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Bernhard Riemann's 'Dirichlet's Principle'

After succeeding Carl Gauss in 1855, Lejeune Dirichlet began lecturing on Gauss's potential theory at Göttingen University, while Bernhard Riemann was preparing his *Theory of Abelian Functions*. What Gauss, Dirichlet, and Riemann all recognized was, that complex functions, as the extension of Leibniz's concept of the catenary and natural logarithms, were uniquely suited to express the least-action pathways of potential functions.

Gauss had already demonstrated this in his 1799 proof of the Fundamental Theorem of algebra, where he showed that a complex algebraic expression produces two surfaces whose curvatures are harmonically related. What Riemann attributed to Dirichlet, was the principle, that given a certain boundary condition, the function that minimizes the action within it is a complex harmonic function.

In Figure 1 we see a set of harmonically related circles and radial lines that intersect at the center of the circles, being transformed while maintaining their harmonic relationship. If the position of that intersection point changes, the radial lines must be transformed into circular arcs, and their end-points move along the boundary in order to maintain their harmonic relationship. This effect is shown as the point of intersection moves in a circular path around the center. This motion causes all positions inside the boundary to change as a whole. What doesn't change is the harmonic, i.e., least-action, relationship.

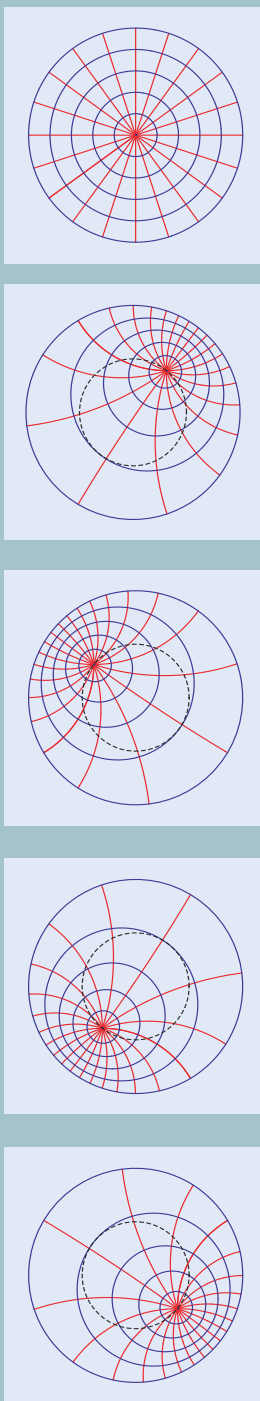


FIGURE 1

Figure 2 shows the same process, but the shape of the boundary has been changed to an ellipse, which correspondingly changes the shape of the orthogonal curves into hyperbolas, and the intersection point into two foci.

* * *

Riemann demonstrated that all elliptical functions, being functions formed by the interaction of two connected principles, are expressed in the complex domain as surfaces with two boundaries (marked in green in Figure 2). Each boundary changes differently, but connectedly, with the other, causing corresponding changes in the minimal pathways, while at all times maintaining the overall harmonic relationship of the function. In other words, the characteristic curvature of these least-action pathways is determined, in this case, by the connected interaction of two distinct principles.

It was Riemann's genius to recognize, through this application of 'Dirichlet's Principle,' that the principle of least-action of a physical process could be understood completely by the relationship between the boundary conditions and the singularities, and that this relationship could be expressed uniquely by Riemann's geometric concept of complex functions.

A suggestive example from economics can help illustrate this. What is the relationship between all physical-economic relationships, and the

