense, which guides the creative process. We are reminded of the correspondence between Schiller and Körner on the musical setting of poems, where Schiller insists that “The music must never just paint words and concern itself with petty games; rather, it must follow only the spirit of the poetry as a whole.”

In 1814, Beethoven wrote the following in a letter to Treitschke, who had assisted him in the arduous task of reworking his opera *Fidelio* for a second time: “Now, of course, everything has to happen all at once, and I could more quickly write something completely new, than add the new to the old. The way I am accustomed to write—in my instrumental music, too—I always have the whole before my eyes; but here, my whole has been divided up all over the place in a certain way, and I have to think my way into it all over again.”<sup>14</sup>

### Beethoven’s Working Methods

Too little emphasis is generally given to the carefulness and constant scientific curiosity which characterized Beethoven’s way of working. Even a superficial survey of the subjects and themes which Beethoven jotted down in his sketches (according to Hans Schmidt), gives some reflection of this. Entries include: exercise studies from C.P.E. Bach’s *Essay on the True Art of Playing the Clavier*, figured-bass exercises, counterpoint studies and finger études, experiments in the old church modes, liturgical sequences in F major, *Metrics of the German Language* by Voss, etc. Of the numerous works of others which Beethoven copied out by hand, the following are most notable: Handel’s *Messiah*, sonnets by Petrarch, J.S. Bach’s “Chromatic Fantasy,” Mozart’s G minor Symphony No. 40, parts of the B-flat minor and B-flat major fugues from Bach’s *Well-Tempered Clavier*, Bach’s *Art of the Fugue*, the vocal quintet from the first act of Mozart’s opera *The Magic Flute*, and Handel’s Fugue in G minor.

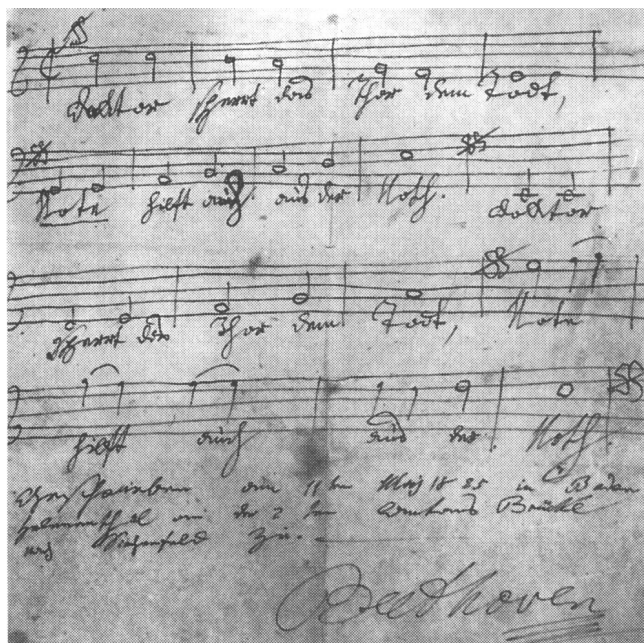
In his sketchbook entries from the period when he was working on the A minor Quartet in 1825, one finds, alongside everyday matters such as his worries about his nephew and thoughts on current political events, that Beethoven had very special reading interests as well. For example, the pages of his conversation book covering the months of April and May 1825 also contain initial sketches for the A minor Quartet. One particular entry there reveals that Beethoven was also experimenting with tone-sequences above which he wrote the word “Dor,” i.e., the

Dorian mode. The same page also contains an entry about books for sale: "I.H.F. Meincke's *Handwörterbuch der Metrik* etc. [*Pocket Dictionary of Metrics*] Leipzig 1825." His nephew mentions the price of a book *Schiller's Life*. Following this are further sketches on the quartet's "chorale" section. Below this is a copy of an advertisement from the *Wiener Zeitung* which gives prices for books, including "il parnasso italiano la divina commedia di Dante alighieri—la gerusalemme liberata di Tasso etc." These rather arbitrarily selected pages give some idea of the literary interests which Beethoven had throughout his adult life—along with Plato, Shakespeare, and Goethe. And, scattered between the lines, one can read about where one can find the best red wine in the city, and advice to Beethoven to stick to a healthy diet: "At lunchtime, instead of stewed beef, you should have steak brought to you, which greatly strengthens you." Further on, his nephew reports on the advice offered by Dr. Braunhofer, who treated Beethoven during his serious illness in April 1825: "You should eat something so that the wind gets pressed out of you," and, once again, there is an admonition to eat only "steak for lunch." On May 11, 1825, having recovered from his illness, Beethoven sent a letter to Dr. Braunhofer, containing the canon "Doktor sperrt das Tor dem Tod, Note hilft auch aus der Not" ("Doctor, bar death from my gate, notes help one out of trouble, too") [SEE facsimile above].

And again one finds notes in Beethoven's hand concerning his nephew Karl: "I see Karl has gotten very pale—the cold mountain air must be at fault for the bleeding." Then a few notes on mundane affairs: "patent pen nib by Gänsekiel etc.," another note that at "the Wallishauer High Market [one can obtain] *Schiller's Life* by Döring with Schiller's portrait etc. paperb."—a book which his nephew apparently did buy for him later on.

## Beethoven Research in Russia

In connection with the story of how the A minor Quartet Op. 132 was composed, reference is frequently made to Beethoven's entries in the later, so-called "Moscow Sketchbook," which, like the sketchbooks and loose



Beethoven's canon, "Doctor, bar death from my gate . . ."

sheets at the Beethovenhaus in Bonn ("De Roda," etc.), contains sketches on this quartet. The entries in the Moscow Sketchbook are mostly related to the later movements of the quartet (they also contain sketches for Op. 130). As mentioned above, at present there exists no complete transcription and presentation of all the sketches for the A minor Quartet, and thus no comprehensive discussion of how this quartet came to be. (In 1988, Mrs. Wjaskowa mentioned the existence of a plan for such a study, but so far it has not appeared in print.) In 1927, this sketch-

book was published in facsimile form, along with a description of its content, by Prof. M. Ivanov-Boretzky in *Musikalische Bildung* (Moscow). In his introduction, Professor Boretzky writes: "It has been known for a long time in Russian circles, that somewhere in Moscow there was a Beethoven sketchbook in private hands. In 1910, the renowned scholar of ancient Russian church music S.W. Smolensky published an article in the *Russische Musikzeitung* containing the news that he was in the possession of a remarkable original manuscript—Beethoven's sketchbook." Smolensky wanted to publish it, but he evidently did not do so. Boretzky then reports on earlier diary entries by S. Taneyev, which shed a bit more light on the history of this sketchbook, which is now kept at the Glinka Museum in Moscow.

This little story throws a spotlight on a Beethoven tradition in certain Russian circles, which has a very special significance from our 1995 perspective, now that Leningrad has once again become St. Petersburg.

The late Beethoven scholar Nathan Fischman reports on how the son of Prince Galitzin took the autograph manuscripts of the A minor Quartet and of the Op. 130 quartet from his estate and presented them to the great violinist Joseph Joachim. It is known that Prince Nicolai Borissovitch Galitzin (1794-1866), who was a gifted 'cellist, came into contact with Beethoven in 1822, and in a letter to him, offered him 150 ducats to compose three string quartets—an offer which Beethoven accepted. Beethoven dedicated the three quartets Op. 127, 130, and 132, as well as his Overture to "The Consecration of the House" Op. 124, to Galitzin. It was also this same Prince Galitzin, who interceded with Tsar Alexander I to obtain

*Violinist  
Joseph Böhm*

The Granger Collection, NY



*Beethoven's  
patron, Prince  
Nikolai Galitzin.*

The Granger Collection, NY

*Violinist  
Joseph Joachim*

The Bettmann Archive



prepayment to Beethoven for a fair-copy of the score of the *Missa Solemnis*, and the prince himself also subscribed for an additional copy, which he received in late 1823. It was also he who set into motion preparations for the first full performance of the mass, which occurred on April 7 (March 26 old calendar), 1824 in Petersburg.

As Fischman reports it, the autograph copies of these quartets were not the only items sent to Russia, but also a copy of Beethoven's very first string quartet. This score apparently reached Russia *via* a friend of Beethoven, the violinist Karl Amenda, who traveled to Courland (now western Latvia) in the summer of 1799 on family matters, and later settled in the Latvian city of Talsen. Fischman comments that these quartets "were there [in Russia] long before they had ever appeared in print. This sheds light on a characteristic feature of the Beethoven tradition in Russia at the beginning of the last century: The earliest ones to partake of Beethoven's creativity, were amateur players of string quartets." (For example, in 1804, the String Quartets Op. 18 were played by a family ensemble of J.M. Wielhorsky [1753-1807], one of the founders of the St. Petersburg Philharmonic Society. Seven years later, the Op. 59 quartets, dedicated to Prince A.K. Razumovsky, were performed in Moscow.)

## Galitzin and Joseph Joachim

On June 21, 1825, Galitzin wrote from Petersburg to Beethoven in Vienna (in French): "Yesterday I received your last letter of June 4, just as we were playing your new quartet, and I can say: with perfection, since Mr. Lipinsky was playing first violin." Galitzin was speaking of the Quartet Op. 127 in E-flat major. He had received the manuscript of this work from Beethoven in March 1825, and one year later, the manuscripts of the other two quartets dedicated to him arrived: Op. 132 (A minor) and Op. 130 (B-flat major). These two latter autographs remained in the family's possession for 36 years. On March 16, 1882, Galitzin's son, the orchestra director Yuri Nikolayevitch, while he was in London, attended a concert performance of the quartet featuring Joseph Joachim. The following day, he wrote this letter to Joachim: "There is no other way that I can express to you the joy with which I listened to your performances yesterday of the great A minor Quartet by Beethoven, than to ask you to accept the enclosed manuscript. Since it is a double memento—of Beethoven, and also of my own father—for me this is, of course, a sacred heirloom. But that is precisely why I consider it the correct



thing to do, to place it into Joachim's hands." A postscript to this letter also indicates that along with the autograph of the Quartet Op. 132, Joachim also received from J.N. Galitzin the Quartet Op. 130. In 1889, Joachim took both manuscripts to the newly-founded Beethovenhaus and presented them as a gift. Fischman, in his review of the Beethoven autograph manuscripts in Russia, also mentions sketches for a Ukrainian song (WoO 158/1, No. 6), and sketches for the *adagio* movement of the Hammerklavier Sonata for Piano Op. 106. The second page of the latter book contains notations indicating that in 1844 it was in the possession of J.B. Streicher of Vienna, son of Johann and Nanette Streicher, who were good friends of Beethoven (and also of Schiller).

## Beethoven, Joseph Böhm, and the Vienna School

Prince Galitzin's son's presentation of the autograph manuscript to Joseph Joachim is testimony to an extraordinary understanding of Beethoven's works and to a "living" Beethoven tradition, traces of which can be felt down to the present day. Consider what happened at the Austrian debut of the first quartet dedicated to Galitzin, Op. 127. Under the direction of Ignaz Schuppanzigh, the performance, on March 6, 1825 went unsatisfactorily; it was merely a "weak *succès d'estime*," as the violinist Joseph Böhm reported later. The conversation books from that time show that Beethoven held his friend the violinist Schuppanzigh, who had led the Quartet Association for years, as chiefly responsible for the flop. Beethoven and Schuppanzigh got into a nose-to-nose argument (the following reproduces Schuppanzigh's written side of the conversation, with dashes for Beethoven's verbal interruptions; note that Schuppanzigh addresses Beethoven in the extremely formal third person, as "he," "his," and "him"):

Schuppanzigh: His brother is a real dolt. I said that I would not present it [the quartet] before it was really perfected. — How can he think that of me, after I have certainly acknowledged it to be the greatest quartet ever? — It is true that we did it too early, and that it didn't come off as it should have; but that wasn't the fault of myself alone, but of all 4 of us. — That's a despicable lie. — That's silly babbling, I'm not capable of saying such a thing. — I was misunderstood, I said that I didn't want to give [it] on the following Sunday, because it's still too new and too difficult for us. — Does he, then, believe everything his brother says? I haven't seen his brother since the quartet. — Who adores him more than I do? — Give me my part to study, and then a week from tomorrow we'll give it as well as it's in our power to do. — Believe me, there's a whole pack of hangmen here, who don't know what to say about me when it comes to performance technique, they can't get

## The Böhm Family and Georg Cantor

One of the remarkable aspects of our celebration of Ludwig van Beethoven's 225th birthday, is the fact that, from our present-day vantage-point, important affinities in the domain of the history of ideas, also show amazing historical family connections. Georg Cantor's pioneering accomplishments in creating the theory of manifolds ("theory of aggregates") are rather well known. Earlier in his life, however, Cantor had great enthusiasm for pursuing an artistic career. He was born in 1845 in St. Petersburg. Since 1834-35, his father had had a successful brokerage business there. Cantor's mother, Marie Böhm, came from a very well-known family. Her father, Franz Ludwig Böhm, was director of the Imperial Opera in Petersburg. And beginning in 1819, Franz's brother Josef, born in Hungary, was professor for violin at the Vienna Conservatory—the same person whom Beethoven called upon to play his E-flat quartet. Georg Cantor's brother is said to have been a proficient pianist; Cantor's daughter Else became a well known singer and music teacher.

anywhere near me, and so they come around, infected with such piggishness, it's all from the Buring Conservatorial Appendix [Schuppanzigh means Pieringer (the second violinist) and Merk, who were employed by the conservatory and who were performing quartets along with Böhm] — Just let his brother tell me that to my face. — Sure, I have played it often. — It's certainly not any more difficult than the 2nd or 3rd [quartet]. Böhm isn't capable of playing his quartet right, I insist. . . . The public quartet performances go as well together that way, as they could possibly go. There aren't any mechanical difficulties in there, it's only the originality that makes it difficult, which you can't grasp at first sight. — If Böhm gives it for his benefit, I have nothing else to add; but if nothing comes of it, just give it back to me again, and I promise it will go well. — He mustn't imagine that it really went off all that badly; at these few rehearsals it went quite well. — I'm absolutely not saying that it went perfectly. — I just said that I can't be angry at him over the fact that this obscenity is just his brother's stupid babblings.<sup>15</sup>

But despite Schuppanzigh's pleas, Beethoven, finally fed up with Schuppanzigh's evidently slapdash playing, entrusted Joseph Böhm with the task of performing this quartet. Böhm later reports, very precisely:

When he heard this, Beethoven flew into a rage, and both the public and the performers were taken to task with harsh words. Beethoven could not rest until vengeance had

been exacted. He sent for me very early in the morning. In his usual brusque manner, he told me, “You must play my quartet”—and that was that. Further comments, second thoughts were of no avail: what Beethoven wanted, just had to happen. There was diligent study, and frequent rehearsals under Beethoven’s own watchful eyes. And I do not say “under Beethoven’s watchful eyes” lightly, since the unfortunate man was already so deaf by then, that he could no longer hear the divine sounds of his own compositions. But a rehearsal in his presence was still no easy matter. With unbroken attention, his eyes would follow the bow, from which he could discern even the slightest unsteadiness in tempo or rhythm, and could correct it immediately. It was this quartet that had a *meno vivace* at the end, which seemed to me to weaken the effect of the whole. I therefore recommended that at the rehearsal, the tempo should remain unchanged at that point, which was done, and which indeed did make a better impression. Beethoven, meanwhile, crouched in a corner, not hearing it at all, but watching with unbroken attention. Then, after the final stroke of the bow, he said laconically, “Can stay that way,” went to the music stand, and crossed out the *meno vivace* in all four parts. The quartet was finally performed, and was received with a veritable storm of applause.<sup>16</sup>

Professor Joseph Böhm was a much sought-after violin teacher, whose “Viennese School” later produced generations of great violinists and also influenced Joseph Joachim. When one listens to a performance of Beethoven’s late works by the Amadeus Quartet, one can also hear, in this ensemble’s forty years of work on these late works of Beethoven, something that has been passed on directly, from person to person, from Böhm’s personal work with Beethoven, *via* such teachers as Jakob Grün, Joseph Joachim, Max Rostal, Carl Flesch, to the Amadeus Quartet’s first violinist Norbert Brainin.

On the debut of the Op. 127 with Böhm as first violinist, the *Theaterzeitung* wrote on April 28, 1825: “A stalwart friend of art and noble connoisseur put on a new production of this quartet by the above-mentioned gentlemen, but with the first chair occupied by Prof. Böhm, since in the meantime he had played the new quartet with great success before a smaller committee of artistic judges. This professor presented this wonderful quartet two times during the same evening, before the same quite numerous audience of artists and amateurs, in such a way that nothing more could possibly be asked for; the veil of clouds disappeared, and the magnificent work beamed forth in full glory.”<sup>17</sup>

## Rediscovering Beethoven’s ‘Inventions’

It is still customary in artistic professions, and also often among great physicists, to view one’s own accomplishments in the light of one’s own teacher—a line which often stretches back across many generations of the same

“school,” such as can be seen with the tradition of the Vienna School of violin-playing down to the present day. Within the historical Classical intellectual tradition, this is even more strongly anchored in people’s consciousness, than it is with the “modern schools.” This is yet another confirmation that “schoolbook knowledge” is merely dead knowledge—as opposed to having been educated by a teacher who assists the student in “reliving” previous discoveries. For this reason, Beethoven’s late works, when they are performed in the Classical spirit, never fail to be a treasure-trove of new discoveries.

Norbert Brainin of the Amadeus Quartet described Beethoven’s artistic significance for today in the following terms: “It is my view that Beethoven, during his last ten years of life, was the greatest artist who ever lived, regardless of his particular artistic field. No one has ever even come close to him. He stood completely alone. This is shown especially in his last six string quartets, which are really unique. Nothing comparable has ever been composed, written, or fashioned. And for this basic reason, people such as myself and others, have devoted their entire lives to the task of mastering the art of string quartet playing, so that we can play Beethoven’s six late quartets. That’s really what it’s all about.”

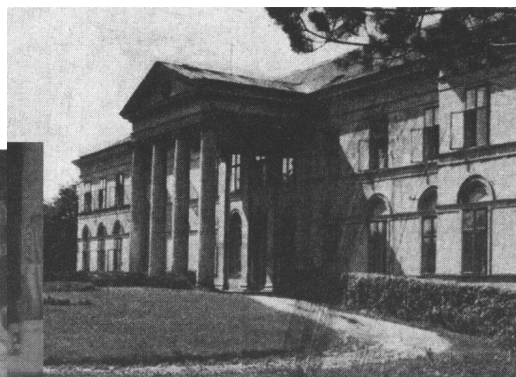
## NOTES

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3. *Fidelio*, Vol. I, No. 4, Winter 1992, pp. 4-29.
4. In Harry Goldschmidt, ed., *Zu Beethoven 3, Aufsätze und Dokumente* (Berlin: 1988).
5. *Executive Intelligence Review*, Vol. 16, No. 22, May 26, 1989, pp. 16-37.
6. I.e., *Beethoven, Interpretationen seiner Werke, Bd. II*, ed. by Albrecht Riehmüller, Carl Dahlhaus, and Alexander L. Ringer (Laaber: Laaber-Verlag, 1994).
7. See Bruce Director, *op. cit.*
8. See Hartmut Cramer, “Mozarts Bach-Studien: Schlüssel zu Seinen Werke,” *Ibykus*, Vol. 10, No. 36, 3rd Quarter, 1991.
9. In *Friedrich Schiller: Poet of Freedom, Vol. II*, ed. by William F. Wertz, Jr. (Washington, D.C.: Schiller Institute, 1988), pp. 439-40.
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*Prof. Norbert Brainin (left) speaks with the Schiller Institute's Anno Hellenbroich, while the Moyes Quartet rehearses.*



EIRNS



*Dolna Krupa Castle*

*Prof. Brainin plays with the Moyes Quartet.*



EIRNS/Anno Hellenbroich

# Reviving the Classical Ideal in Slovakia

by Elisabeth Hellenbroich

Only an hour's drive from the Slovakian capital Bratislava stands Dolna Krupa Castle, the former summer residence of the Brunswick family, which was influential in Ludwig van Beethoven's artistic efforts. There, on Sept. 20-22, something took place that will go down in the annals of the history of Twentieth-century music.