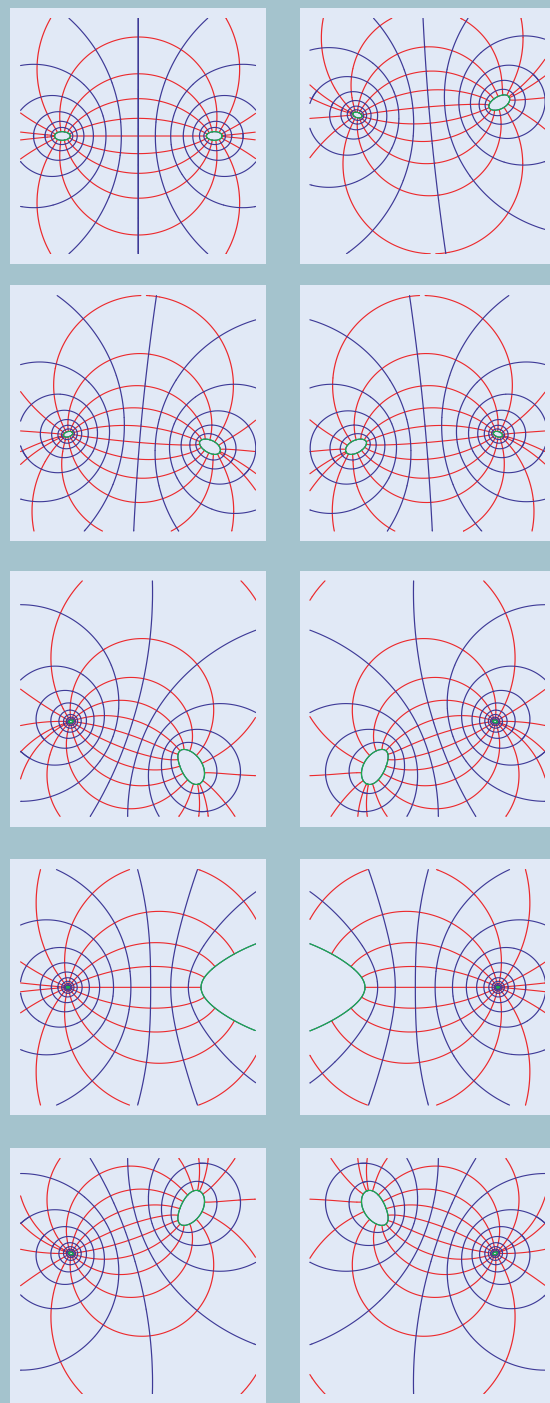


FIGURE 2

economic boundary conditions of physical infrastructure and cultural development? What is the relationship between these boundary conditions, and the singularities represented by the introduction of new technologies? What is the effect on all economic relationships, of a change, positive or negative, in these physical-economic boundary conditions?

[SEE "Bernhard Riemann's
'Dirichlet's Principle'"]

FIDELIO

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

—Friedrich Schiller

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Defeat Bush's Social Security Privatization: A Foot in the Door for Fascism

As this issue of *Fidelio* goes to press, the most decisive issue facing humanity is the necessity of defeating the drive by the new Bush Administration to privatize Social Security in the United States. For that reason, we present here the remarks made on Dec. 16, 2004 by the leader of this fight, Lyndon H. LaRouche, Jr., during an interview on WVKO radio in Columbus, Ohio. In that interview, LaRouche warned the American people about the imminent danger of a further fascist *coup d'etat*, if the Bush Administration—which was “re-elected” through fraud and voter suppression—is allowed to get away with its plans to loot the entire Social Security Trust Fund, under the guise of the Pinochet/Chilean model of “privatization.” On the other hand, as LaRouche emphasized, Bush’s manic drive to push through Social Security privatization may be the biggest mistake of his political life: “This may be the end of George Bush. This may turn him into a cooked, lame duck, because of this desperation to plunge ahead with this swindle on Social Security.”

LaRouche continued his warning: “The entire financial system is collapsing. We’re on the verge of a collapse any time now, for a major financial blowout of the U.S. and the international markets. At this point, they’re counting on looting Social Security, or having a proof that they can loot Social Security, as a way of putting more capital into a depressed U.S. financial market, to try to bail out the gambling side of the financial-market system.

EDITORIAL

“The issue here, the typical issue, right now, up front—and George Bush has made it very clear it’s up front—the Chilean model of privatization of Social Security is the Bush model.

“This was done in Chile in 1981. That is, Pinochet came in, in 1973; he was part of Operation Condor, this mass-murder operation through the Southern Cone of South America. This was done by the ‘Chicago Boys’; that is, the banking side was the Chicago Boys, of whom George Shultz was a key man. And George Shultz is the man who was the architect of the George W. Bush Administration. He’s the guy who brought Condoleezza Rice into the

The Glove

Beside his lion garden waiting,
The games anticipating,
Sat Franz the King,
And 'round him the kingdom's
 great powers,
And up in the balcony towers
The ladies in a lovely ring.

And as with a finger he motions,
A cage in the distance opens,
And inside with deliberate strides
A lion glides
And without sound
Looks 'round,
With long yawns making

And mane hair shaking,
His limbs exposes
And down reposes.

And the King further motions,
There opens with ease
A second door,
From it flees
With savage dashes
A tiger to the fore,
When the lion he 'spies,
Loud he cries,
Strikes with his tail
A frightening flail,
His tongue he flashes,

And in circles shy
'Round the lion goes by
Fiercely growling,
He stretches out scowling,
By the lion reposes.

And the King again motions,
Then spew from the house twice-
 opened before
Two savage leopards as one to the fore,
They plunge forth with stout-hearted
 battle-lust
On the tiger-beast;
He clutches them both with his claws
 ferocious,

picture. He's the one that was behind Cheney, and Cheney organized the composition of the initial current Bush Administration. This is the combination. It's the same bunch of guys."

In the interview, LaRouche also warned that the economic policies of the Chicago Boys in Chile that Bush wants to implement now in the U.S., required the Nazi methods of mass murder carried out by Pinochet under Operation Condor. Many of the leftovers of the old Nazi system who were run down into South America after World War II through what was called the 'ratline' operation, were used by Pinochet throughout the region to enforce his radical "free-trade" policies. "They're the ones who killed the thousands of people to consolidate, in Chile in particular, to consolidate the regime down there."

"This swindle on stealing Social Security funds is worldwide: It's not only in Chile; it's in Peru, which is under attack; Mexico; the United States; in Germany, the welfare system is under attack under 'Hartz IV'; under the current Finance Minister of France, Sarkozy, it's also under attack. So, we have a worldwide onslaught by bankrupt banking-system people, to try to grab the very large social welfare funds of governments, now.

"They know that very soon, there is going to be a real avalanche that's going to hit the U.S. financial market. That's inevitable. They want to steal Social Security—they're going to steal all of it; not some of it. What they're talking about is the shoe in the front door, but they intend to put the whole foot in.

"Once they get the first step, then you will see, as

they did with the Iraq war: get the first step, get in there, and the whole thing comes.

"We are now not fighting just over an issue of welfare. We are fighting over a welfare issue, just as the welfare issue was the issue, which was key in Europe when Mussolini and Hitler came to power: *We're faced with a threat of dictatorship. and if we can not mobilize political resources, especially in the United States, to stop this thing now, we will have given up our Constitution and our rights.* And when these guys come after us, they're going to come all the way—because they are faced with a broken-down system, and they're going to go for a dictatorship.

"This nutty President is out to steal the Social Security of the American people. Not just a few poor people. We're talking about the majority of the American people who will be looted by this thing—and many will be killed by it. When you combine this with the effect on the health-care situation, people will be murdered by this kind of policy."

LaRouche concluded by emphasizing that the key issue is leadership. "You have to get out and fight—not namby-pamby, not maybe-so, not this double-talk. Get out there, and mobilize the people.

"The problem is, we have not been giving the people leadership. Now, as you know, small people who don't have much power, are not going to get out there and fight, generally. They're going to look for leadership. And they do not trust the people who are their leaders.

"We have to—we who are willing to lead—we have to prove to them, that they have leaders that they can trust."

And with roar that is shrill
The lion stands—all is still,
And round in a knot,
In bloodlust hot,
Lie down now the cats so atrocious.

Then falls from the terrace above,
From a beautiful hand a glove,
In between tiger and lion it lay
Just at midway.

And to Knight Delorges, so
mockingly
Fair Lady Cunigund turns now:
"Sir Knight, if your love is as hot for
me,

As every hour you do avow
Why, my glove to me now return."