The first violinist of the legendary Amadeus Quartet, Prof. Norbert Brainin, had his first opportunity to hold master classes with two leading quartets, during which

he "made visible" the fundamental principles of motivic thorough-composition (*Motivführung*) in Classical musical composition, especially in regard to the works of Ludwig van Beethoven. The three-day musical seminar, concluding with a concert

THE PRINCIPLE OF  
*Motivführung*

given by Dr. Brainin and pianist Dr. Günther Ludwig in the Primatial Palace of Bratislava, was sponsored by the Schiller Institute, the Slovakian "Solupatricnost" Foundation, and the Slovakian Schiller Foundation for the Protection of Life and Human Rights. The inspiration for this musical seminar, however, as Schiller Foundation head Dr. Josef Mikloško emphasized in his greeting, came from Lyndon LaRouche, who one year earlier was the featured lecturer at a week-long student seminar with 150 young people from

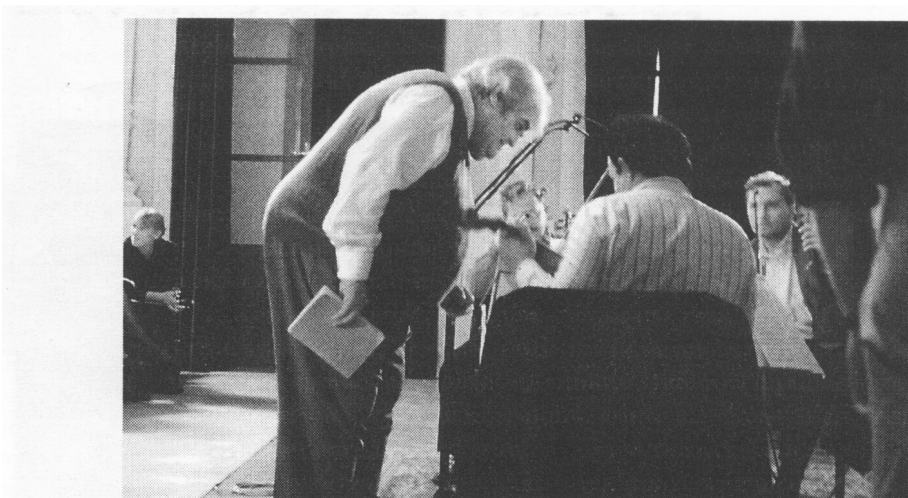
eastern and western Europe, who met in Smolenice, a town not far from Dolna Krupa. Miklosko said that it was LaRouche's hope that this project would develop into an institution of quartet master classes for young artists from East and West.

Anno Hellenbroich of the German Schiller Institute presented an overview of the purpose of the three-day musical seminar. Following the production of an initial documentary film of a master class held in 1993 by Norbert Brainin with the German Henschel Quartet on the principle of motivic thorough-composition in Haydn and Mozart, the task now was to document this principle more extensively on film, using as examples Beethoven's String Quartet Op. 59, No. 2, and his late Quartet Op. 127 in E-flat major. This should provide an opportunity, especially for the young artists present, to come to grips with the crucial questions of the nature of a Classical work of art and its adequate interpretation—a kind of knowledge that we are in danger of losing altogether.

Beethoven scholar Dr. Ballova reported on the close connections between the Brunswick family and Beethoven (local legend has it, that Beethoven composed his "Moonlight" sonata in Dolna Krupa), and drew a compelling picture of Beethoven's influence on music-making in Slovakia. Such influences included Beethoven's close collaboration with Nikolas Zmeskall, and the important efforts of the Pressburg Liturgical Music Association in preparing a good reception for Beethoven's *Missa Solemnis*.

## Making 'Motivführung' Visible

Professor Brainin then took the stage. "Actually, the reason why I am here, is to make *Motivführung* visible to you. This question has always



EIRNS/Anno Hellenbroich



EIRNS/Anno Hellenbroich

Left: with members of the Auer Quartet.

been very close to my heart. For a long time I have been carrying it around inside me, and for a long time this idea found no echo with anyone else." The one person who did grasp the importance of the *Motivführung* of Haydn, Mozart, and Beethoven, Dr. Brainin continued, was Lyndon LaRouche. "That is what unites us and brought us together. . . . Lyndon has understood the importance of *Motivführung* in Haydn; Mozart understood it—but when we look at the output of present-day Haydn and Mozart scholars, we must conclude

that they haven't the slightest understanding of the problem. Yes, they have written a lot about it, but they are not dealing with the question in an adequate way."

*Motivführung*, Brainin explained, is a watershed in the history of Classical composition. What is meant by this term, is that the work is oriented to *one single* idea, thereby lending unity to the composition as a whole. Haydn, in his Op. 20 "Sun" Quartets, had *Motivführung* preconsciously in mind; but this only first became fully conscious to him in the six quartets of Op. 33. Mozart, who inten-

Left: with the  
Moyzes Quartet.



EIRNS/Anno Hellenbroich

Right and below:  
Prof. Brainin  
coaches the  
Istropolitan Trio  
from the Bratislava  
College of Music.



EIRNS/Anno Hellenbroich

sively studied Haydn's quartets, adopted this *Motivführung* method and developed it further. "Beethoven adopted the method from Mozart, and once said of himself: Before I knew this method [of *Motivführung*], I could not consider myself to be a fully developed composer." *Motivführung*, according to Brainin, "is a unique revolution. It has implications for science, poetry, political policy, and philosophy in general. Haydn, Mozart, and Beethoven comprehended it on the basis of their own inner creative knowledge. For, composers are indeed scientists—not scribes—

and they are great philosophers."

Two works by Ludwig van Beethoven were the focus of the following master classes which, ending each evening with a concert, Brainin held with the leading Slovakian Moyzes Quartet (which has been together for twenty years), and with the quite young, but extremely promising, Hungarian Auer Quartet.

The master classes began with Beethoven's Op. 59, No. 2, impressively performed by the Moyzes Quartet. This is a product of the "middle" period of Beethoven's creative life, and, as Brainin remarked

in an interview, for the first time reflects Beethoven's "conscious" work with the principles of *Motivführung* that he had adopted from Haydn and Mozart. At the same time, this work clearly points in the direction of Beethoven's late string quartets, all of which are built upon "a single foundation" and are connected to one another as a "motivic unity." In the Op. 59, No. 2, Brainin emphasized that everything can be derived from the very first measure—from the very first interval, a fourth. Whereas the second movement must be played correctly with an articulated *legato*, Brainin especially pointed to the third movement, with its "Russian theme," a theme which, as it were, met Beethoven's own idea half-way. Using passages from the Op. 59, No. 2, Brainin showed that *Motivführung* is derived from mutually related variants—"derivatives" of a single *Motivführung* idea that is heard in the initial measures and in the "Russian theme."

For the afternoon session, Brainin held a second master class, working with the Moyzes Quartet on Haydn's Op. 33, No. 3, and Schubert's "Death and the Maiden" Quartet (D minor, D. 810), and quite visibly demonstrated the principles of artistic interpretation. This is not simply a matter of playing nicely according to the rules; rather, one must, as he put it, be "free within certain bounds." One must play strictly in a certain sense, yet freely at the same time.

A young trio from the Bratislava College of Music, which in the evening performed works of the composers Suk and Martinu, played so impressively, that on the following day Brainin held a master class with them, too.

On the second day, Brainin worked with the Auer Quartet on Beethoven's String Quartet Op. 127

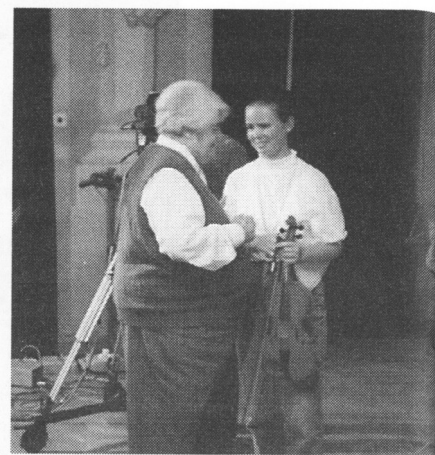
in E-flat major, which, in the opening measures, marked *maestoso*, presents, as it were, the motivic exposition for the entire cycle of late quartets. Brainin, referring to the motivic kinship of the work's movements, let the Auer Quartet play the entire piece with little interruption, since the excellently educated young artists presented this exceedingly difficult piece in such an impressively artistic way.

To give unity to the course of thinking over the three days of seminars—the audience included guests from Slovakia, a leading musician from Austria, and guests of the Schiller Institute from Germany, France, and Italy—the renowned first violinist took out his beautiful Stradivarius and, using examples from the Op. 132, the Op. 130, and the “Große Fuge” Op. 133, delivered his own presentation of the principle of *Motivführung*, demonstrating practically all the instrumental voices on his own fiddle, and also singing in order to indicate crucial contrapuntal figures. “These compositions,” Brainin said, “are all built on the same foundation, as a single house. If they had had separate foundations, the house would have been constructed illogically.” Plunging into the Op. 132, Brainin showed how all motivic elements—i.e., the *Motivführung* of the entire work—are contained within the first sixteen measures. He showed that, beginning with the first violin's line, which resolves upwards with a half-step, followed by a leap of a sixth (D $\sharp$ -E-C-B), “derivative forms, and finally intervallic inversion of the motivic elements, are taken up in the working-through of the piece.”

While the second theme was similarly worked through motivically, Brainin showed in the third movement, subtitled “A convalescent's holy song of thanks to the Deity, in the Lydian mode,” that this is trans-



EIRNS/Anno Hellenbroich



EIRNS/Anno Hellenbroich

Above and right:  
Rehearsal and  
performance by the  
Auer Quartet.



EIRNS/Anno Hellenbroich

formed, in a contrapuntally altered form, into the key of D major—and so is subtitled “Feeling new strength.” Beethoven is now working with the interval of the fifth. This is, as it were, “his poetic license to resort to inversions.” In the *Andante con moto ma non troppo* (“Feeling new strength”), Beethoven wrote *cantabile molto espressivo* only over the first violin part; the movement ends with a *molto adagio*, played by all four voices and subtitled “With the most inwardly intense emotion.” This is followed by the fourth movement, an *alla marcia assai vivace*, where it is partic-

ularly striking that the recitative played by the first violin contains echoes of the Ninth Symphony.

Brainin followed this up with a demonstration of the Op. 130. “You’ll notice where the similarities are,” Brainin said, and commented that the first movement, *adagio ma non troppo*, is often performed much too off-handedly. This is followed by the second movement *presto*, the third movement *adagio ma non troppo*, the fourth movement *dansa tedesca*, and finally the fifth movement, the famous *Cavatina*. “Originally, the ‘Große Fuge’ was intended to be the final movement. But



Left: with the Istropolitan Trio.



Primatial Palace, Bratislava

Prof. Brainin and Dr. Günther Ludwig in concert, 1990.



EIRNS/Stuart Lewis

Beethoven made a separate Opus out of it,” Brainin explained. In the *Cavatina*, Brainin said, measures 42-47 have to be played as if “gripped with anguish” (*beklemmt*), and he demonstrated the bow technique required to execute this passage with an almost “flutey,” raspy tone quality. “The entire piece is delicately transparent.”

In conclusion, Brainin played sections of the “Große Fuge” Op. 133 on his Stradivarius, and, in order to give transparency to the monumental fugal work, he lent the appropriate weight to the critical passages by using his voice to clarify the under-

lying motivic elements. “Although its key-signature is B-flat, the ‘Große Fuge’ starts out on the note G, and then Beethoven modulates it downward to B-flat.” On every note, Brainin showed, there is a *sforzato*. He expressed his regret that the subsequent culminations of fugal development could not be represented on a single instrument, but were really the task of an entire quartet.

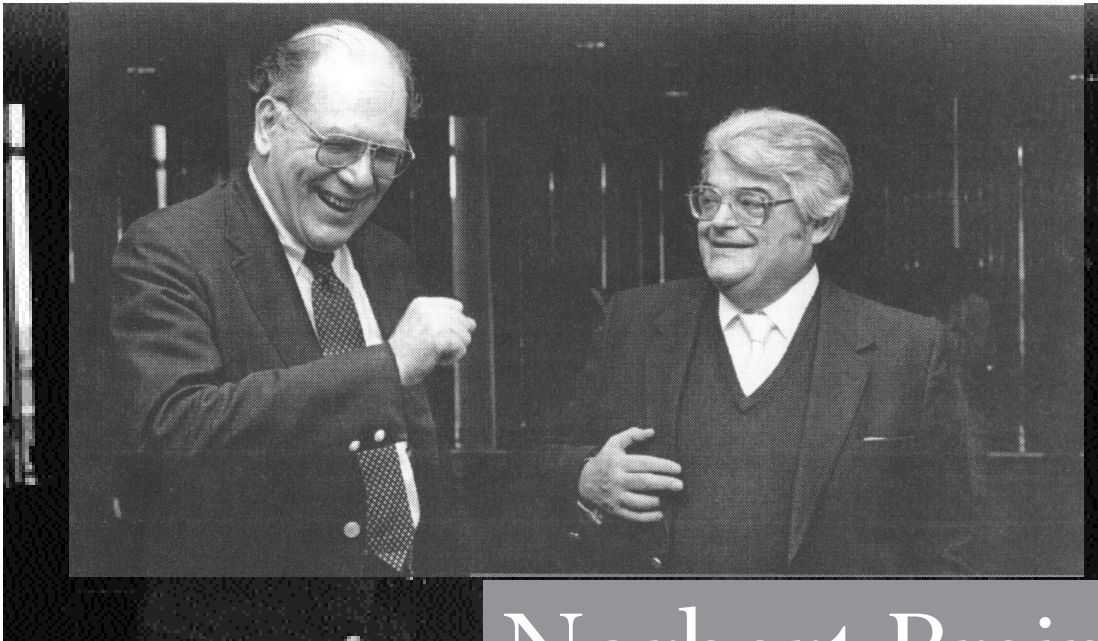
### Schiller’s Worldview

On the afternoon of the third day, Helga Zepp-LaRouche, founder of

the Schiller Institute, and Slovakian Schiller Foundation head Dr. Mikloško, presented the work of the international Schiller Institutes. Friedrich Schiller, in his “Aesthetic Letters,” stated that improvement in the political realm is only possible through the ennoblement of the individual human being. For Schiller, this meant that each person must be made into an *aesthetic* human being—which is especially important today, given the brutalization of our society. “There were two reasons for our organizing this music program right here in Dolna Krupa, a wonderful place, also in the spirit of Beethoven,” Mrs. Zepp-LaRouche said. “The first is the question of *Motivführung* as such. The second is the musical tradition of Slovakia, which especially distinguishes this country. This tradition has to be invigorated anew. The ‘Vienna Violin School’ originated not far from here, proceeding from Joseph Böhm, the friend of Beethoven, who developed a quite extraordinary violin technique. Norbert Brainin is one of the leading masters of this technique, and we wanted to contribute to communicating this method to young artists.”

The high-point of the seminar was a concert given by Norbert Brainin together with pianist Günther Ludwig of the Cologne Music Conservatory, at the Primatial Palace of Bratislava, to more than 260 guests. The program consisted of works by Mozart, Brahms, and Beethoven. In their performance, the two artists succeeded in making the ideas of these three great composers transparent to the listeners’ minds, serving up the music with the greatest and “most inwardly intense emotion.”

*Dr. Mikloško’s Commentary, “Slovakia: Yesterday and Today,” appears on p. 77 of this issue.*



Music, laughter, and creativity: Lyndon LaRouche (left) and Norbert Brainin.

EIRNS/Stuart Lewis

# Norbert Brainin On 'Motivführung'

by Lyndon H. LaRouche, Jr.

Norbert Brainin presented the notion of *Motivführung* to me, through a mutual friend, just over four years ago. Summarily, this came about under the following circumstances.

During 1990, I had posed to my collaborators the proposition, that the benchmark for the organization of the second book of the *Manual on the Rudiments of Tuning and Registration*<sup>1</sup> ought to be the revolutionary change in the structure of musical composition represented by the comparison of the work of Josef Haydn to his predecessor Carl Philipp Emmanuel Bach. Shortly after that, cellist Renée Sigerson had travelled to Germany, where she reported my proposal to Norbert Brainin. As Mrs. Sigerson reported this to me shortly afterward, Mr. Brainin had exclaimed, "*Motivführung*," and followed that with an explanation of his meaning of that term.

My reaction to Mrs. Sigerson's report of this exchange, was one of great excitement.

During the late 1940's, I had first learned what every student of the Classical keyboard repertoire knows as the signal debt of Wolfgang Amadeus Mozart to Johann Sebastian Bach's *A Musical Offering*. For the keyboard repertoire, the key point of reference is Mozart's K.475 Fantasy, prefaced to the K.457 Sonata. From that point on, the K.475 Fantasy is the most frequent point of variously direct and indirect reference met in the major keyboard and other compositions of Mozart, Beethoven,

Schubert, and Brahms, among others.

Brainin's identification of the echoing of the Haydn Russian Quartets, notably Opus 33, No. 3, in the new method of composition presented by Mozart's six Haydn Quartets, transformed everything I knew about the implications of the Mozart K.475 Fantasy. Putting those implications together with Brainin's *Motivführung*, revolutionized everything I knew about music axiomatically. Within weeks of receiving Renée Sigerson's report of the discussion in Germany, each nook and cranny of my previous knowledge of motivic thorough-composition was completely overhauled.

The result is to be recognized readily in a reading of my "Mozart's 1782-1786 Revolution in Music," published in the Winter 1992 edition of the *Fidelio* quarterly [Vol. I, No. 4].

## THE PRINCIPLE OF *Motivführung*

### Axioms and Principles

It is one of the commonplace disasters produced by modern textbook modes of education, that holders of terminal



degrees of professional learning often lack competent insight into the most important considerations in the real history of ideas. As a case in point, consider summarily my own single fundamental discovery, known today as “The LaRouche-Riemann Method,” effected over the course of the years 1948-52.

Prior to 1952, I had made what has turned out to have been one of the most important scientific discoveries of this century, a fundamental principle of the science of physical economy. This discovery has been summarized in various locations over the years, most recently in “Why Most Nobel Prize Economists Are Quacks”<sup>2</sup> and “Non-Newtonian Mathematics for Economists” [SEE p. 4, this issue]. This discovery led, in turn, to a fresh view of the discoveries of Georg Cantor, and that, in turn, to a fresh view of the most fundamental discovery of Bernhard Riemann, as set forth in his famous “Hypotheses” dissertation.<sup>3</sup> In short, it was not a study of Riemann’s dissertation which led me to my discovery in economics, but, rather, my discovery in economics made possible a revolutionized view of the implications of Riemann’s discovery for economics. It was as if Riemann had written his “Hypotheses” dissertation as a contribution to the application of my discoveries in physical economy. Thus, my work is known by the epithet “LaRouche-Riemann Method,” rather than “Riemann-LaRouche Method.”