And the knight with a speedy turn
Climbs down in the frightful
enclosure
With steady paces,
And from the monstrous middle
spaces
Seizes the glove now with daring
finger.

And with horror and with sensation
Watch the knights and the
noblewomen

And he coolly brings back the glove
without fear.
Then from every mouth his praises
shower,
But now a loving glance most dear—
Which promises his bliss is near—
Receives he from Cunigund's tower.
And he throws in her face the glove
he's got:
"Your thanks, Lady, I want that not,"
And he leaves her that very hour.

—Friedrich Schiller,
translated by Marianna Wertz

The Worst Flood The World Needs a New,

Schiller Institute founder Helga Zepp LaRouche issued this statement on Dec. 29, 2004.

The presently beginning, biggest aid operation of all times, is faced with a gigantic task: to recover up to 100,000 bodies, in order to prevent the spread of diseases that would multiply the number of victims; to supply about 2 million homeless; to reconstruct 60,000 villages, infrastructure, and agricultural areas. Just to restore the conditions existing before the flood, will require at least an amount of double-digit billions of dollars. The initiative of German Chancellor Schroeder for a debt moratorium for Indonesia and Somalia is a step in the right direction.

But something much more fundamental is needed, if a repetition of catastrophes of this magnitude is to be prevented. We have to distinguish between those aspects of natural disasters that cannot be prevented, and the effects of the neglected development policies of the recent decades. Before the present flood wave, the most dramatic tsunami in history was that which was caused by the explosion of the volcano Thera on what today is called Santorini Island, supposedly in 1628 B.C., destroying the Minoan culture. Therefore, we have to assume that more tsunamis, as big as that one, or as the one just suffered in Southeast Asia, are possible. An early warning system for the threatened areas can be installed relatively simply, and is not even expensive. Not to mention that a phone call from the U.S. State Department, which had been informed of the quake instantly, to the governments of the countries threatened by the tsunami, would also have been very cheap. What, for heaven's sake, prevented the U.S. government from sharing this information with the relevant governments? This question will preoccupy the world intensely!

But the decisive point, where the leading international financial institutions have loaded massive guilt upon themselves, is the scandalous dimensions of the neglect of development in recent decades. The tourist boom in countries like Thailand, Sri Lanka, or the Seychelles, which has granted a windfall of profits for tourism enterprises and international resort chains, cannot cover up the fact that the living conditions of

the “natives” have not really improved, and that the countries involved have not really developed economically. Quite the contrary: the “holiday paradises,” in particular, have proven themselves death traps for many of those euphemistically called “natives,” and for tourists.

The fact that under the system of globalization, one-third of humanity is permanently undernourished; that a billion of those are children living in poverty; that every day, 50,000 human beings die of starvation and preventable diseases; and that whole continents are threatened in their very existence, is proof of the absolute failure of the present world order. Just because the G-7 governments—Germany, France, Great Britain, the United States, Canada, Italy, and Japan—have submitted to the diktats of the international financial oligarchy profiting off globalization, and because the majority of the population demonstrates an unbelievable moral indifference toward the poverty of 4 billion people, it does not mean that this world order has not failed.

The entire scope of the moral failure becomes obvious, when this attitude is compared to the totally different attitude predominant in the 1950's and 1960's. Then, it was a general axiom of thought, that the underserved underdevelopment of the developing countries, which was regarded as the result of centuries of colonialism, must be overcome, as soon as possible, by development programs. In the United Nations, they talked about “development decades,” within which a certain progress, raising the standards of living and life expectancy, was to be accomplished. And for Pope Paul VI, the underdevelopment was so unbearable, that he lashed out against poverty, in his ardent appeal to the world population, his encyclical *Populorum Progressio* (*On the Progress of Peoples*), as a situation “whose injustice cries to heaven.”

But, with the paradigm change that, since the late 1960's, has turned the societies in the G-7 nations from producer societies into consumer societies—away from the production of real goods, and toward speculation and a pure money economy, away from the common good, and toward an egotistical dog-eat-dog and “fun”

Catastrophe in History: Just World Economic Order!

society—; with this shift, the attitude toward the so-called “Third World” changed, too. Now, it was considered good, if everything there were as cheap as possible, because a stay at a five-star resort on the beach was less expensive, as these “natives” got oh-so-wonderfully-low wages.

In more than one way, the fantasy world of our consumer and fun society has suffered a reality shock. In its typically cynical way, the Frankfurter Allgemeine Zeitung asked, on December 29, what an Indian fisherman and a German tourist have in common? Normally, nothing—but now, they share the same mass grave. . . . If we can read any meaning at all into this horrible flood catastrophe in Southeastern and Southern Asia, then it is only by viewing it as a sign from heaven that man cannot violate Creation’s order for a long time, by treating the larger part of humanity as a second class of human beings, without provoking Nemesis.

The system of globalization is presently in the end phase of its systemic collapse. The free fall of the dollar is only one symptom of this. When the leading “analysts” speak of a Hiroshima for the financial system these days, of an Armageddon, of a coming avalanche, of the end of the system—then, everyone should know what hour has been rung: The great crash of 2005 has come.

But, there is a way out.

1. The G-7 nations must, together with Russia, China, India, and other states of the world, effect a total reorganization of the hopelessly bankrupt global financial system, and replace it with a New Bretton Woods system in the tradition of Franklin D. Roosevelt.
2. Not only the debts of Indonesia and Somalia should be eliminated, but those of the whole developing sector—not least because they cannot be paid anyway.
3. The derivatives and currency speculation, which, according to the most recent report of the Bank for International Settlements, has reached the unbelievable volume of \$2,000 trillion, must simply be wiped out, and be made illegal by agreements among gov-

ernments. Fixed exchange rates must be introduced, in order to make speculation against currencies and national wealth impossible.

4. The creation of new credits for productive investments must be taken away from the control of supposedly “independent,” i.e., private, central banks, and brought under the control of sovereign governments.
5. Part of the New Bretton Woods agreement, must be the creation of some \$2 trillion in new, productive credits for the G-7 nations, to provide for full employment in the context of the building of the Eurasian Land-Bridge, i.e., the infrastructural integration of Eurasia.
6. In order to embark on the urgently needed overcoming of underdevelopment of vast parts of the developing sector in Asia, Africa, and South America, in the context of the building of the Eurasian Land-Bridge as an engine for the reconstruction of the world’s economy, an “International Development Bank” must be part of the agreement, which will provide at least 500 billion euros annually for clearly defined development projects.
7. Lyndon LaRouche and the international movement named after him, have, since the early 1970’s, worked out concrete development programs for Africa, South America, the Pacific Basin, India, Southwest Asia, and for Eurasia, programs which, taken together, could provide a concrete basis for a New and Just World Economic Order—immediately!

Only if the interiors of the nations of Africa, Asia, and South America are developed to a dignified level, will we be able to reduce the effects of future natural disasters to a minimum.

When you think about these questions, which will decide the future of the Twenty-first century, don’t think just about yourself. Think about that which you can contribute, so that humanity becomes worthy of its name!

Join our movement for a New and Just World Economic Order!

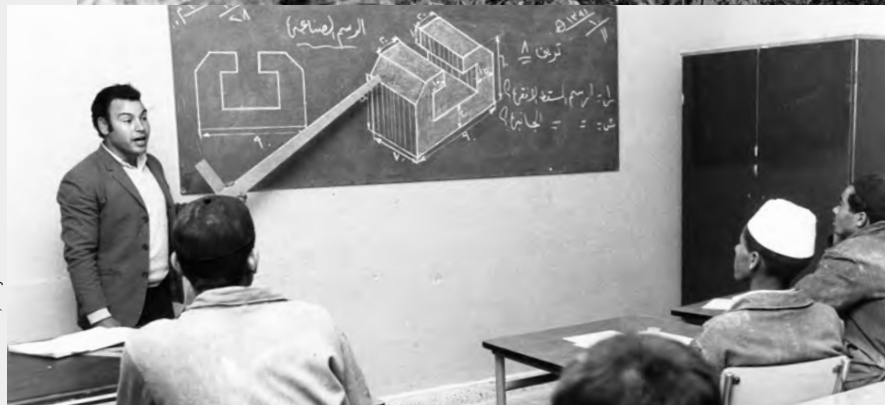
Basic economic infrastructure has the essential character of an intermediate product to be consumed in the economic process as a whole. It is in the final product of which infrastructural development is an essential intermediate component, that the means of payment to the benefit of the national economy is found. So, as in the case of an excellent education for unemployed graduates, it is the unrealized portion of the properly intended use of the infrastructure which determines the marginal rate of net outcome of the investment for the economy as a whole.