Similarly, just as my discovery in economics revolutionized Riemann’s discovery, so, it was Norbert Brainin’s discovery which revolutionized my knowledge of music. My earlier understanding of the implications of Mozart’s reworking of Bach’s *A Musical Offering*, as in his K.475 Fantasy, or Beethoven’s Opus 111 Sonata, was the relatively commonplace knowledge of all qualified musicians. The addition of one ingredient, Brainin’s identification of the implications of the germ-principle in motivic thorough-composition, transformed everything which I knew of music up to that time.

Norbert Brainin’s revolutionizing my knowledge of music, in that way, like my own revolutionizing of the implications of Riemann’s “Hypotheses” dissertation, involves the addition of a fundamental principle to the implied set of axioms underlying an existing body of knowledge. The addition of one principle revolutionizes everything.

Briefly, then, the following qualifying remarks are to be added here.

Every effort to represent an existing body of knowledge as logically consistent, restricts all acceptable propositions in that field to an array of theorems which are each and all consistent with one another, and also consistent with an underlying set of axioms, analogous to the axioms of a formal classroom geometry. Such a set of axioms is known

among literate persons as an *hypothesis*; this is the usage of the term “hypothesis” by both Plato and Bernhard Riemann, for example, in contrast to the illiterate use of the same term in Isaac Newton’s famous “*hypotheses non fingo*.” Any change within the set of axioms associated with a specific hypothesis, produces a second hypothesis which is absolutely inconsistent with the first.

In rigorous scientific usage, the distinction between an ordinary discovery and a fundamental discovery, is that every fundamental discovery represents a change in the existing set of axioms, and, therefore, the generation of a new hypothesis. In mathematics, such a change in hypothesis marks an absolute mathematical discontinuity (contrary to the mystical, reductionist sleight-of-hand, respecting discontinuities, of Leonhard Euler, Cauchy, the Bourbaki group, *et al.*). Thus, for me, Norbert Brainin’s presentation of his view of *Motivführung* represented a sweeping discovery, a new axiom, and, therefore, a new hypothesis.

Of all such discoveries, whether one initiates them oneself, or learns them from another, one echoes Archimedes, crying out, “Eureka!” All is changed, as if in a single instant.

My distinctive advantage in receiving this knowledge from Brainin, lay in the fact, that unlike most who shared my earlier knowledge of the musical side of the matter, my prior discoveries in economic science supplied me relevant knowledge of the human creative-mental processes. Thus, my first published presentation on this subject appeared as the second of a series of articles on the principle of metaphor in science. So, I have situated the implications of Brainin’s representation of that principle of composition since.

Thus, whatever the *Brotgelehrten*\* might think of such matters, we who treat ideas seriously, prefer to be precise about such matters. That is the difference in point of view between the person whose world-outlook, like my own, is shaped by a Classical-humanist (e.g., Platonic) outlook, and the less fortunate fellows whose opinion has been shaped by a textbook-oriented education.

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\* “Bread-scholars.” Friedrich Schiller’s derisive characterization of brain-dead academic careerists.

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1. See, *A Manual on the Rudiments of Tuning and Registration, Book I*, ed. by John Sigerson and Kathy Wolfe (Washington, D.C.: Schiller Institute, 1992). The project, of writing a two-volume manual, targeted by design for the use of music teachers and advanced students, was begun in 1985, but delayed by unexpected interruptions of the 1986-89 interval. The commitment to complete the then-almost-finished Book I (on the singing voice), and to proceed with Book II (on the instruments), was summoned in 1990.
  2. *Executive Intelligence Review*, Vol. 22, No. 30, July 28, 1995.
  3. Bernhard Riemann, “On the Hypotheses Which Underlie Geometry” (1854). See the author’s “Non-Newtonian Mathematics for Economists,” pp. 4-22, this issue, for a detailed analysis.

# The Song of the Bell

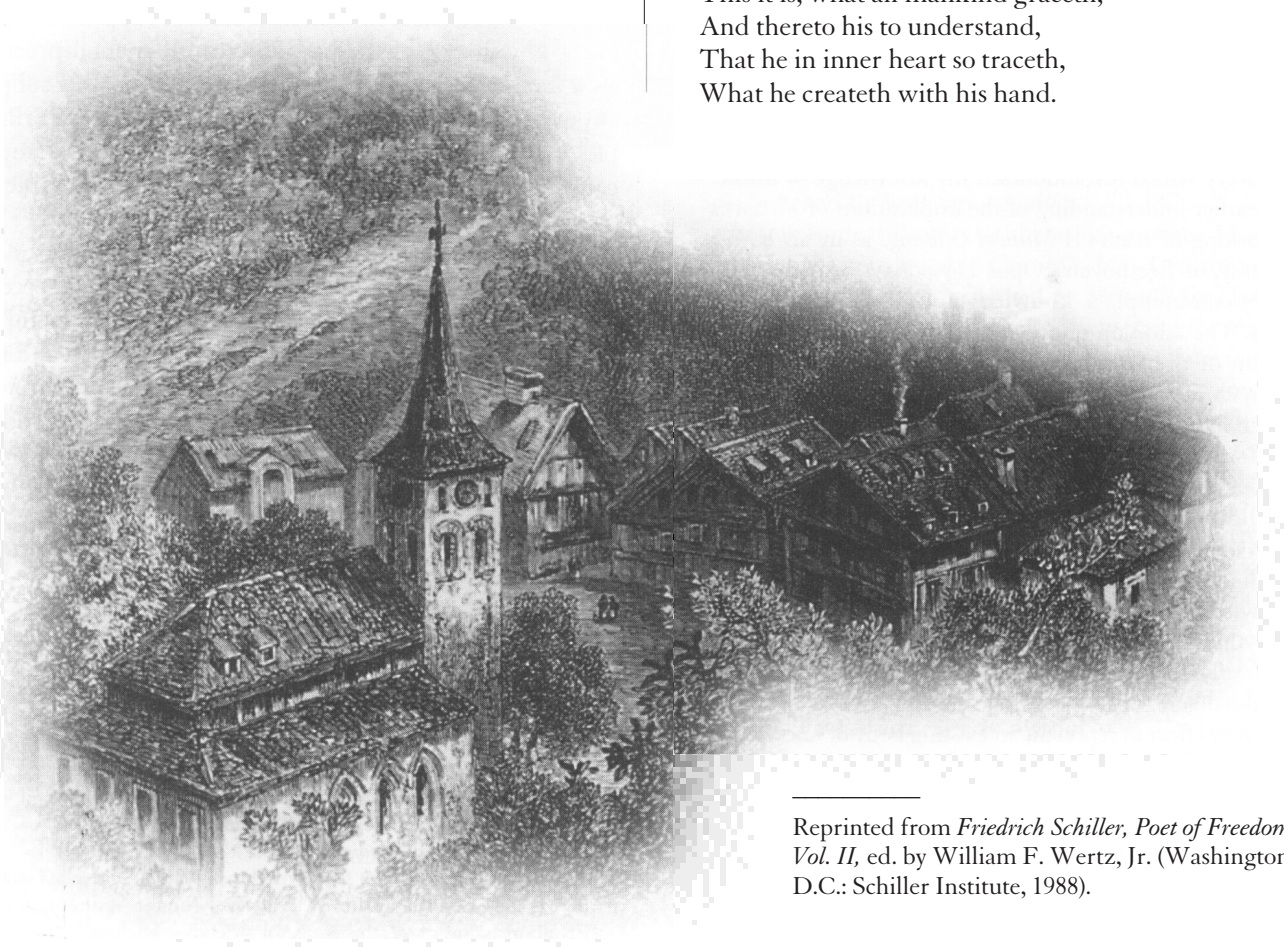
(1799)

Friedrich Schiller

*I call the living • I mourn the dead • I break the lightning*

Walled up in the earth so steady  
 Burned from clay, the mould doth stand.  
 This day must the Bell be ready!  
 Fresh, O workmen, be at hand!  
     From the heated brow  
     Sweat must freely flow,  
 That the work may praise the Master,  
 Though the blessing comes from higher.

OUR WORK in earnest preparation,  
 Befitteth well an earnest word;  
 When joined by goodly conversation,  
 Then flows the labor briskly forw'd.  
 So let us now with care consider,  
 What through a frail power springs forth:  
 The wicked man one must have scorn for,  
 Who ne'er reflects, what he brings forth.  
 This it is, what all mankind graceth,  
 And thereto his to understand,  
 That he in inner heart so traceth,  
 What he createth with his hand.



The Granger Collection, NY

Reprinted from *Friedrich Schiller, Poet of Freedom, Vol. II*, ed. by William F. Wertz, Jr. (Washington, D.C.: Schiller Institute, 1988).

Take the wood from trunk of spruce tree,  
Yet quite dry let it abide,  
That the flame compressed so tightly  
Strike the gullet deep inside!  
Cook the copper brew,  
Quick the tin in, too!  
That the glutinous bell-metal  
Flowing rightly then will settle!

WHAT IN the dam's dark cavern dour  
The hand with fire's help did mould,  
High in the belfry of the tower  
There will our story loud be told.  
Still will it last as years are tolling  
And many ears will it inspire  
And wail with mourners in consoling  
And harmonize devotion's choir.  
What here below to son terrest'ral  
The ever-changing fate doth bring,  
Doth strike the crown which made from metal,  
Uplifting it doth sound its ring.

Bubbles white I see creating,  
Good! the mass doth flow at last.  
Now with potash permeating,  
Let us hasten quick the cast.  
And from lather free  
Must the mixture be,  
That from metal pure abounding  
Pure and full the voice be sounding.

FOR WITH its joyful festive ringing  
It doth the child beloved greet  
On that first step his life is bringing,  
Which starts in arms of slumber sweet;  
For in the womb of time's attesting  
His fortune black or bright is resting,  
The mother's tender cares adorning  
With love, to guard his golden morning.—  
The years they fly like arrows fleet.  
From maiden breaks the lad so proudly,  
And into life so wild doth roam,  
Throughout the world he wanders widely.  
As stranger, seeks his father's home,  
And glorious, in youthful splendor,  
Like creature from the heav'nly land,  
With cheek so modest, shy and tender  
Sees he the maid before him stand.  
Then seized by nameless longing, aching,  
The young lad's heart, alone he leaves,  
From out his eyes the tears are breaking,

His brothers' ranks so wild he flees.  
Her steps he blushing doth follow  
And is by her fair greeting blessed,  
The fairest seeks he in the meadow,  
With which by him his love is dressed.  
Oh! gentle longing, sweetest hoping,  
The first love's time of goldenness!  
The eye doth see the heavens op'ning,  
So feasts the heart in happiness—  
Oh! that it last forever greening,  
The beaut'ous time of love's beginning!

How indeed the pipes are browning!  
This small staff do I dip in:  
When its glaze to us is shining,  
Will the casting time begin.  
Now, men, lively be!  
Test the mix for me,  
If the brittle with the nimble  
Join together 'tis good symbol.

FOR WHERE the rough is with the supple,  
Where strong itself with mild doth couple,  
The ringing will be good and strong.  
So test therefore, who join forever,  
If heart to heart be found together!  
Delusion is short, remorse is long.  
In the bridal locks so lovely  
Plays the virgin's modest crown,  
When the churchbells pealing brightly  
To the festive gleam call down.  
Ah! Life's fairest celebrating  
Doth the May of life end, too,  
With the girdle, with the veiling  
Tears delusion fair in two.

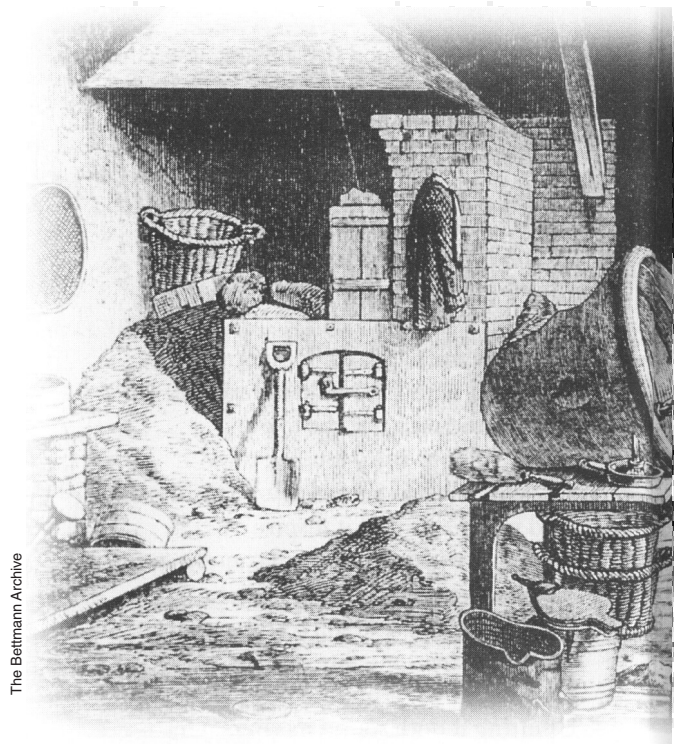
The passion doth fly.  
Love must be enduring;  
The flowers fade by,  
Fruit must be maturing.  
The man must go out  
In hostile life living,  
Be working and striving  
And planting and making,  
Be scheming and taking,  
Through hazard and daring,  
His fortune ensnaring.  
Then streams in the wealth in an unending measure,  
The silo is filled thus with valuable treasure,  
The rooms are growing, the house stretches out.  
And indoors ruleth

The housewife so modest,  
 The mother of children,  
 And governs wisely  
 In matters of family,  
 And maidens she traineth  
 And boys she restraineth,  
 And goes without ending  
 Her diligent handling,  
 And gains increase hence  
 With ordering sense.  
 And treasure on sweet-smelling presses is spreading,  
 And turns 'round the tightening spindle the threading,  
 And gathers in chests polished cleanly and bright  
 The shimmering wool, and the linen snow-white,  
 And joins to the goods, both their splendor and shimmer,  
 And resteth never.

And the father with joyful glance  
 From the house gable's view oh so vast  
 Surveying his fortune's enhance,  
 Seeth the posts of trees that are tow'ring  
 And the rooms of his barns o'erflowing  
 And the silos, bent low from the blessing,  
 And the billows of corn unceasing,  
 Boasting with haughty mouth:  
 "Firm, as the soil o' th' earth,  
 'Gainst all misfortune's pow'r  
 Splendid my house doth tow'r!"—  
 Yet with mighty fate supernal  
 Is entwined no bond eternal,  
 And misfortune strideth fast.

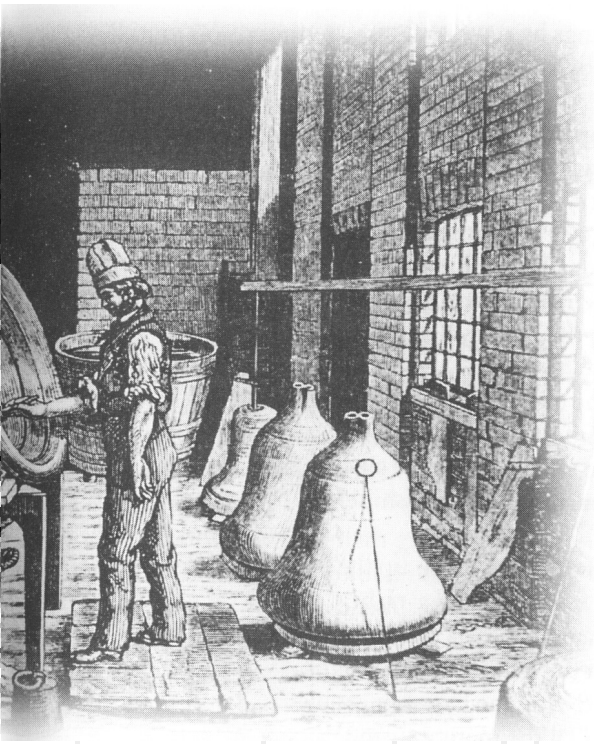
Good! now be the cast beginning,  
 Finely jagged is the breach.  
 Yet before it start to running,  
 Let us pious verses preach.  
 Make the tap eject!  
 God our house protect!  
 Smoking in the handle's hollow  
 Shoots with fire-brownéd billow.

BENEF'CENT is the might of flame,  
 When o'er it man doth watch, doth tame,  
 And what he buildeth, what he makes,  
 For this the heav'nly powers he thanks;  
 Yet fright'ning Heaven's pow'r will be,  
 When from its chains it doth break free,  
 Embarking forth on its own track,  
 Nature's daughter, free alack.  
 Woe, when it is liberated  
 Growing such that none withstand,  
 Through the alleys populated  
 Rolls the monstrous firebrand!



The Bettmann Archive

For by elements is hated  
 The creation of man's hand.  
 From the heavens  
 Blessing's teeming,  
 Rain is streaming;  
 From the heavens, unforeseen,  
 Strikes the beam!  
 Hear in belfry whimpers form!  
 That is storm!  
 Red as blood  
 Heavens broil,  
 That is not the daylight's flood!  
 What a turmoil  
 In the roads!  
 Steam explodes!  
 Climbs the fire column glowing,  
 Through the streets' long rows it's going  
 Forth it goes with wind's speed growing,  
 As in jaws of ovens cooking  
 Glows the air, the beams are cracking,  
 Pillars tumble, windows quav'ring,  
 Children wailing, mothers wand'ring,  
 Whimp'ring cattle  
 Under rubble,  
 All is running, saving, flying,  
 Bright as day the night is shining.  
 Through long chain of hands, not resting  
 As contesting  
 Flies the bucket, lofty bowing



Spouts the fountain, water flowing,  
Howling comes the storm a-flying,  
Which doth seek the roaring flames,  
Crackling in the well-dried grains,  
Falls it, in the roomy silo,  
On the wood of rafters hollow,  
And as if it would by blowing  
With itself the earth's full weight  
Drag it, in its vi'lent flight,  
Into Heaven's summit growing  
Giant tall!  
Hopeless all  
Yields the man 'fore God's great powers,  
Idle sees he all his labors  
And amazed to ruin going.

All burnt out  
Is the setting,  
Of the savage storm's rough bedding;  
In the empty window op'ning  
Horror's living,  
And high Heaven's clouds are giving  
Looks within.

Just one peek  
To the ashes  
Of his riches  
Doth the man behind him seek—  
His wanderer's staff then gladly seizes.

Whatever fire's rage has cost,  
One solace sweet is e'er unmovéd:  
He counts the heads of his belovéd  
And see! not one dear head is lost.

In the earth it is receivéd  
Full the mould is happ'ly made;  
Will its beauty be perceivéd,  
So be toil and art repaid?  
Should the cast not take?  
Should the moulding break?  
Ah! perhaps, whilst we are hoping,  
Harm is us already gripping.

TO HOLY earth's e'er-dark'ning bosom  
Do we entrust our hands' true deed,  
The sower doth entrust his seed  
And hopes, indeed, that it will blossom  
To bless, as Heaven hath decreed.  
Still costlier the seed we've buried  
With sorrow in the womb of earth  
And hope, that from the coffin carried  
'Twill bloom to fairer fortune forth.

From cathedral,  
Anxious, long,  
Bell is sounding  
Funeral song.  
Earnestly its doleful toll doth carry  
Some new wanderer on the final journey.

Ah! the wife it is, the dear one,  
Ah! it is the faithful mother,  
Whom the swarthy Prince of Shadeland  
Carries off from arm of husband,  
From the group of children dear,  
Whom she blooming to him bare,  
Whom she on her breast so true  
Watched with pleasure as they grew—  
Ah! the bonds of home so giving  
Will forevermore be loose,  
For in shadowland she's living,  
Who was mother of the house,  
For her faithful rule now ceases,  
No more keepeth watch her care,  
Henceforth in the orphaned places  
Rules the foreign, loveless e'er.

Till the Bell be coolly laying,  
Let no stringent work ensue;  
As the bird in leaves is playing,  
May each person goodly do.

Nods the starlit sky,  
Duty's all foreby,  
Hears the lad the vespers sounding,  
For the Master toil's abounding.

BRISKLY hastens he his paces  
Far in forest wild the wand'rer,  
To the lovely cottage-places.  
Bleating homeward draws the sheep herd,  
And the cattle  
Broad-foreheaded, flocks so glossy,  
Come in lowing  
To accustomed stalls they're going.  
Heav'ly in  
Shakes the wagon,  
Harvest-laden,  
Colored brightly  
On sheaves sightly  
Garlands lie,  
And the young folk of the reapers  
Dancing fly.  
Street and market-place grow stiller,  
Round the social flame of lighting  
Gather those in household dwelling,  
And the town gate closes creaking.  
Black bedighted  
All the earth be  
Yet the burgher is affrighted  
Not by night,  
Which the wicked has excited,  
For the watchful law's clear eye keeps sight.

Holy Order, blesséd richly,  
Heaven's daughter, equals has she  
Free and light and glad connected,  
City buildings hath erected,  
Who herein from country dwelling  
The uncivil savage calling,  
Ent'ring into human houses,  
Gentler custom she espouses,  
With the dearest band she's bound us,  
Love for fatherland weaves 'round us.

Thousand busy hands in motion  
Help in cheerful unity,  
And in fiery commotion  
Will all forces public be.  
Master and the men take action  
Under freedom's holy care,  
Each is pleased with his position,  
Scorn for every scoffer share.  
Work's the burgher's decoration,  
Labor's prize is to be blest;

Honor kings by royal station,  
Busy hands *us* honor best.

Peace so gentle,  
Charming concord,  
Tarry, tarry  
Friendly o'er this city be!  
May the day be ne'er appearing,  
When the rugged hordes a-warring  
Through this quiet vale are storming,  
When the heavens,  
Which the evening's blushes pretty  
Paint so fine,  
From the village, from the city  
Wildly burning frightful shine!

Now for me break up the building,  
Its intent is filled a-right,  
That our hearts and eyes be feasting  
On the most successful sight.  
Swing the hammer, swing,  
'Til the mantle spring!  
If the Bell be now awoken,  
Be the frame in pieces broken.

THE MASTER can break up the framing  
With wisen'd hand, at rightful hour,  
But woe, whene'er in brooks a-flaming  
Doth free itself, the glowing ore!  
Blind-raging with the crash of thunder,  
It springs from out the bursted house,  
And as from jaws of hell asunder  
Doth spew its molten ruin out;  
Where senseless powers are commanding,  
There can no structure yet be standing,  
When peoples do themselves set free,  
There can no common welfare be.

Woe, when in womb of cities growing,  
In hush doth pile the fiery match,  
The people, chains from off it throwing,  
Doth its own help so frightful snatch!  
There to the Bell, its rope-cord pulling,  
Rebellion, doth it howling sound  
And, hallowed but for peaceful pealing,  
To violence doth strike aloud.

Liberty, Equality! Men hear sounding,  
The tranquil burgher takes up arms,  
The streets and halls are all abounding,  
And roving, draw the murd'ring swarms;  
Then women to hyenas growing  
Do make with horror jester's art,

Still quiv'ring, panther's teeth employing,  
 They rip apart the en'my's heart.  
 Naught holy is there more, and cleaving  
 Are bonds of pious modesty,  
 The good its place to bad is leaving,  
 And all the vices govern free.  
 To rouse the lion, is dang'rous error,  
 And ruinous is the tiger's bite,  
 Yet is most terrible the terror  
 Of man in his deluded state.  
 Woe's them, who heaven's torch of lighting  
 Unto the ever-blind do lend!  
 It lights him not, 'tis but igniting,  
 And land and towns to ash doth rend.

Joy unto me God hath given!  
 See there! like a golden star  
 From its husk, so blank and even,  
 Peeleth out the metal core.  
     From the crown to base  
     Like the bright sun plays,  
 And escutcheons' decoration  
 Builder's skill gives commendation.

COME IN! Come in!  
 Ye workmen all, do come ye close in,  
 That we commence the Bell to christen,  
*Concordia* its name be given,  
 To concord, in an intimate communion,  
 The loving commons gathers she in union.

And be her purpose thus fulfilled,  
 For which the Master did her build:

On high above low earthly living,  
 Shall she in heav'n's blue tent unfurl'd,  
 Be thunder's neighbor, ever-pending,  
 And border on the starry world,  
 A single voice from high she raises  
 Like constellations' band so bright,  
 Which its creator wand'ring praises,  
 And leads the wreathéd year a-right.  
 Alone to grave, eternal singing  
 Her metal mouth be consecrate,  
 And hourly with all swiftness winging,  
 Shall she be moved by time in flight,  
 Her tongue to destiny is lending,  
*Herself* has heart and pity not,  
 With nothing but her swing attending  
 The game of life's e'er-changing lot.  
 And as the ring in ears is passing  
 Sent by her mighty sounding play,  
 So let her teach, that naught is lasting,  
 That all things earthly fade away.

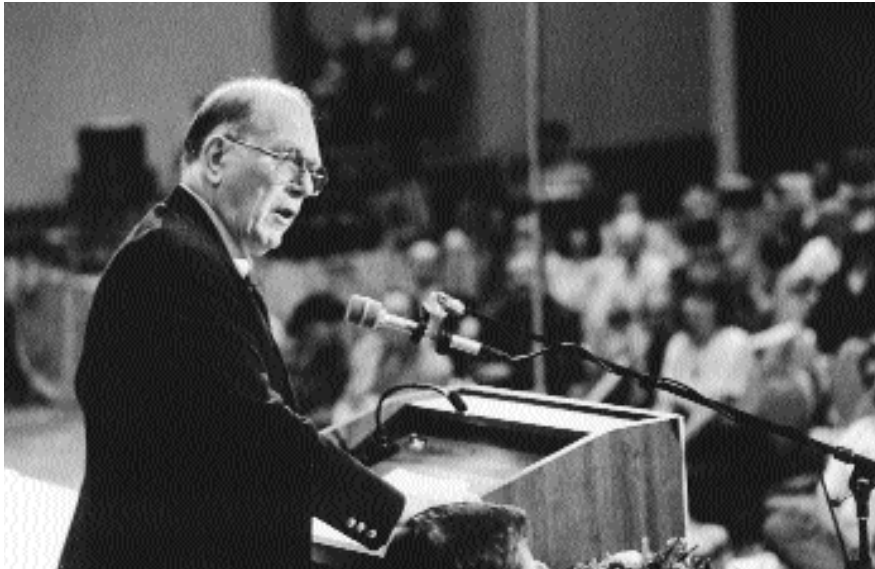
Now with rope's full power bringing  
 Rock the Bell from vault with care,  
 That she in the realm of ringing  
 Rises, in the Heavens' air.  
     Pull ye, pull ye, heave!  
     She doth move, doth wave.  
 Joy be she this city bringing,  
*Peace* be the first chime she's ringing.

—translated by Marianna Wertz



'The Year of Decision'

# LaRouche Movement Prepares To Shape History



*Statesman Lyndon H. LaRouche, Jr. keynotes Labor Day conference.*

U.S. government in the direction of the bankruptcy reorganization which he has outlined.

The moral demands on the citizen who wishes to prevent a collapse into a New Dark Age, were next addressed from a different perspective by Helga Zepp-LaRouche, in her keynote address on "History as Tragedy." She chose Shakespeare's play *Richard III* to exemplify the principle of oligarchism and corruption of character which must be fought, if the evil which is so prevalent in the world today is to be defeated.

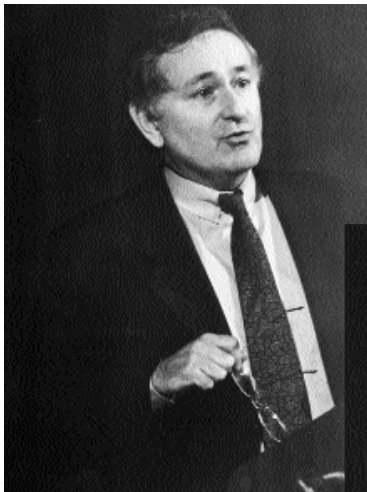
"Shakespeare makes this point emphatically, that it is the character which defines the action," she said. "Friedrich Schiller and von Humboldt, especially after the French Revolution, were absolutely convinced, that only through the ennoblement of character, could there be an improvement in politics. Only through the ennoblement of each individual, could there be a politi-

*Please turn to page 73*

Twelve hundred political activists from around the United States met in Northern Virginia over Labor Day weekend, at a conference sponsored by the Schiller Institute and Executive Intelligence Review entitled "1995-1996: The Year of Decision."

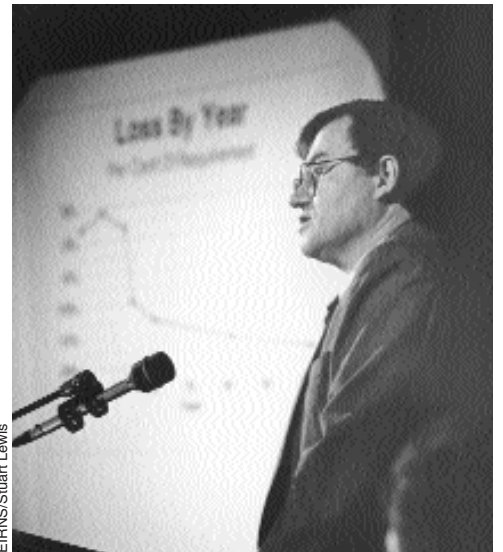
Lyndon LaRouche's keynote presentation situated the political tasks of the period from the standpoint of "univer-

sal history," the centuries-long battle between the forces of Renaissance republicanism, and the Venetian-British oligarchical system. Provocatively titling his speech "How to tell if the news is newsworthy," LaRouche stressed the need for "heavy ideas," in order for people to challenge the false assumptions of their fellow citizens, and to act to shape the policy of the



*Economics panelists. Left: Jacques Cheminade. Right: Christopher White.*

*Nancy Spannaus addresses panel on "Conservative Revolution" fascism.*



EIRNS/Stuart Lewis

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# Independent Hearings Investigate U.S. Department of Justice Misconduct

Independent hearings, facilitated by the Schiller Institute, to investigate allegations of gross misconduct by the United States Department of Justice, were convened Aug. 31 to Sept. 1 in Northern Virginia.

The hearings were prompted by the refusal this past summer by the House Judiciary Committee probe of the incident at Waco, to hear evidence of rampant corruption inside the permanent bureaucracy at the U.S. Department of Justice. Initially, those Congressional hearings seemed to be driven by broad-based, bipartisan concern that the Waco case, along with other pertinent cases, was a predicate of a continuing pattern of behavior by certain elements attached to the Justice Department.

But, once those hearings were hijacked by a group of Republican Congressmen whose only objective was to pillory President Clinton, the result was a massive coverup of the flagrant Justice Department corruption the Congress had promised to investigate.

## Members of the Panel

The independent panel, which declared that it would investigate what the House subcommittees refused to hear, included former Congressman James Mann of South Carolina (who, while in Congress, served as a prominent member of the House Judiciary Committee); Senators Robert Ford and Maggie Wallace Glover of the South Carolina State Senate; Reps. William Clark and John Hilliard of the Alabama House of Representatives; Reps. Toby Fitch and Howard Hunter of the North Carolina House of Representatives; Rep. Ulysses Jones, Jr., of the Tennessee House of Representatives; Rep. Percy Watson of the Mississippi House of Representatives; attorney J.L. Chestnut, one of the foremost Civil Rights lawyers in America today; and Msgr. Elias El Hayek, Chor Bishop of the Maronite Church



EIRNS/Stuart Lewis

*Panel members hear witness testimony at Independent Hearings.*

## LaRouche Exoneration Drive Expands

As of November 15, the number of current and former U.S. and Puerto Rican state legislators who have endorsed an Open Letter to the President of the United States, calling for the exoneration of Lyndon LaRouche, has grown to five hundred and ninety-seven (597).

The Open Letter has also been signed by twenty-nine former U.S. congressmen and such leading Civil Rights activists as Amelia Boynton Robinson, Rev. Hosea L. Williams, Dr. Wyatt Tee Walker, Rev. James L. Bevel, Rosa L. Parks, Rev. Fred L. Shuttlesworth, Benjamin F. Chavis, Jr., Dick Gregory, Dr. Dorothy I. Height, and Mamie Till.

States in which more than ten legislators have endorsed the Open Letter include: Alabama (26), Arkansas (17), Idaho (19), Kansas (20), Kentucky (11), Louisiana (11), Michigan (20), Mississippi (36), Missouri (10), Montana (35), New Hampshire (40),

New Mexico (15), North Carolina (19), North Dakota (35), Oklahoma (14), Pennsylvania (13), Puerto Rico (15), South Carolina (22), South Dakota (22), Tennessee (31), Utah (16), Vermont (17), West Virginia (12), and Wyoming (12).

The text of the Open Letter stresses that, while Lyndon LaRouche is currently free on parole, "a terrible crime still goes unanswered. Not only was an innocent man framed, convicted, and wrongfully imprisoned for five years, but it is now clearly the case, documented by six volumes of unchallengeable evidence, consisting chiefly of government documents and admissions of government-led 'task force' officials, that the U.S. government knew at all relevant times, from 1979 to the present day, that Lyndon H. LaRouche and his co-defendants were innocent of the false charges for which they were convicted."

and professor of law.

International observers included Dr. Josef Mikloško, former Vice Premier of the post-communist Republic of Czechoslovakia; Dr. Kofi Awoonor, former Permanent Ambassador to the United Nations from the Republic of Ghana; Marino Elseviff, a prominent attorney from the Dominican Republic; and Amelia Boynton Robinson, of the Schiller Institute.

The panel focussed on cases where there was evidence of politically motivated targeting of groups and individuals by a concert of private organizations outside the U.S. government, working in tandem with corrupt officials inside Federal governmental law enforcement agencies.

### The Testimony

The testimony was organized around three panels: the harassment of African-American elected and public officials—the FBI’s “Operation *Frühmenschen*”; the conduct of the Justice Department’s so-called Office of Special Investigations (O.S.I.), particularly the cases of John Demjanjuk and former U.N. Secretary General and President of Austria Kurt Waldheim; and the Lyndon LaRouche case, the largest-scale single case involving the same corrupt Justice Department apparatus that operated in the O.S.I. and “Operation *Frühmenschen*” cases.

Congressman Mann also read into the record a request he had received from Gen. Manuel Antonio Noriega of Panama, who is currently incarcerated in a Federal prison in Miami, that the panel, at some future date, also consider evidence of Justice Department misconduct and human rights violations that pervaded his American trial.

The proceedings opened with a Memorial Tribute and moment of silence in memory of Rep. David P. Richardson, of Pennsylvania. Richardson, who was to have served on the panel, died suddenly just a week prior to the formal opening of the hearings. He was the youngest person ever elected to the Pennsylvania state legislature, and, during twenty-four years of distinguished public service, was a national leader, and one of the pioneers,

in the battle against “Operation *Frühmenschen*.” He was forty-seven years old at the time of his death.

### The Presenters

Testimony on “Operation *Frühmenschen*” was presented by Sen. Theo Walker Mitchell (former), Sen. Herb Fielding (f), Judge Tee Ferguson (f), and Rep. Frank McBride (f), all of South Carolina; Judge Ira Murphy (f) of Tennessee; Councilman Roosevelt Bell of Alabama; and Patricia Moore and attorney Ollie Manago, of California. Testimony on the O.S.I. was presented by Yoram Sheftel of Tel Aviv, Israel, the attorney who represented John Demjanjuk in the latter’s death-penalty trial before the Israeli Supreme Court; Dr. Hans Koechler, of the International Progress Organization, Vienna, Austria; and William Nezowy, of the American Ukrainian Political Action Council of the United States.

Testimony on the LaRouche case was presented by Odin Anderson of Boston, who has served as LaRouche’s attorney for over a decade; by Lyndon LaRouche and Helga Zepp-LaRouche; and finally, by former U.S. Attorney General Ramsey Clark.

In case after case, decisive evidence of rampant Justice Department corruption,

prosecutorial misconduct, withholding of exculpatory evidence, and conscious perjury and fraud upon the court, politically motivated and designed to deprive the American citizen of effective representation, was presented, not merely by the good word of the witnesses, but by government documents, records, and memoranda, first suppressed and later obtained by FOIA and other legal actions.

At the close of testimony, the panel, under the joint chairmanship of Rep. Mann and J.L. Chestnut, ruled that no summary statement could capture the shocking and dramatic nature of the testimony itself. By unanimous decision, the panel is now preparing a series of written and videotaped presentations of the proceedings that will be produced for broad, international circulation, as well as submission to every member of the United States Congress.

One by one, the panelists expressed their confidence, given that the nature of the evidence they had compiled was so compelling and so indicting, that Congressional oversight hearings into the matter, as well as other governmental action, would soon be forthcoming. “Justice,” said Congressman Mann, “must finally be returned to the Department of Justice.”



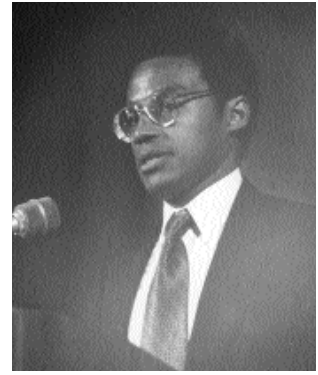
EIRNS/Stuart Lewis

*Noted Civil Rights attorney J.L. Chestnut, who co-chaired the Independent Hearings, questions a witness.*



EIRNS/Stuart Lewis

Schiller Institute founder Helga Zepp-LaRouche (right) and vice-chairman Amelia Boynton Robinson.



EIRNS/Philip Ulanowsky

Panelists Dennis Speed (right), Linda deHoyos (bottom right), and Edward Spannaus (bottom left).



EIRNS/Philip Ulanowsky



EIRNS/Philip Ulanowsky

## Conference

*Continued from page 70*  
cal change. And for me, the lesson from history as tragedy, is that.”

### Messages of Support

The keynote panel included three other prominent figures, who gave brief

remarks. First was Amelia Boynton Robinson, vice-chairman of the Schiller Institute, who introduced Lyndon and Helga LaRouche.

Following the keynotes, the conference was addressed by Dr. Josef Mikloško, former Vice Prime Minister of post-communist Czechoslovakia, who now heads the Schiller Foundation in Slovakia. The final guest to speak was former South Carolina Congressman James Mann, who reported on the Independent Hearings on Misconduct by the U.S. Department of Justice.