This means that the development of the productive potential of the population, and hence also its physical-economic standard of living, must be increased at rates which will enable that population to realize the benefits of capital and related improvements in basic economic infrastructure and capitalized modes of production of goods and services. Under the prevalent Anglo-Dutch, ‘cheap labor’ dogmas of monetary-financial systems, this needed coordination between capital formation and a population’s development breaks down.

Infrastructure projects: Top, southern Rhodesia (Zimbabwe), May 1960; Bottom, northern Nigeria, January 1967. Classrooms (left to right): Libya, December 1971; Kenya, 1972; Bombay, India, 1959.



United Nations.—pf



United Nations, Kay Muldoon/PAS



United Nations, YN/AB



The Follies of the Economic Hitmen

Re-Animating the World's Economy

by Lyndon H. LaRouche, Jr.


November 24, 2004



United Nations, J. Pickerell/NJ-



United Nations, -/vmb



In John Perkins' otherwise notably useful *Confessions of an Economic Hit Man*,* there are four systemic errors concerning the principles of physical economy, and one, added point of curious unclarity, concerning his references, there and elsewhere, to the meaning of the events of Sept. 11, 2001.

Error Number One:

First, and foremost, he greatly exaggerates the place of the United States of America in the authorship of operations associated with what

he identifies as "The Economic Hitmen."

The precedent for, and actual root of the operation which he otherwise describes fairly, is typified by those operations run by that Venetian financier oligarchy's Florentine House of Bardi which led into the so-called New Dark Age of Europe's Fourteenth century. The notorious Bardi agents nicknamed "Biche" and "Mouche," were the leading Venetian "economic hitmen" of that century.

The organization behind the contemporary operations Perkins describes, is the

* John Perkins, *Confessions of an Economic Hit Man: How the U.S. Uses Globalization To Cheat Poor Countries Out of Trillions*. See review this issue, page 98.

This article first appeared in Executive Intelligence Review, Dec. 3, 2004 (Vol. 31, No. 47).

direct descendent of that same Venetian financier oligarchy, which operates today under its current guise as the Europe-based, international, Anglo-Dutch Liberal financier oligarchical system, of which today's United States, like today's second-generation economic hitman, Arnold Schwarzenegger controller George Shultz, is merely a leading subsidiary instrument.¹

The U.S.A. has certainly played the most conspicuous role in operations associated with what Perkins identified as the Economic Hitmen, but there is a grave error of assumption in arguing, or even implying that the motive for this role by the U.S. was authored from within the bounds of the U.S.A. itself. Unfortunately, only those who were adults during World War II are likely, without assistance, to recall the relevant ways in which the world has changed since author Perkins was born; it is typical of Perkins' generation to miss the crucial point here.

The U.S. which had been led in recovery by President Franklin Roosevelt, had emerged from the war as the world's only stable economic power, and as the head of the world system which emerged from the aftermath of that conflict. Therefore, if anyone wished to do something important against the world at large after 1945, that someone had to find a way of gaining controlling influence over the power embodied in the post-World War II U.S.A.