### Economic Reality

The Sunday morning panel on economics provided a picture of the systemic crisis of the world's financial institutions, and of the physical-economic condition of the United States, in particular. Providing the overview of the

situation was *EIR* Economics Editor Christopher White, who documented, in summary form, the decline of the U.S. economy over the last thirty years [SEE p. 22, this issue].

The panel was also addressed by Jacques Cheminade, a LaRouche associate who ran in this past spring's French presidential elections. Cheminade reviewed recent breakthroughs toward collaboration between Presidents Chirac and Clinton, situating this in the context of the economic relations developed between Presidents de Gaulle and Kennedy in the early 1960's.

### Newt's Fascism

The final panel of the conference was devoted to the threat of fascism today, starting with London's Newt Gingrich. It was led by Nancy Spannaus, who took on Gingrich's pretensions to an agenda of “saving American civilization,” and showed them to be a thinly veiled cover for the oligarchy's “free trade” and New Age, “every man for himself” policies that threaten genocide on a global scale.



EIRNS/Stuart Lewis

Former Congressman James Mann, co-chairman of Independent Hearings, reports on findings.



*Soprano Osceola Davis,  
accompanied by  
Dr. Raymond Jackson.*

EIRNS/Stuart Lewis

*Bass-baritone  
Kevin Short.*



EIRNS/Stuart Lewis

## On Eve of *Million Man March* Concert Celebrates the Fight For Justice, Truth, Beauty

An estimated 2,300 people attended a Schiller Institute concert at Washington, D.C.'s Constitution Hall October 15, on the eve of the historic Million Man March. Entitled "Let Justice Ring," the concert was conceived as a musical tribute to the movement for justice and atonement.

The concert opened with an invocation, and the performance of the Lord's Prayer, by the Rev. James Cokley (tenor). Greetings from Schiller Institute founder Helga Zepp-LaRouche were read by Dennis Speed, the Institute's northeast coordinator. Her message emphasized the theme of atonement, and the indispensable role of music in lifting humanity to that condition.

Next, Schiller Institute vice-chairman Amelia Boynton Robinson was introduced as the person to whom everyone in the room owed his or her freedom, because she had invited Dr. Martin Luther King into Selma, Alabama more than thirty years ago. Mrs. Robinson spoke on the theme of the right to vote, describing her campaign for Congress in 1964. While she did not win the election, she did launch a new phase in the struggle which opened the door to the Voting

Rights Act. Today, she said, you have the responsibility to run for office, and make the necessary changes.

Former State Senator Theo Mitchell, an African-American who might well have become Governor of South Carolina had he not been politically targeted in the courts, spoke of the need to rally against injustice.

Mitchell was followed by Mel Evans, head of the Clinton, Miss. chapter of the

NAACP. Evans spoke of the LaRouche case, and the harassment of black elected officials, as being one and the same thing.

The Rev. James Bevel, the collaborator of Dr. Martin Luther King who organized the Children's March in Birmingham, spoke next. Bevel was the architect of the concept of atonement used in the Million Man March. The Rev. Bevel spoke of atonement, develop-



EIRNS/Stuart Lewis, Mathew Ogden

*Chorus of Nevilla Ottley Singers and Schiller Institute choirs, directed by John Sigerson.*

ing the concept that God is the Father of all, and that we are all brothers and sisters. If you are not reconciled to each other, he said, you are not reconciled to God; this is what you have to atone for.

The Rev. Richard Boone of Alabama, another Civil Rights leader from Dr. King's time, then greeted the audience and invited them to sing.

### Musical Program

The selections of the musical program were chosen with two themes in mind: that of atonement, and that of the search for, and liberation through, the Good.

The concert began with a series of choral performances of freedom songs. The chorus opened with performances of "Lift Up Your Voice" and "Oh, Freedom." Verdi's "Song of the Hebrew Slaves" from the opera *Nabucco* was next, followed by two Spirituals, "Steal Away" and "Standing in the Need of Prayer." The chorus combined the efforts of the Nevilla Ottley Singers, and the Schiller Institute Leesburg, Virginia and Washington, D.C. Community Choirs—under the direction of Charlene Moore-Cooper and John Sigerson. Appearing as guest soloists were Michele Fowlin, soprano; Aaron Leathers, bass; and Charles Williams, tenor.

Performance of a series of arias from the oratorios of George Frederick Handel followed, sung by a group of Classical artists who uplifted the audience with beauty and drama. Bringing the crowd to their feet was the musical elder statesman, the world-famous baritone William Warfield, who presented the aria "Why do the nations so furiously rage together?" from Handel's *Messiah*.

A number of younger artists sang other arias from the *Messiah*. Osceola Davis, a coloratura soprano, performed "Rejoice Greatly," and "He shall feed His flock." She was joined on the second piece by mezzo-soprano Lorna Mae



EIRNS/Stuart Lewis  
Lorna Myers, mezzo-soprano, and William Warfield, baritone.

Myers of Trinidad. Mezzo-soprano Valerie Eichelberger (Kehembe), a voice professor at Howard University, sang "He was despised."

Preparing for the righteous fight was the theme of the two arias from Handel's

oratorio *Judas Maccabeus*, sung by bass Aaron Gooding and tenor Curtis Rayam.

All of the soloists were accompanied by pianist Dr. Raymond Jackson, a professor at Howard University.

### Classical Beauty

The second part of the program featured a selection of solo pieces from a number of genres, including opera, German *lieder*, and Spirituals, performed by the artists named above, joined by bass-baritone Kevin Short and tenor Reginald Bouknight.

To underscore the coherence of Classical music and poetry, William Warfield recited "When Malindy Sings," one of the best-loved works of the Nineteenth-century African-American poet Paul Laurence Dunbar.

The concert concluded with two group selections. First, all the soloists performed the Spiritual "Great Day." Then, they joined with the amateur choruses to sing the "Hallelujah Chorus" from Handel's *Messiah*, as the grand finale.

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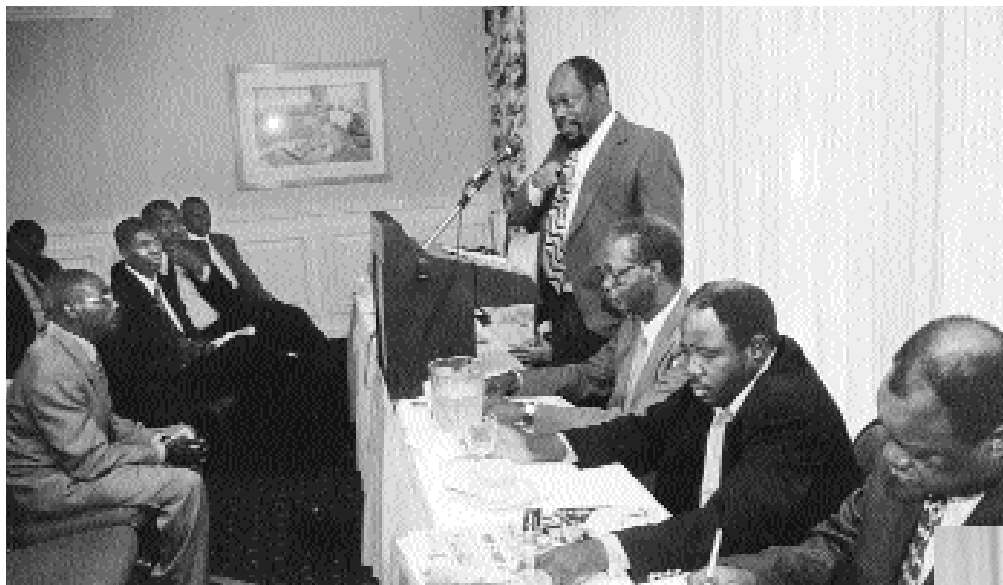
A MANUAL ON THE RUDIMENTS OF

## *Tuning and Registration*



BOOK I:  
Introduction and  
Human Singing Voice

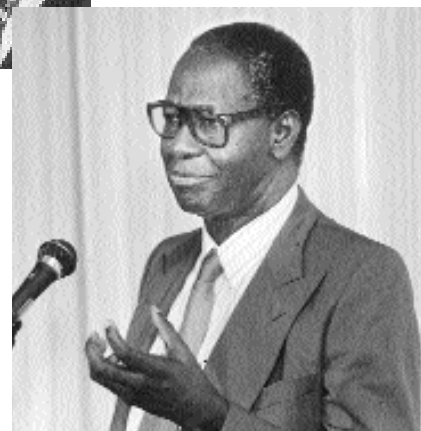
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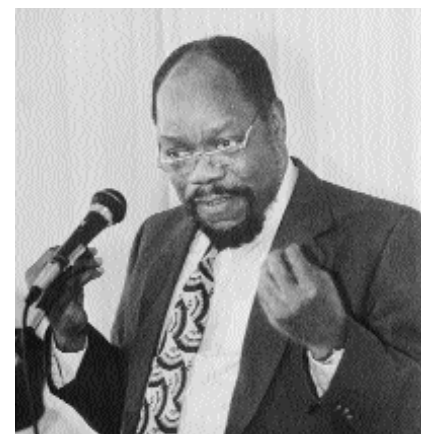
*Nigerian delegation press conference (left to right): Chief Odumegwu-Ojukwu, Chief Tony Anenih, Senator Sharif Ali, and Abedayo Oladimeji, president of the Nigerian Patriots.*

*Leaders from different parts of the political spectrum— Chief Anenih (top) and Chief Ojukwu (bottom)—are united for a peaceful transition to civilian rule.*

EIRNS/Stuart Lewis



EIRNS/Stuart Lewis



EIRNS/Stuart Lewis

## Schiller Institute Sponsors Nigerian Delegation to U.S.

On October 20, a delegation of Nigerian Patriots hosted by the Schiller Institute gave a press conference at the Embassy Row Hotel in Washington, D.C., to expose those international political forces interested in destroying this key African nation.

The delegation, led by two men from different parts of the political spectrum—Chief Tony Anenih, chairman of Nigeria's Social Democratic Party, and Chief Odumegwu-Ojukwu, former President of the Republic of Biafra—united in support of the peaceful transition from military rule to a civilian-led federal government, as proposed by the Nigerian Constitutional Conference; and in opposition to the destabilization of Nigeria, through economic boycott and political manipulation.

Chief Tony Anenih, who led the delegation with Chief Ojukwu, had been a strong supporter of Moshood Abiola before Abiola began his operation to provoke civil strife in the country. Abiola would be released from prison, Anenih explained, if he were to desist from open provocations, but he refuses. "I believe in peaceful coexistence,"

Anenih said. "I would have been happy to see my candidate as president. But we shouldn't go to war because of that."

Chief Ojukwu also warned how outside forces were manipulating the domestic situation to destroy Nigeria. "We are aware that in Europe there is a very strong move for recolonization," Ojukwu said. "You will find the leader of that movement in the complex of Royal Dutch Shell. These are the people who want to keep Africa as a safari resort," he went on. "The name of the game is destabilization. Nigeria represents the pole around which an alternative can be organized in Africa. Those who wish to maintain a unipolar world where their rule is supreme, see the existence of Nigeria as a danger."

Another member of the delegation, Senator Sharif Ali, attacked the role of the I.M.F. in Africa. "The I.M.F. and the World Bank do not benefit any African country," Sharif said. "And if you go against any of their policies, believe me, you will be on the receiving end" of their wrath. "If we adopted the I.M.F. policies, we would be the 'darling' of the I.M.F. and the World Bank,

even if we had appointed a dictator for life as head of state," Sharif explained, to everyone's amusement.

In the same vein, Chief Anenih noted that Nigeria produces millions of barrels of oil. "The money goes largely to the servicing of the debt. But the more you pay, the more you have to pay."

# Slovakia: Yesterday and Today

by Dr. Josef Mikloško

*Dr. Josef Mikloško is former Vice Prime Minister of post-communist Czecho-Slovakia. He is currently a member of the Bratislava city parliament, vice-chairman of the Helsinki Commission for Human Rights, and secretary of the Justice and Peace Commission in Slovakia. He now chairs the Schiller Foundation in Slovakia. He was in the United States as an international observer at independent hearings on misconduct in the U.S. Department of Justice, held Aug. 31-Sept. 1 near Washington, D.C.*

The Slovak Republic is one of the world's youngest states. Seen through the prism of its complicated and painful history, in which Christianity has always played a dominant role, I would like to report on this small land in the middle of Europe, and also bring to the fore the most important facts of its history—from which it is evident that Slovakia has a history of which it need not feel ashamed. I would also like to give an eyewitness report on the most recent visit of Pope John Paul II to Slovakia.

The Slovak Republic has a population of 5.3 million: 85.6% Slovakian, 10.8% Hungarian, 1.6% Romanian, 1% Czech. The surface area covers 49,000 km<sup>2</sup>. The land is mostly mountainous, and has many rivers, reservoirs, and mineral water springs. The highest mountain is Gerlach, in the High Tatra range (2,655 m). Eighty percent of the land lies above the height of 750 m. Approximately 40% of the surface area is covered with forest, 30.8% is cultivated as farmland, and 16.6% is pastureland. Forty-four percent of the popula-

**The fall of the Iron Curtain demonstrated that a better world could be built on the ruins of the communist dictatorship, but it has proved to be an ever more difficult task. We were not prepared for the assault of 'consumerism,' the primitive 'mass culture,' the rising criminality. Privatization without morality, corruption, and vain attempts at obtaining wealth without ethical norms, are dangerous. The market cannot solve all problems.**



EIRNS/Stuart Lewis

tion was employed in industry and construction, 13.9% in agriculture—the exact figures cannot be ascertained today, owing to the high unemployment rate of more than 13%.

In March 1991, the population was 60.3% Roman Catholic, 6.2% Evangelical, and 3.4% Greek Catholic; 9.7% are atheists, and 18.2% are without religious designation. The Roman Catholic Church has 2,010 priests, 318 monks, and 2,866 nuns. Currently, 826 theologians study in Catholic seminaries, as well as 1,508 lay people, who also study theology. Approximately 3% of all schools are in the hands of the Catholic Church.

Slovakia is not rich in material terms. Its greatest wealth is in its people, their talent, productivity, and creative power. The first university in the land, the Istropolitan Academy, was founded in A.D. 1465. At present, there are sixteen colleges in Slovakia. The most important scientific institution is the Slovakian Academy of Science.

## The History of Slovakia

Celts settled the Slovak region as early as the Fourth century B.C. Around the

year 1000, Germans came here. In the First century after Christ, the border of the Roman Empire was on the Danube River, and Romans were stationed there as well as to the east of the Danube in the Slovakian region. At the end of the Fourth century A.D., the population of that time would have suffered an invasion of Huns.

In the course of the Fifth century, the Slovakian Slavic peoples came into the region and, after a successful march against the Avars, united, and between 623 and 658, created a first state structure, the kingdom of Samo.

In the Eighth century, Christianity got a foothold here, thanks to the activity of missionaries coming from more westerly centers. At the beginning of the Ninth century, the Slavic prince Pribina, who in 828 consecrated the first Christian church in Middle Europe, reigned in Nitra. In 833, his successor founded the Great Moravian Empire, which, under Svätopluk I (870-894) had a scope of 300,000 km<sup>2</sup> and achieved great scientific and cultural advances, although threatened by the Franks.

Prince Rastislav, in order to secure

**In 1968, an attempt at reform was undertaken. The leader of the Prague Spring was the Slovakian communist Alexander Dubček. His unrealistic dream of ‘socialism with a human face’ was butchered in blood by Soviet tanks. For the next twenty years, ‘normalization’ meant repression of human rights and freedoms.**



Beitmann

*Soviet tanks roll into Prague's Wenceslaus Square, Aug. 21, 1968.*

**Inset: Alexander Dubček.**



UPI/Beitmann

the independence of his empire, in 863 invited from Byzantium the missionaries SS. Constantine-Cyril and Methodius, with their disciples, into the Great Moravian Empire. They succeeded in establishing their own church province and, with Rome's permission, introduced the old Slavic language as the official language of the church.

Since 885, when the activities of Cyril and Methodius came to an end, they have remained unforgotten throughout the whole history of Slovakia, and still form today the most important cultural and religious tradition, because the characteristic Slavic language, writing, liturgy (with a special chant which represents a mixture of Byzantine and Western elements), and legal system are still standing.

At the beginning of the Tenth century, the Great Moravian Empire and that of the Franks fell under the weight of the warlike Magyar tribes, owing to the disunity of the three sons of King Svätopluk. The Slovaks in the following centuries were increasingly part of Hungary.

In the Thirteenth century, half the residents of the country were lost through the invasion of Tatars. The Hussites occupied Slovakia from 1421 to 1434. Following the battle at Mohács in 1526, Slovakia was increasingly pressed by the Turk.

Slovakia was the heartland of old Hungary, and Bratislava was Hungary's capital (until 1784), which the Haps-

burgs incorporated in their empire. The Hungarian Parliament met in Bratislava and from 1563 to 1830, and eleven Hapsburg emperors and Hungarian kings and queens were crowned here.

In the Sixteenth century, the country was won over by the Reformation—at the beginning of the Seventeenth century, 70% of the population was Evangelical or Calvinist. This changed in the course of the Seventeenth century, with the Counter-Reformation, and Slovakia became majority Roman Catholic.

At the end of the Eighteenth century, in the period of the Enlightenment, the national awakening of Slovakia began. In 1787, Anton Bernolák codified the written language for the first time. More successful, however, was Ľudovít Štúr, who took not the West-Slovakian, but rather the Middle-Slovakian dialect, as the foundation of the written language. Štúr was then also one of the leaders of the unsuccessful revolutionary movement of Slovaks in 1848. In 1861, the Slovaks presented a proposal for autonomy, but neither Vienna nor Hungary recognized it.

After the Austro-Hungarian settlement in 1867, an aggressive Magyarization was introduced in Hungary, which sought to dissolve the Slovakian people. In 1906-07, Slovakian elementary schools were banned.

Following the First World War, the

Republic of Czecho-Slovakia came into being on October 28, 1918. The then-leader of Slovakia, Andrej Hlinka, said: "The thousand-year marriage with Hungary was unfortunate. We must depart from one another. . . . I'm for the Czecho-Slovakian orientation."

The Czechs understood the new republic as centrist and unitary (rather than speaking of the Slovakian nation—next to the Czech—they spoke only of a Czecho-Slovakian nation), but the Slovaks wanted their autonomy from the beginning.

In 1938, the Western powers, through the Munich Treaty, sacrificed Czecho-Slovakia to Hitler. On October 6, 1938 the autonomy of Slovakia was proclaimed in Žilina; on March 14, 1939, under pressure from Hitler, Slovakia was proclaimed as an independent Slovakian Republic. On August 29, 1944, an anti-fascist revolt flamed up in Slovakia, the second-largest after Yugoslavia. The Germans occupied the nation and bloodily crushed the revolt.

Following the Second World War, Czecho-Slovakia was revived with the approval of the great powers. Unfortunately, however, the concerns and wishes of Slovaks were again undervalued. With the free election on May 26, 1946, the Communists were victorious in Czechia (38.1%); in Slovakia the citizens' Democratic Party won (62%). In



the entire republic, however, the Communists received the majority—although they had 1,266,000 members in Czechia, and only 128,000 in Slovakia.

The Slovak Communists supported Prague centralism, and heightened the internal political crisis. In February the Communists led a putsch and began the introduction of a total dictatorship, with Stalinist repression, fictitious political processes, and the persecution of the Church. Thus began forty years of communist dictatorship.

In 1968, an attempt at reform was undertaken. The leader of the Prague Spring was the Slovakian communist Alexander Dubček. His unrealistic dream of socialism with a human face was butchered in blood after eight months on Aug. 21, 1968, by Soviet tanks. For the next twenty years, “normalization” was established under the leadership of another Slovakian communist, Gustáv Husák—this meant repression of human rights and freedoms. In October, the laws of the Czecho-Slovak Federation were adopted, but were again dissymmetrical, with the power center in Prague.

On December 30, 1977, the Holy See established its Slovakian church province, which is identical with the borders of today’s Slovakia.

Following the fall of the totalitarian regime in November 1989, the accumulated social problems again became real. The transformation of society began. Slovaks wanted a decentralization of power and authority; the Czechs did not understand this, and wanted to remain in a “functioning federation.” Discussions of the division of authority between the federation and the republic were held without success for two years.

Following the election in June 1992, the two victorious parties, in Czechia the Citizens Democratic Party of Václav Klaus, and in Slovakia the Movement for a Democratic Slovakia of Vladimír Mečiar, on different bases, agreed to the dissolution of the common state. This was accepted by the two parliaments, and thus on January 1, 1993, two independent states were created by peaceful means—the Czech Republic and the Slovak Republic. Thus, an old dream of Slovaks came to fulfillment at last, although

under the leadership of ex-communists and atheists, in a difficult economic situation, and with a divided people.

### Christianity in Slovakia

The population of today’s Slovakia had come into contact with Christianity by the Second century. Archaeological finds indicate the presence of Christians in Bratislava in the Fourth century. In the Ninth century, Prince Rastislav recognized the political influence gained through the activity of German missionaries, and, for this reason, in 861 he sent his emissaries to Rome to request the creation of Slovakia’s own church province. Pope Nicholas I did not fill this request, so Rastislav sent a new delegation to Constantinople. There, in 863, the Emperor Michael II sent the brothers Constantine-Cyril and Methodius to the Great Moravian

flict with King Svätopluk, and had to defend the true faith of his mission once again in Rome. After the second return to Great Moravia, Methodius died here on April 6, 885. After his death, the Slavic liturgy was banned and his students were driven out of the land. But the Slavic liturgy, through the collapse of Great Moravia, was not wholly forgotten, especially by the members of the religious orders. Our forebears nourished the seed of SS. Cyril and Methodius from one generation to another.

The national consciousness, nourished above all by priests, grew abundantly in the Nineteenth century. In the fight for the right of nationhood at that time, Catholics and Evangelicals worked closely together. In 1863, the inter-confessional association “Matica Slovenská” was founded, and in 1870 the Catholic association of St. Adalbert.

**In A.D. 863, the brothers SS. Cyril and Methodius were sent to the Great Moravian Empire, where they instructed our forefathers in the Christian faith, produced for them the Glagolitic alphabet, and translated the Holy Scripture and other liturgical books into the language of the Slavic churches. Consequently, the Slavs received their own grammar, literature, translations, and liturgy in their mother tongue earlier than many civilized nations of Europe.**

Empire, where they instructed our forefathers in the Christian faith, produced for them the Glagolitic alphabet, and translated the Holy Scripture and other liturgical books into the language of the Slavic churches.

In 867 they visited Rome, where in 868 Pope Hadrian II ratified the language of the Slavic Church as the official liturgical language. He established for Great Moravia its own archbishopric, with Methodius as the first archbishop. The Slavs, then known as Slovieni, consequently received their own grammar, literature, translations, and liturgy in their mother tongue earlier than many civilized nations of Europe.

Constantine-Cyril took sick in Rome and died there on February 14, 869. Methodius returned, but fell into con-

Beginning in the Twentieth century, the leader of the Catholic Slovaks, a priest named Andrej Hlinka, worked together with the Evangelical priest and author Martin Rázus; they fought for the rights and autonomy of Slovakia. And so, the country maintained its national consciousness and faith into the Twentieth century, despite repression, emigration, want, and war.

Following the putsch in February 1948, the communists began a massive fight against the Church and all democratic powers. At that time, tens of thousands were illegally sentenced to a combined many hundreds of thousands of years in prison. All religious orders, Church schools, and religious publishers and hospitals, were outlawed, i.e., dissolved. During two nights in 1950, more

than nine hundred cloisters were liquidated and approximately 15,000 members of religious orders interned.

Following a short thaw in 1968, the church was again for twenty years a silent and suffering community, which survived despite everything. It worked above all in a well-organized underground. Regular meetings of children, youth, and families were secretly conducted, "Samizdats" spread massively, and religious books were smuggled in from the West. Hundreds of thousands of the faithful took part in Marian pilgrimages. The tip of this iceberg took shape in the 200,000-person protest in Velehrad in 1985, the call for religious freedom by Cardinal Tomášek in 1988 with 600,000 endorsements, and the brutally repressed "Candle Demonstration" on March 25, 1988 in Bratislava, with which the "Soft Revolution" began.

### Five Year After the Turning Point

The fall of the Iron Curtain was similar to the fall of the Roman Empire. It was demonstrated that a better world could be built on the ruins of the communist dictatorship, but it has proved to be an ever more difficult task. The enthusiasm over the end of communism awakened illusions about a quick improvement in the state of society and its future unity. After forty years of slavery we are free, but thralldom returned in another dress. Instead of joy over new possibilities, we are impatient, weary, and disappointed. We tolerate the emergence of "Sovietization" of thought: pessimism, passivity, envy, and rule from above. The orientation to short-term goals and easy solutions brings no results. We were not prepared for the assault of "consumerism," the primitive "mass culture," the rising criminality. Privatization without morality, corruption, and vain attempts at obtaining wealth without ethical norms, are dangerous. The market cannot solve all problems. In politics, hatred, revenge, seeking out enemies, and debt re-established themselves. People are again concerned about the possibility of a return of totalitarianism.

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**In 1989, Europe had the singular chance to bring West and East closer. This chance was allowed to pass; the divide between the rich and poor has become ever larger. It is certain that Europe will either have a common future, or none at all. We should follow the direction of the Papal social encyclicals, more than the shock therapy of the I.M.F.**

become ever larger. Thus, it is certain that Europe will either have a common future, or none at all. We should therefore follow the direction of the Papal social encyclicals, more than shock therapy of the I.M.F., in order to not provoke new social convulsions.

The church had suffered grievously before the turning point in the totalitarian state, while enjoying a great authority, however. Again today, the attacks on the Church are led by the "old structures" and by manipulated people. Many also want to minimize the role of Christianity in their interpretation of the bankruptcy of communism. Those who lack the courage to attack the Church directly, direct their criticism against the Christian Democracy.

### Pope John Paul II in Slovakia

Pope John Paul II, "1994 Man of the Year," is a charismatic personality. He was a worker, sportsman, poet, dramatist, and is a philosopher, author, and theologian. He is a man of faith and of prayer, a messenger of peace and of love. He conducts a dialogue with an individual just as he does with millions. His pontificate is filled with his concern to help people who are without hope.

The Pope has written twelve encyclicals, completed sixty-six apostolic trips to many countries, and carried out many beatifications and canonizations. In his latest encyclical, titled *Evangelization of Life*,



Bettmann/Reuters

*Pope John Paul II in Slovakia.*

**Above:** *At Kosice airport, July 2, 1995.*

**Right:** *Open-air mass, Levoča, July 3.*

he speaks for the culture of love for life, and about the protection of life from conception to its natural end. With his sixty-six apostolic trips, which lasted a total of 432 days, the Pope has visited 106 countries, delivered 1,959 homilies and speeches, and flown nearly a million kilometers.

His forty-sixth trip was a two-day visit to Czecho-Slovakia in April 1990. He also visited, for a single hour, the capital of Slovakia, Bratislava, where he encountered nearly a million faithful. On April 22, 1990 at 4:21 P.M., he kissed the Slovakian soil at the Vajnory Airport, and thereby honored a country that had so severely suffered during forty years of atheistic totalitarianism. "I came to you after the forty-year wandering in the desert, as after so many Good Fridays the Easter sun appears with the festive Alleluia." After the two-hour celebration, the Pope consecrated two hundred foundation stones for new churches, and took leave of the million faithful, who sang the song "O Maria Thou Mournful, You Protect Us," with the words "Until we see you again!" He left behind there a profound trail of faith, of love, and of hope.

From the foundation stones consecrated there, approximately eighty-one new churches were built. His "until we see you again" he fulfilled shortly there-

**Without a moral renewal, nothing worthwhile will be created, and nothing will become better. The Papal visit signified that the Church is still ever-vigorous, that only the idea of Christianity can unify people, that the Cyril-Methodian tradition is something concrete, that the youth are discovering the value of Christianity, that one can solve the national tension in the Christian spirit, and that ecumenicism is indispensable.**



Beitmann/Reuters

after, as, with his sixty-sixth trip, he visited the independent Slovakia.

He came at a time for which the words of St. Augustine ring true: "You run well, but on a bad track." The atmosphere of euphoria about newly gained freedom is finally gone; the situation is worse than it was in 1990. In place of a new morality, tolerance, and spiritual culture, we are living through disunity, thoughtlessness, and avarice.

On Good Friday 1995, the Salesians organized an unconventional Stations of the Cross in Petržalka, a gigantic silo-like residence on the right bank of the Danube. The fourteen stations were in front of a brothel, a discotheque, a prison, and an area where recently murder, suicide, brutality, and abortions had occurred. This, too, is today's Slovakia.

The Slovaks, who see themselves as a Christian people in the Cyril-Methodius

tradition, are hardly conducting themselves in this tradition, however. The wounds of totalitarianism are deeper than generally understood. Under cover of freedom and democracy, Christianity was put into question, and Christians were again shoved aside.

Five years ago, the Pope was greeted by former communists who barely knew the Our Father. This year, when there is only one solitary member of the regime without a communist past, it was the same.

The visit of the Pope occurred from June 30 to July 3, 1995. During these days, the Holy Father visited the capital at Bratislava, Nitra, the place of pilgrimage Šaštín, Košice, Prešov, a further place of pilgrimage Levoča, and the High Tatra. His visit was received with great jubilation and joy. At the divine services nearly two million faithful took part, more than a third of all

the residents of Slovakia.

The Pope opened his meetings everywhere with the words "Peace be with you," and ended with the words, "until we see you again!" Only God knows whether this Pope—who spoke the entire time in Slovakian, and, what is more, who said, "I was born a Pole, but in my heart I am a Slovak"—will visit our country once more.

On June 30, 1995, the President of the Slovakian Republic, Michael Kováč, greeted the Pope with the words: "Today, in the hour of weariness and of resignation by many, I ask you to bring us courage, and to bring our faith out of the private sphere, out of the churches, and into the political, cultural and economic life." To the priests, members of orders, and seminarians, the Pope said, in the Bratislava Cathedral: "During the communist dictatorship many of you proved yourselves heroic and true to Christ. With Him you have suffered, successfully resisting injustice and brutality. Your suffering has brought rich fruits of holiness and God's mercy and will yet bring you more."

The evening before, the Pope had met with youth in the time-honored Nitra, the cradle of Slovakian Christianity. The altar was adorned with an eight-meter-high crucifix, cut from a hundred-year-old linden tree. The Bishop of Nitra, Cardinal Ján Chrysostom Korec, who had secretly ordained priests and bishops, and, though not guilty, had spent ten years in prison for his faith, greeted the Pope. To work, he had written more than sixty religious books, which could only first appear after the political change-over.

The Holy Father told the 300,000 mostly youth, "Build the bridge between the second and third millennia, consecrate yourself entirely to the work of the new evangelization. Do not fear the radical demands of evangelizing. Know that the Holy Spirit is stronger in you than the spirit of the world. SS. Cyril and Methodius, at the risk of their own lives, refused to subordinate their faith to power. Don't let yourselves be deceived by the ideology of false freedom."

The Pope interspersed his sober speech, delivered in Slovakian, with Polish comments, which were understood by

all, as were his puns and humorous remarks. At the end, the young people sang and danced together with the Pope. The representatives of the youth received the encyclical *Evangelization of Life* as gifts. They dedicated anew to the Pope a spiritual bouquet of prayers, fasting, sacrifices, and communion. After his meeting with the youth, the Pope changed his program, to visit the castle in Nitra, where 1,167 years ago the first Christian house of worship in Central Europe was erected.

On July 1, the Holy Father visited Šaštín, the largest basilica of Slovakia, a baroque jewel from the year 1744. The Slovaks have often had to endure their own history of suffering and because of this, the Virgin Mary of Seven Sorrows is venerated as the patron of Slovakia. In Šaštín, the Holy Father said to 400,000 pilgrims: "It is good when one has somebody with whom to share his joy and his sorrow, when the mother is in your great Slovakian family, whom you can trust and to whom you can turn with all your sorrows and hopes."

In the Salesian cloister in Šaštín, the Pope met with the Slovakian Bishops Conference: "The coming of the third millennium calls the whole church of the world, to give clearer testimony to love and unity." In Bratislava, a meeting took place with the state President and the Prime Minister. In the evening, the Pope prayed the rosary in the Ursulinen church. At a nearby central square of the city, about 15,000 faithful prayed with candles together with the Pope.

The high point of the visit was the third day, during which, in Košice in the presence of 400,000 people, the three martyrs of Košice were canonized: the Croat Marek Križin, the Pole Milichar Grodziecki, and the Hungarian Stefan Pongrácz. They were active at the beginning of the Seventeenth century, in a time of class and religious warfare in East Slovakia, and bore witness to the strength of their faith on September 7, 1619 through their martyrdom. Among the attendees at the canonization were 11,500 citizens from the birthplace of the Croatian saint. The Holy Father delivered part of his speech in each of the three mother tongues of the new saints.

In the afternoon, in Prešov, the Pope visited the Church of St. John the Baptist,

where the Greek Catholic Bishop Pavol Gojdič is buried. He was illegally sentenced by the communists to a years-long prison term, and died in the prison at Leopoldov. At Akatist, the Holy Father gathered with 200,000 Greek Catholic faithful at the Greek Catholic feast of the Virgin. He emphasized their faithfulness and strength in faith—this church was banished in 1950 and the faithful forced to convert to Orthodoxy. Unexpectedly, he also stopped before the plaque commemorating twenty-four brutally executed Evangelicals from East Slovakia, who in 1687 had been condemned to death by a Hapsburg military court as a result of collaboration with insurgents of Prince Thököly. The Pope shook hands with the region's Evangelical bishop, and prayed together with him.

On the last day of his Slovakian visit, the Pope went to Levoča, a tradition-rich place of pilgrimage in Slovakia. As early as 1247, a chapel with the statue of the Mother of God stood here on the Marienburg mountain. Now the Pope greeted 600,000 faithful, among whom were many Romanians, who proclaimed: "Holy Father, you have kept your word and have come to Levoča."

The Pope celebrated Mass with six cardinals, forty bishops, and a thousand priests. Eight hundred singers from nine church choirs sang. At the end, when in the silence only the nightingale trilled, the Papal hymn "In Rome on Seven Hills Was Built" rang out. The Pope then said: "That faith was able to survive in this land, we thank the witness of these houses of God. . . . Divine Providence gave you the gift of freedom. That is the opportunity and summons to build a new Civilization of Love. Here may you be ever united and free; you were bound together by faith, hope, and love, which were the guarantee of your freedom."

In Levoča, many people sat by me who a short while before had been against religion in this region, and had fought against the faith of young people. Now in the police cordons I saw them, crossing themselves during the Papal blessing. Thus, much had changed in five years in Slovakia.

Following the departure of the pilgrims, the Pope visited, in the center of the High Tatra, the Sliezsky cathedral, to

rest briefly. In the evening, he departed from the representatives of Slovakia at the Poprad Airport. At that time he once again clearly condemned the communist dictatorship, and emphasized the courage of those who fought them: "May God protect Slovakia and its inhabitants. . . . I will keep a deep memory of these blessed days. Until we meet again."

### Quo Vadis, Slovakia?

The 1994 election brought to power in Slovakia a coalition of left-oriented populists and nationalists, led by Vladimír Mečiar. These politicians, who had already been twice before recalled, busied themselves with concentrating all power in their hands, in order to halt the transformation process of society, and to silence the opposition. The regime promised (but did not fulfill the promises), sought alleged enemies, and made massive purges in their own interest. It had promised to share the costs of the Papal trip as a state visit, but did not keep that promise—perhaps because the bishops' conference had taken the side of President Kováč, Mečiar wished to take back the promise at all costs.

Despite the current situation, the author of this piece is an optimist. Without a moral renewal, nothing worthwhile will be created, and nothing will become better. Christians, who are the majority of the Slovakian population, are indispensable in this process. The Papal visit called out the Christians to become agitators, to find unity, to overturn barriers, to solve conflicts. His visit signified that the Church is still ever-vigorous, that only the idea of Christianity can unify people, that the Cyril-Methodian tradition is something concrete, that the youth are discovering the value of Christianity, that one can solve the national tension in the Christian spirit, and that ecumenicism is indispensable. Slovakia has many courageous people of good will, who, united, will stop evil and will prevent a return of totalitarianism.

Slovakians are indebted, above all, to Christianity, for having enabled them to survive the problems and difficulties of the centuries. For this reason, there is for them only the way which John Paul II formulated on October 22, 1978 with his beginning: "Have no fear to receive Christ, open your doors to Him, have no fear!"

# A Glimpse into the Minds of Renaissance Artists

There is a rare, two-sided sheet of drawings, five hundred years old, now on display at the National Gallery of Art in Washington, as part of a special exhibition which will be on public view until early January. It is a page from the “Libro dei Disegni” assembled and mounted by Giorgio Vasari, the first art historian, who lived in the Sixteenth century. This object is right in the middle of the first room of the exhibition, where it catches your eye.

Vasari was also, “the first systematic collector who considered issues of quality and historical significance in creating a collection that spanned the development of Italian draftsmanship from Cimabue to his own time. His drawings were concrete companions to his written *Vite* [*Lives of the Artists*], exemplifying the work of his predecessors and contemporaries, and at the same time providing a view of their creative processes. Vasari anticipated not only the activities and outlook of the many great collectors in successive centuries, but the historical and didactic approach taken by museums in our own era.” So writes George Goldner in the catalogue of “The Touch of the Artist: Master Drawings from the Woodner Collections,” one of two shows of European Old Master drawings which are simultaneously running at the Gallery.

The second exhibit, “A Great Heritage: Renaissance and Baroque Drawings from Chatsworth,” displays a cross-section of many of the most priceless drawings out of nearly two thousand that make up the collection of the Dukes of

Devonshire in England, the finest such private collection in the world. It is also accompanied by a fine catalogue in which every drawing is illustrated in color.

A tale hangs between these two collections, because some drawings that used to be “Chatsworths” are now “Woodners.” The Vasari page, made up of ten separate drawings by the major Florentine masters Botticelli and Filippino Lippi, was first displayed in Washington thirty-three years ago—as part of a show which toured several U.S. museums at that time, of drawings from Chatsworth. This drawing was sold to pay British death duties in 1984 and came into the hands of the New York and Washington-based architect and

real estate developer, Ian Woodner. Since 1991, when it was purchased from the Woodner Estate by the National Gallery, it has belonged to the American public.

This is as it should be, and perhaps the 500-year odyssey of the “Vasari page” through successive hands of artists and oligarchs and financiers, to finally belong to an institution founded under President Franklin Roosevelt during World War II, can be taken as an example of the universal value of the European Renaissance vision for the construction and preservation of the modern nation-state. This art centers on portraying the human person and the natural environment which we human beings are called upon to self-consciously

master. The whole premise of the Renaissance discovery of science and statecraft, was to build a society of constantly decreasing imperfection in the realization of each individual’s heritage as a being created in the image of God. No matter to what degree we personally may physically resemble—or not resemble—the figures who dominate the drawings now on display in Washington, they speak to each of us directly of the joys and sorrows of building a human society.

Not only has no other art in the world so elevated individual consciousness; but within the sphere of “Western civilization” itself, in the domain of the visual arts, the last two centuries have seen a precipitous decline in the expression of this principle. These drawings bespeak a vision which is nearly lost and must be recovered.



Fra Bartolommeo, “Two Angels: One Blowing a Trumpet, the Other Holding a Staff,” c.1500.

### Old Master Drawings

A few words need to be said about what “old master drawings” are. In recent decades, scholars have discovered underneath the mural paintings of Tuscany extensive sketches which were used by artists to prepare their work. But only in the middle of the 1400’s did paper become cheap enough, to be independently used in a process of thinking through a picture. This was driven by the same desire to feed a population hungry for literacy, as the expanded business of copying books, which also fed the invention of movable-type printing. Thus, we can see that drawings of all kinds went hand in hand with the spread of books to larger and larger segments of the population. In Europe, in contrast to China, however, writing and picture-making never merged into each other.

The European Renaissance artist used drawings to experiment with a composition before committing himself to one specific design. He then also used drawings to work out the execution, such as drawing a figure from a live model to study the pose, a study of drapery, or a separate study of the perspective construction. Different media—pen and ink, wash and brush, and various

colors of chalk, as well as different textures and colors of paper—would be employed to serve the specific purpose for which the study was being made. Drawings were not merely a way for the individual artist to think through and prepare a painting, sculpture, or building; they were also, and especially, a way to communicate to one’s associates and students who might be involved in executing the work. Such drawings would be used over and over again in what came to be, in Raphael’s studio and even more so later, with Rubens, a quasi-industrial system of ordering the production of art.

As the Renaissance put a unique emphasis on the creative individual, it was only natural that, eventually, such drawings would have been recognized for qualities that went beyond their initial workshop purpose. Drawings give us a glimpse into the inner workings of a creative mind. Early along, drawings began to be made that were intended to be valued as final works of art in their own right, and be sold or given by the artist to a client; but even such quotidian items as Raphael’s studies, like his red chalk drawing of an antique marble horse in Rome (Woodner) or the nude studies from models and the marvelous

head of an apostle used to prepare his Transfiguration altarpiece (Chatsworth), quickly came to be recognized as beautiful works independent of their purpose as a means to an end.

At the present time, a journey to the Devonshire mansion in remote Chatsworth—one which this reviewer once undertook—is pretty arduous, not to mention expensive. Yet even if all of the Dukes of Devonshire’s collections eventually find their way into public hands, as I believe they will, they will still not be easily accessible to the public. Drawings, like all works of art on paper, are particularly fragile and vulnerable to deterioration when subjected to light for an extended time. This is why they come out for occasional shows and then are rotated back into the boxes where they are kept (unframed) on mounts. This makes the present opportunity to see the “Chatsworth” and “Woodner” drawings in Washington, a very precious one.

### The Exhibits

I will conclude with a few observations about individual drawings and the different character of the two shows. The truly remarkable quality of Ian Woodner’s collection—assembled since 1959 and much

of it acquired during the 1980’s, when it cannot have been easy to find masterpieces not yet in public hands—can be seen above all in the first and last rooms of the show. The first rooms display his strong holdings in the early Renaissance, especially the German Renaissance. No reproduction can possibly do justice to the Albrecht Dürer hand-illuminated illustrations around a printed page of a book in Greek, dedicated to his friend and patron, the Nuremberg humanist Willibald Pirckheimer, to mention



Giovanni Francesco Barbieri, called Guercino, “A River in Flood, with Peasants with Axes and Other Tools,” c.1620.

Devonshire Collection, Chatsworth

only one of the treasures you will find here. In the last room are Woodner's four original drawings by Goya, two dating from the sunset years of Goya's life after he was eighty years old, and a most unusual Picasso study from the early years before cubism, before this artist squandered his talent in the making of "modern art." The catalogue of this show, edited by Margaret Morgan Grasselli, called upon fifty-two scholars, experts in each area, to write the entries and as a result, it is particularly distinguished.

The Chatsworth collection, of course, contains more great works than the Woodner, especially when it comes to the acknowledged major masters such as Raphael, Rembrandt, and Rubens. One thing which is especially startling in both shows, however, is the freshness of the drawings, which require no "interpretation" to speak to a modern viewer. In Raphael's Chatsworth drawing of a "Mother Reading to a Child" [SEE inside back cover], the child looks out so directly that it hardly seems that five hundred years have passed since this scene was recorded. This drawing, selected for illustration on the front cover of the catalogue, is complemented by musical penmanship of the c.1500 sketch of "Two Angels" by Fra Bartolommeo, which is reproduced on the front of the Woodner catalogue. Presumably, these choices were made independently (even though both catalogues match in size), but the combined effect is to proclaim the primacy of the High Renaissance of Central Italy as the pinnacle of human achievement in the visual arts.

At the same time, many visitors will here gain their first appreciation for the great draftsmen of the Seventeenth century (other than Rembrandt). It may take some arguing to get most Twenti-



Sir Anthony van Dyck, "Head and Forequarters of a Gray Horse," 1619.

Devonshire Collection, Chatsworth

eth-century viewers to connect emotionally with the rhetorical altarpieces of the Catholic Reform which made up much of the public output of the Carracci family, and their pupils Guercino and Guido Reni. But no such introduction is needed to involve us in Annibale Carracci's poignant red chalk portrait of a hunchback boy inscribed "I don't know if God will help me" [SEE inside back cover], in Reni's sketch of a woman looking over her shoulder, or in the multi-faceted drawings by Guercino, one of the greatest draftsmen who ever lived. The Chatsworth Guercinos include a stormy river-landscape that descends directly from Leonardo da Vinci, and a delicate miniature altarpiece in red chalk, showing a cloud-borne Madonna and Child bestowing rosaries on St. Dominic and St. Catherine of Siena. Similarly, while Anthony van Dyck's painted aristocratic portraits bespeak a very disturbing sensibility, his powerful study of a horse in motion stands up well to comparison with horses by Leonardo da Vinci and Raphael.

One unique feature of the paired exhibits is the opportunity to reflect on

not only the act of drawing, but also on how the process of collecting and emulating has worked during the past five centuries of Western art. You can run up and down the stairs in the National Gallery's East Building and compare two Holbein portraits of the same youth, and decide for yourself which is really by Holbein (the catalogues suggest that the Chatsworth version is the original, and Woodner's a good copy). You can enjoy in No. 68 from Chatsworth, the tailpiece of Padre Resta's album showing the Oratorian priest showing off an album of drawings to guests. There is the page with which we began, of course, in which Vasari selected the drawings by his Florentine forerunners,

attributed them, arranged them according to his own taste, and drew frames. You can enjoy the brilliant drawing of the "Wing of Blue Roller" by Hans Hoffmann (d.1595) [SEE inside back cover], a later Nuremberg artist who successfully passed off his work as that of Albrecht Dürer (Dürer's own drawing of a Blue Roller was exhibited in Washington in the "Circa 1492" show a few years ago). All of these examples point to the fact that preserving and collecting drawings has been a key factor in the dialogue which has driven Western art forward for hundreds of years. And since Plato at least, dialogue has been the very soul of great art.

—Nora Hamerman

*You can see the two shows in tandem in Washington until Dec. 31. The Chatsworth drawings (and by the way, this is going to be the last loan show of a broad selection from Chatsworth, with future traveling shows to be devoted to single artists or schools) will be seen at New York's Pierpont Morgan Library from Jan. 18 to April 21, 1996; the Woodner drawings will stay on in Washington until Jan. 28.*

## Can Newt Tell Fact from Fiction?

Newt Gingrich's *To Renew America* outlines the political agenda of the "Contract on America." It substantiates over and over again that Gingrich doesn't have any understanding of the historical or philosophical significance of his own nation, much less any other.

"American civilization" is the principle which Gingrich puts forward as the ideal. But what is that? This alleged history professor describes it as composed of five basic elements:

"1. The common understanding we share about who we are and how we came to be.

"2. The ethic of individual responsibility.

"3. The spirit of entrepreneurial free enterprise.

"4. The spirit of invention and discovery.

"5. Pragmatism and the concern for craft and excellence as expressed most recently in the teachings of Edwards Deming."

Now, you might think that American civilization should be defined with some reference to our revolutionary break with Great Britain, but that is not something which Gingrich puts any emphasis on. In fact, the source he refers to as his favorite American historian—Gordon S. Wood—sees the American Revolution as being totally within the British radical empiricist tradition.

Wood is the author of *The Radicalism of the American Revolution* and *The Creation of the American Republic*. In *The Radicalism*, Wood states in the introduction: "There should no longer be any doubt about it: The white American colonists were not an oppressed people, they had no crushing imperial chains to throw off." That statement alone shows he doesn't understand the difference between imperialism and republicanism.

Wood describes Eighteenth-century England as a "republicanized monarchy," and sees the American Revolution as continuous with it. Specifically, he defines republicanism as the tradition of

the Enlightenment ideas of John Locke, who, in his view, is the quintessential representative of "freedom."

Wood describes the phenomenon of American republicanism as coming into its own in the Jacksonian era—the era of populist democracy, which, in fact, led to the destruction of the American System of political-economy for some decades. At that time, he says, Locke's ideas were more fully dominant. Locke's idea of the mind being a *tabula rasa*, a blank sheet, meant that, in Wood's words, "minds can be molded and manipulated by controlling people's sensations." Thus, people can be defined by their experiences, with no moral inhibitions whatsoever. A perfect description of British liberal radicalism of the Adam Smith type.

In fact, Gingrich positively refers to Adam Smith's view of liberty in his speeches, praising *The Theory of Moral Sentiments*, the work in which Smith says that people don't have to be concerned with the moral consequences of their actions, but should concentrate on fulfilling their desires, and leave the result to God. This is as anti-American as Adam Smith's theory of free trade, a policy which the American Revolution was specifically fought against.

Now, take a look at Gingrich's "principles." Our "common understanding" of where we came from, is a vacuous concept—especially when divorced from our historical struggle against British imperialism. "Individual responsibility" is a value of all western civilization, in the positive sense of the individual's being made in the image of the Creator, and responsible for history. But Gingrich doesn't mean it that way. For him it means, if you don't make it in society, it's your fault.

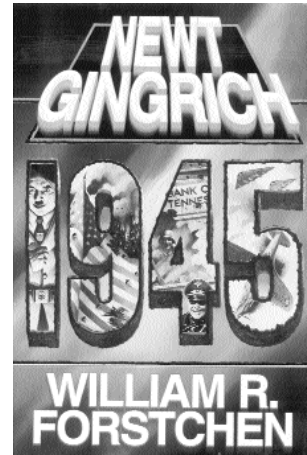
"The spirit of entrepreneurial free enterprise" is the British free-trade ideology Gingrich loves. "Pragmatism and the concern for craft and excellence" is an apology for the same amorality of Adam Smith. For Gingrich, "the spirit of invention and discovery" refers to

### Newt Gingrich



### To Renew America

To Renew America  
by Newt Gingrich  
HarperCollins, New York, 1995  
260 pages, hardbound, \$14.40



1945  
by Newt Gingrich and  
William R. Forstchen  
Baen Publishing Enterprises,  
Riverdale, N.Y., 1995  
382 pages, hardbound, \$24.00

Third Wave, post-industrial virtual reality.

In effect, what Gingrich describes as "American civilization" is British free trade chauvinism.

#### The Novel

Gingrich's novel, *1945*, has been the subject of a great deal of ethical discussion. The scenario—which has Hitler's Germany surviving World War II and embarked upon a nuclear



race with the United States, and upon the beginnings of World War III—is just a cynical cover for his own futurological agenda.

It is notable that the novel includes a fair number of historical characters, despite its disclaimer that “any resemblance to real people or incidents is purely coincidental.” The evil hero is Otto Skorzeny, and the British prime minister is Winston Churchill.

The most outrageous “real” fictional character, however, is the evil German nuclear bomb specialist, who is given the name Friedrich von Schiller. Schiller, the German poet of freedom, who fought for the ideas of the American Revolution in Europe and for Classical beauty, is utterly defamed by this reference—and it could not have been by accident.

In the novel, after the Nazis have succeeded in destroying the U.S.

nuclear facility at Oak Ridge, Tennessee, the scene shifts to Washington, D.C., where the government leadership is trying to figure out what to do next. And what is the proposal? A new form of systems analysis geared to overcome bureaucracy! It reads like a printout of the gobbledygook from Alvin and Heidi Toffler.

From the mouth of one “General George Catlett Marshall,” comes the following ideological spiel:

“I do have a new model—a new paradigm—on how a modern democratic state should organize itself to make a surge-effort in war. This is radical stuff . . . and I’m going to need a cadre of thinkers, thinkers who can take my ideas and run with them and build on them. . . .

“By that I mean, give them the greatest possible freedom to shape the very goals they pursue. . . . Or to put it yet

another way, to *call* the shots, not just make them. Consider: We won the Great Pacific War as fast as we did by assembling first-rate teams without regard for the organizational provenance of the team members. Then we set them goals and arranged things that they could charge forward full-bore, with no bottlenecks, or bureaucratic jerks, or surprise budgetary constraints allowed to get in the way.”

These are precisely the “industrial-organizational ideas” that Gingrich and his army of destroy-the-government revolutionaries are using today, when they claim that “bureaucracy” is the problem, instead of bad policies.

If we are going to restore ourselves as a sovereign republic, committed to the welfare of our posterity, and all mankind, then his agenda had better be defeated.

—Nancy Spannaus

## Pope John Paul II Seen Through a Glass, Darkly

In his *First Letter to the Corinthians* 13, the Apostle Paul wrote that now, we see God “as through a glass, darkly,” but later, we will see Him face to face. By this, he meant that our view of reality is colored by our own faulty axiomatic assumptions.

St. Paul is explicitly referencing Plato’s allegory of the cave in *The Republic*, where man is depicted as taking for real, what are only the shadows or reflections of the real figures cast by firelight onto the cave walls.

As opposed to the Aristotelian interpretation, that man will only know reality “in heaven,” Plato, and St. Paul after him, insist that this is one among man’s principal problems to be overcome during his mortal existence.

It would have been good if Tad Szulc, the former foreign and Washington correspondent of the *New York Times*, had overcome his own *New York Times*, Aristotelian axiomatics before attempting this “definitive”—but not “authorized”—biography.

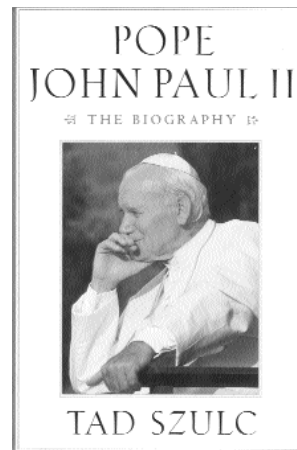
The result of presenting John Paul II’s career from the standpoint of the bias of a *New York Times* liberal-environmen-

talist, is that the Pope is portrayed as *schizophrenic*. For instance, the book’s jacket describes the Pope, Karol Wojtyla, as characterized by a “daunting contradiction between his inexorable conservative stand on contraception, divorce, and an all-male, celibate priesthood, and his powerful advocacy of human rights everywhere and social justice in the Third World and among the poor of the affluent West.”

This alleged schizophrenia is the main, recurring theme of Szulc’s biography. Szulc refers to Wojtyla both as an “absolutist”—which he wildly attributes to Wojtyla’s being influenced by Aquinas (which he is) and Aristotle (which he definitely is not)—and a man of “quintessential human decency.”

Readers of *Fidelio* should recognize the similarity in this view of John Paul II, to the establishment’s view of Lyndon LaRouche. The statesman and economist LaRouche is routinely depicted as a “strange mixture” of “conservative” and “liberal” views, as though the confusion were his, and not that of his accusers.

In reality, in the case of both John Paul II and Lyndon LaRouche, both



**John Paul II: The Biography**  
by Tad Szulc  
Scribner, New York, 1995  
542 pages, hardbound, \$27.50

men are striving to bring *truth* to the world, each in his own realm, which truth is based on certain fundamental conceptions: (1) That man is created in the living image of God, and therefore has within him the divinity of his Creator, from which his inalienable right to life derives; (2) that modern culture, par-

ticularly in the West, has vastly degenerated from that Christian humanism which characterized it at the height of the Italian Golden Renaissance, to the point that it has become what John Paul II has called “the culture of death”; and (3) that this degeneration must be combatted both in society at large as well as in the ranks of leading institutions.

From this standpoint, John Paul II’s “conservative” battle for life and against radical change in the Roman Catholic Church, is entirely coherent with his “liberal” fight for the rights of the world’s oppressed. Both battles are informed by the same premises.

### The Population Question

Szulc delivers his strongest diatribes against John Paul II in dealing with the Pope’s leadership in opposition to the United Nations’ Conference on Population and Development, which took place in September 1994 in Cairo, Egypt. He quotes the Pope’s critique of the conference’s draft document, in which he stated, “the theme of development . . . including the very complex issue of the relationship between population and development, which ought to be at the center of the discussion, is almost completely overlooked.”

Szulc claims that John Paul II “appeared to be endorsing” the “belief held by some in the Third World that

population control programs are the genocidal conspiracy by the wealthy nations to keep down poorer societies by preventing them from growing.”

You bet he is! Nor is it a mere “belief”: To anyone whose employer is not a leading mouthpiece of the international Malthusian establishment, this “conspiracy” is plain as day—although it’s a conspiracy of an elite oligarchy within the “wealthy nations,” not the nations themselves.

But Szulc, from his editorial perch, explains that, “[m]ost specialists in Third World problems reject this approach on the grounds that money is limited and that no infrastructure can be created in the foreseeable future to meet the demands for even a minimal decent existence for a world population projected to expand from 5.7 billion estimated in 1994 to 10 billion within the next two decades. U.N. experts have urged efforts to stabilize the number at 7.2 billion by the year 2050.”

The limits to growth imposed by such genocidal institutions as the United Nations and its mouthpieces in New York and London are a given for Szulc. Therefore, he concludes, people will die.

### ‘God Prepares His Arrows’

To Szulc’s credit, the parts of the biography which are not heavily overlaid

with editorial comment, make for fascinating and informative reading. Szulc interviewed hundreds of Wojtyla’s friends and associates, and had “informal” discussions with the Pope himself. He presents a biographical account which—if you get past Szulc’s dogma—leads one to conclude, with Szulc, that John Paul II has “quintessential human decency.”

Perhaps a better characterization is given by Wojtyla’s friend, Cardinal Deskur, who says of John Paul II’s life and papacy, “God prepares his arrows. . . . Everything the Holy Father endured in his life, prepared him for what he had to be.” Indeed, the most striking, and moving, aspect of Karol Wojtyla’s life, is that, faced with recurring suffering and hardship, at each point he has turned that suffering and hardship to the good. From childhood, when he lost his mother at age nine, his brother at twelve, and his father at twenty-one; through the Nazi and Communist occupations of Poland; through assassination attempts and serious physical ailments, Wojtyla has used the suffering to steel himself for a life of thoroughgoing commitment to carrying out Christ’s work—love—and with the culture and humanity for which he is indeed known and loved throughout the world.

—Marianna Wertz

## Picture of a Man of Morality

In 1993, Pierre Salinger returned to the United States after twenty-five years in Europe. He had moved to France in 1968, because he was “still completely shattered by Bobby’s [Kennedy] assassination, which rekindled the painful memories of John Kennedy’s.”

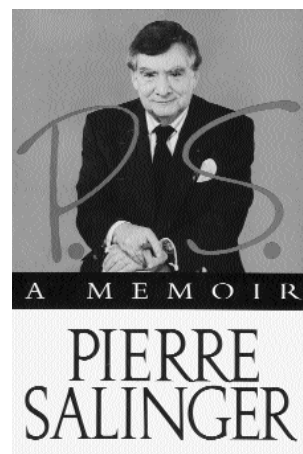
This book’s introduction reports that in 1991, with the Gulf War coming to an end, Salinger was “seized by a sudden mad desire to run for President of the United States.” At that time, he considered buying a half-hour of time on all three major networks to announce his candidacy, but then decided against it.

This book reveals those tragedies,

which the nation and the world as a whole experienced in the 1960’s, through the eyes of a man who was an intimate of both slain Kennedy brothers. It reveals how the world has changed since then, in large part for the worse. And it reveals a man who, at seventy years of age, in the process of overcoming this tragedy, has preserved his moral outlook, a “global person” not afraid to combat what he refers to as George Bush’s “new world *disorder*.”

### Early Years

There are two factors in Pierre Salinger’s early years, which clearly had



**P.S., A Memoir**  
by Pierre Salinger and  
John Greenya

St. Martin’s Press, New York, 1995  
304 pages, hardbound, \$24.95

a formative influence on his development. First, he reports that his mother's father, Pierre Bietry, was a member of the French Parliament from 1906 to 1910. The highlight of his grandfather's public service was his vigorous defense of Capt. Alfred Dreyfus, who had been convicted of treason in 1894. Evidence proving Dreyfus' innocence had been suppressed by the military. At one point in 1906, his grandfather's remarks on behalf of Dreyfus became so heated that the Assemblée was shut down for the day and his grandfather ejected.

Second, from age four to twelve, Pierre Salinger trained to become a concert pianist. At the same time, he was also studying composition and conducting, as well as the violin. Although at age twelve he abandoned the idea of becoming a musician, this training undoubtedly helped form his character. In later life, as President Kennedy's press secretary, it was he who organized the celebrated performance of 'cellist Pablo Casals at the White House.

After serving in the Navy during World War II, and winning the Navy and Marine Corps Medal for heroic conduct, Salinger attended the University of San Francisco, a Jesuit school, and went to work as a journalist with the San Francisco Chronicle. His two biggest stories—and the two of which he is most proud—were, first, a series of articles which proved that an indigent black man who had been unfairly convicted of murder was innocent; and second, a series exposing the appalling conditions in many of California's jails, which he wrote after having himself been thrown into a number of them, in the course of his reporting.

Salinger's commitment to justice in public policy is also reflected in his 1964 campaign for U.S. Senator in California. He lost that campaign because he opposed Proposition 14, a proposed constitutional amendment that would have nullified California's fair-housing law. As he writes, "I hadn't sweated out the historic events of Birmingham, Alabama, and Oxford, Mississippi, with John F. Kennedy so I could turn around a

few years later and sell out the Civil Rights movement." When he lost, Bobby Kennedy told him, "My brother would have been proud of the way you lost."

Perhaps the moment in the book which is most revealing of Salinger's character, concerns how he responded in 1977 to the suicide of his son Marc, who was, like so many young people of his generation, an indirect casualty of the assassinations of the 1960's and the war in Vietnam, with the added fact in his case that he had known the President personally as a child and thus felt his loss even more intensely. The Mass card Salinger and his first wife chose for their son bore a picture of St. Francis and the text of the prayer of St. Francis, which begins, "Lord, make me an instrument of your peace."

### Two Big Stories

In 1990, three years before he moved back to the United States, Salinger, who had become the Paris bureau chief of ABC-TV and then ABC News' senior European editor, would report on two of the biggest stories of his life. The first story was the Gulf War, about which Salinger has written the book *Secret Dossier: The Hidden Agenda Behind the Gulf War*. As Salinger briefly reiterates in this book, "This was a war that could, and should, have been prevented—by the United States of America. . . . The Gulf War was not necessary." And the reason it was not stopped, he says, was "because President Bush wanted to go to war."

The second story was his exposure of the fact that the Pan Am 103 flight was not bombed by the two Libyans and the Jordanian accused of so doing. Salinger was the only Western journalist to interview all three of these suspects. Salinger writes: "I have come to the conclusion that the United States shifted the focus of world suspicion away from Syria and Iran and toward Colonel Gadhafi of Libya. Why? Among other reasons, because Syria and Iran were helpful to the United States in the Gulf War, the former actively and the latter passively. It is important to remember that the United States wanted Syria to negotiate

a peace accord with Israel, which would be difficult, to say the least, if Syria was still charged with the Pan Am 103 bombing."

What Salinger demonstrates in this case is that the United States and the United Kingdom knew full well, that the people indicted by the U.S. Department of Justice were innocent, but they indicted them nonetheless.

Salinger's personal knowledge of such corruption is also reflected in a letter he wrote to the French paper *Le Monde* attacking an article which had slurred John Kennedy. He writes: "Do not forget that the head of the FBI during the Kennedy administration was J. Edgar Hoover, who made substantial false efforts to destroy the Presidential image. I have personal proof of this, since Mr. Hoover leaked information about me which was totally false."

### 'Disintegration of History'

In the epilogue to the present book, Salinger reflects on the problems facing the world today. "There is one more thing I want to talk about before ending this book. I've been involved in global work for decades, and I am stunned at how badly all nations are dealing with the world today. The central point is the disintegration of history. Whole generations have forgotten history. Even many of today's world leaders have forgotten history. And believe me, as one who has seen a number of international crises firsthand, they cannot be handled without an understanding of history.

"After the Gulf War, President Bush put out a statement proclaiming that we had moved to what he called a 'new world order.' How wrong he was. We are in a new world *disorder*, and a lot of that disorder is linked to the fact that leaders lack an understanding—or even a sense—of history in dealing with significant problems."

Although one might differ with Pierre Salinger on particular issues, he is a man with a sense of justice, who at least knows where to look for solutions, and a man who, like his French grandfather, is not afraid to fight for justice, even when the cause of justice is unpopular.

—William F. Wertz, Jr.

# Vienna's Musical Revolution, in Context

Had Mozart lived but another decade," writes Daniel Hertz, "perhaps he might have collaborated with Schiller himself." The basis of this insightful hypothesis, which appears on page 693 of this weighty volume of musicological analysis and cultural history, is not any of the known "connections" between the circles of the Vienna-based composer and the German poet who inspired Ludwig van Beethoven's Choral Symphony—although such links are many and tantalizing. Rather, Hertz arrives at his suggestion through an analysis of Mozart's grand opera, *Idomeneo*, which was completed by January 1781 in Munich.

It is worth quoting from the author's argument: "*Idomeneo* has in common with French grand opera, a concept of tragedy that transcends the individual; the fates of entire peoples typically hang in the balance. In this respect it resembles Rossini's *Guillaume Tell* and Verdi's *Don Carlo*, both written for Paris. Like those epic works based on Friedrich von Schiller, Mozart's *Dramma eroico* (as the first edition of *Idomeneo* in score was designated) is a very long opera and rich in choruses and ballets. All three works emphasize the same key word or concept: *liberté/libertà*."

Hertz goes on to sketch the political context of Paris, where Mozart had obtained the libretto for *Idomeneo*. "Mozart was twenty when the Revolutionary War in America broke out in 1776. Hostilities did not cease until he had completed his grand opera and seen it through its first production. Its French source spurs us to ponder the political situation in Paris for a moment. French intervention on behalf of England's rebelling colonies in North America was absolutely crucial in winning their independence. As envoy to Paris, Benjamin Franklin succeeded in persuading a reluctant French government to back the insurgents. The Treaty of Friendship was signed at Paris in February 1778, just before Mozart's arrival. Caron de Beaumarchais, the creator of Figaro, did his

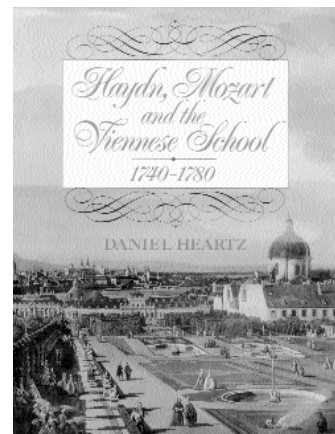
utmost to bring this about. . . . In the end, the American army under the command of George Washington combined with the French army under the command of Lafayette and Rochambeau to force the surrender of Cornwallis and his redcoats at Yorktown, Virginia, on 19 October 1781. A new nation was born under fire, and the ideal of liberty soon proved contagious."

Hertz concludes this chapter: "*Idomeneo*, in international terms, lays claim to being nothing less than the greatest lyric tragedy of its century. The effort Mozart put into creating a work of such magnitude and its public success helped precipitate the decisive turning-point of his life. Henceforth he could no longer resume the quasi-feudal status of a court musician. Vienna in the spring of 1781 represented for him the beginning of a new voyage."

## 'Multicultural' Vienna

Starting in 1740, Hertz's narrative takes us through the creation of an independent Viennese school of music under the Empress Maria Theresa, herself a gifted singer/actress who under other circumstances would have had a great career on the stage. In the early 1700's Italian musicians dominated music and art at the Viennese court. But little by little an impressive group of musicians came together in "multicultural" Vienna.

In common with Lyndon LaRouche, who has written eloquently in *Fidelio* on Haydn's adoption just before 1780, of the revolutionary *Motivführung* principle of composition, Hertz rejects such terms as "Classical," "Baroque," (and presumably also, "Romantic") as names for musical periods. Hertz argues that there is no linear connection between the "Classic" created in Weimar in northern Germany around Schiller and Goethe, and the distinctive culture of Vienna, upon which Hegelian historians imposed the label "Classic." As indicated above, for the author, the ties between the world of Haydn and Mozart, and that of Schiller, are on a



Haydn, Mozart, and the Viennese School, 1740-1780  
by Daniel Hertz  
Norton, New York, 1995  
722 pages, hardbound, \$65.00

more profound and universal level.

What the northern German bias ignores, Hertz argues, is the reality that Catholic Vienna's culture was heavily influenced by Italy and France, and also, the major role of Bohemian musicians. Many instrumentalists in the Hapsburg imperial court were Czech. Composers of Slavic-Bohemian origin included Gluck, Steffan, and Vanhal. Hungary produced Haydn's important patron, Prince Nicholas Esterhazy; other Viennese composers, Michael Haydn and Ditters, worked for years in Hungary.

For the generation of 1710, training in Italy was still considered indispensable. Haydn, born in 1732, never visited Italy, but his training with the Austrian court musician Reutter "was supplemented by more penetrating lessons imparted by the visiting Neapolitan composer Porpora, as Haydn stressed in on uncertain terms in his autobiographical letter of 1776." Metastasio, the greatest Italian poet of the century, dwelt in Vienna for over half a century. As a contemporary author quoted by Hertz remarked, "Viennese audiences represent the distillation of all nations." Hertz himself points out, "Haydn's origin and life in the border area where many diverse peoples came together was a source of strength and, in his music, of infinite variety. More than any other

composer, Haydn united the Fuxian ideal of the contrapuntal with the *seemingly* popular that made him accessible to all.” (Haydn was born in Rorhrau, Lower Austria, on the Danube just upstream from Bratislava.)

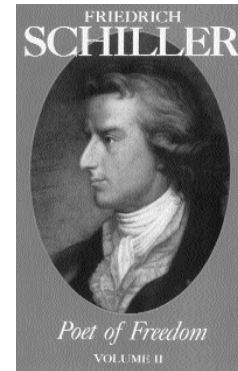
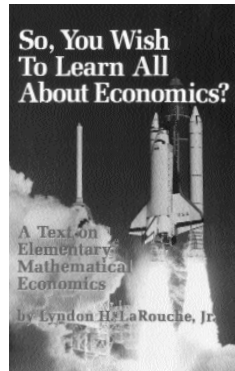
For the first time, Hertz describes in detail, using contemporary sources, the actual courts, churches, and other environments where the music of Haydn, Mozart, and their contemporaries and predecessors was performed. We get to know the voices—the tenor, nearly seventy years old, who had to sing the demanding trills and cadenzas in *Idomeneo*, or the strengths and weaknesses of Haydn’s group of singers at the Esterhazy palace—for whom the music was written. The image of operatic sopranos decked out in ostrich feathers and accompanied by kettledrums and trumpets, giving thrice-weekly Lenten concerts at the court chapel in Vienna is unforgettable, as is the outrage of some contemporaries who recognized that the choir’s “Sanctus” in the Mass, was sung to the tune from a popular Italian comic opera.

**Revolution vs. Autocracy**

While crediting the Hapsburg-Lorraine dynasty for a consistent patronage to music over generations which was unique among European rulers, Hertz is very clear that their autocratic system was incompatible with the breakthroughs Haydn and Mozart had achieved by 1780. In the very last sentences, he writes: “Haydn and Mozart together, reacting to each other’s genius and knowing that they were beyond the reach of all other composers—this is a new phenomenon of the 1780’s. The subject is sublime. It deserves to be at the center of another volume.” The principles of their musical revolution have been identified by LaRouche, and the environment in which Mozart worked after 1780 was described by David Shavin, in previous issues of *Fidelio*. If Hertz does write another volume as meticulously documented as this one, it will no doubt further enrich our understanding of the greatest revolution which has yet occurred in music.

—Nora Hamerman

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**T**wo shows of European Old Master drawings, from the Woodner and Chatsworth collections, are running simultaneously at the National Gallery of Art in Washington, D.C.

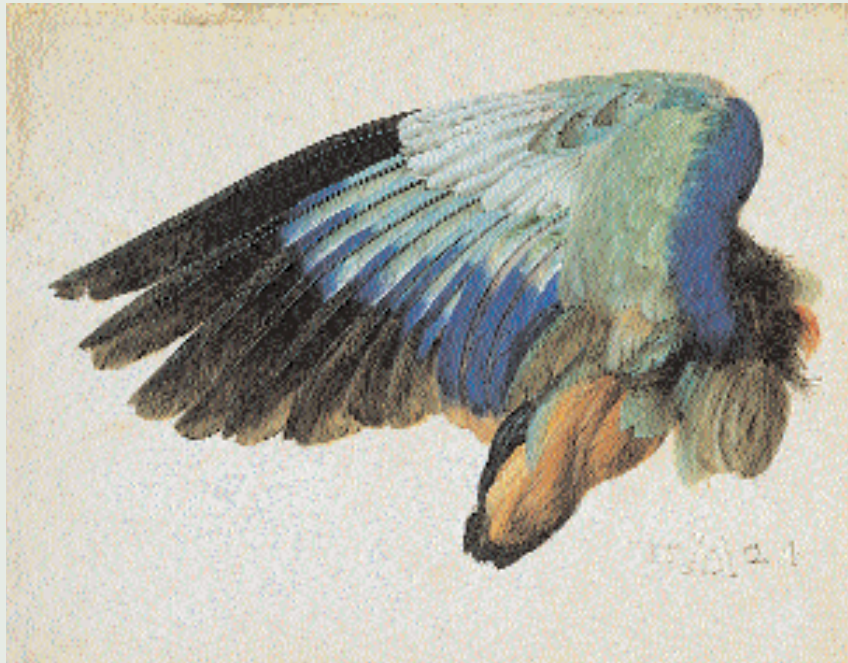
The Renaissance artist used drawings to experiment with a composition before committing himself to one specific design. And drawings were not merely a way for the individual artist to think through and prepare a

## A Glimpse Into the Minds of Renaissance Artists

painting; they were also a way to communicate to one's associates and students, who might be involved in executing the work.

It was only natural that, eventually, such drawings would have been recognized for qualities that went beyond their initial workshop purpose,

for they give us a glimpse into the inner workings of a creative mind. Early along, drawings began to be made that were intended to be valued as final works of art in their own right, or they were recognized as beautiful works independent of their purpose as a means to an end.



Hans Hoffmann, "Left Wing of a Blue Roller," c.1580. **Woodner**

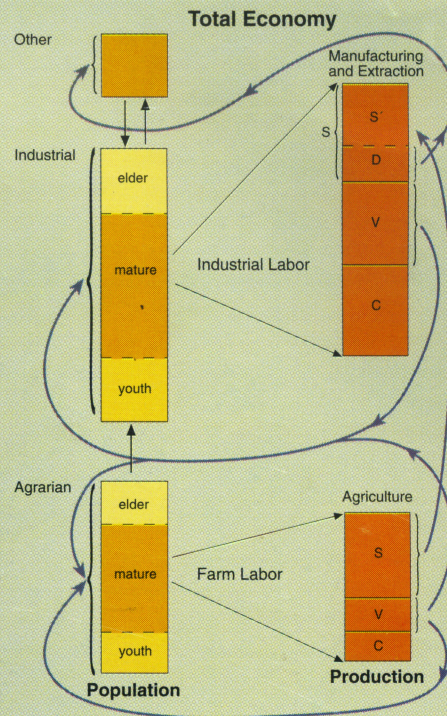
**Top:** Raffaello Sanzio (Raphael), "A Woman Seated on a Chair Reading, with a Child Standing by Her Side," c.1511-1512. **Chatsworth**



Annibale Carracci, "A Hunchback Boy, Half-length," 1580's. **Chatsworth**

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As the onrushing process of collapse of the I.M.F.-dominated global monetary and financial system demonstrates that all generally accepted mathematical representations of economic processes are incompetent, Lyndon H. LaRouche, Jr. renders transparent both how and why the LaRouche-Riemann method works, and why it must be adopted now to prevent the destruction of civilization.



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## The Principle of 'Motivführung'

The musical method of *Motivführung*, or *motivic thorough-composition*, as developed by Haydn and Mozart, touches upon the essence of human creativity. Helga Zepp-LaRouche demonstrates Friedrich Schiller's use of it in composing poetry; Anno Hellenbroich reviews its significance in understanding the work of Beethoven; and we report on a revolutionary master-class seminar taught by Prof. Norbert Brainin, first violinist of the legendary Amadeus Quartet.

## Slovakia: Yesterday and Today

Dr. Joseph Mikloško, former Vice Prime Minister of post-communist Czecho-Slovakia, reports on the history of Slovakia, the crisis of post-communist reconstruction, and the role of the Church, including an account of the recent visit of Pope John Paul II. 'We should follow the direction of the Papal social encyclicals, not the shock therapy of the I.M.F.'

Reuters/Bettmann Newsphotos



'Candle demonstration' for freedom, communist Czechoslovakia, 1989.