Over the interval since the death of Roosevelt, a series of breaking developments has taken down the U.S. policy-structures by which Roosevelt had led in saving the U.S.A., and Roosevelt's U.S.A. had saved the world. These changes in control over U.S. policy, came chiefly in discrete increments of destructive shifts in policies. This includes, notably, the processes unfolding following the terrifying events of 1962-63 and the 1964, fraudulent launching of the official U.S. war in Indo-China, and with the developments of 1971-81 under the leadership of National Security Advisors Henry A. Kissinger and Zbigniew Brzezinski. The George Shultz whom Perkins justly fingers as a very bad man of his story, was a key figure, if, like George's father, often somewhat behind the scenes, in the relevant dirty doings throughout that period and following.

Under the changes unleashed beginning the middle of the 1960's, the U.S. was put through a process of transformation from being the world's leading producer nation,

1. George Shultz's father, Birl Earl Shultz, was an integral part of the "Trust" arrangements of the 1920's, between Anglo-American oligarchical families and the Soviet intelligence services. From 1918 to 1923, B.E. Shultz was personnel director of American International Corp. at 120 Broadway in New York City, which places him at the very center of the Trust in the United States, immediately after the Bolshevik Revolution. Also at 120 Broadway were a complex of firms trading and investing in Russian raw materials, and the Federal Reserve Bank of New York.

toward a transformation into an internally despoiled "post-industrial utopia," sucking the blood of the world in a fashion recalling the reign of "bread and circuses" in a self-doomed ancient imperial Rome. Thus, the U.S. ceased, more and more, to act in expression of its own national interests, and acted increasingly, instead, as an expendable tool of a new role assigned to it, within a process of so-called "globalization" conducted by a utopian alliance among a concert of international financier-oligarchical forces.

These forces were, in the main, the same network of international financier-oligarchical entities, once known as the Synarchist International, which had created modern fascism in the image of Alessandro Cagliostro's and Count Joseph de Maistre's Napoleon Bonaparte,² and had swallowed up the nations of western and central continental Europe into the Nazi system over the interval from banker Volpi di Misurata's Mussolini coup of 1922, through the close of the war in Europe.

In the course of a show-trial-like, exemplary treatment of some Nazis, we of the allied powers never uprooted the higher level of that financier-oligarchical cabal which, itself, had been behind the creation and direction of 1922-1945 fascist power which Hitler came to direct in Europe, as in control over Mexico's Synarchists, and elsewhere. Under U.S. President Truman and later, we absorbed them, with much of their ill-gained financial holdings intact, into the post-war system. They are back, in force, today, with figures such as George Shultz and his Vice President Dick Cheney now performing relevant services to that same pack of financial rats.

It is that international financier oligarchical entity which has used the U.S. as the obvious keystone, and even often a virtual puppet, of a concert of international forces which have used, and still use the U.S.A. as a leading chess-piece on the global board of play. Thus, the U.S. today is, itself, more often more played by a global financier oli-

2. Cagliostro and de Maistre were among the leading figures of a strange freemasonic cult, the Martinists, organized by London's Lord Shelburne around some of the networks of the notorious Voltaire. Cagliostro was notorious for his conspiratorial orchestration of the affairs of the Queen's Necklace, an artifice scandal, like those which the Mellon-Scaife circles attempted against President Bill Clinton, used to poison French opinion against Marie Antoinette, the Queen of France and sister of the Austrian Emperor Joseph II. Napoleon, originally a protégé of the brothers Robespierre, and later of the notorious Barras who gave him Josephine, was won into playing a new role, modelled on the Spanish Grand Inquisitor Tomás de Torquemada, by the architect of Napoleon's new roles as First Consul and Emperor. This model, that of the Torquemada admired by de Maistre, was the model for Hitler; it was from Torquemada that Hitler adopted his mass murder of Jews. The project for a "universal SS state" developed under Hitler, is a model of reference for the present doctrine of "globalization."

garchy from above, than the player. To maintain that arrangement between chessboard and player, it is convenient to accuse the Queen, who is being used on the board, of being the one to be considered as the actual player.

Today's popularized name for this process of destruction, and absorption of the U.S.A. and other nations, is "globalization," otherwise known by such names as the European "stability pact," a murderous pact ruinously inserted into the Maastricht agreements. On this world chessboard of today, there are enumerably numerous players, including even heads of governments, who, in reality, show little more actual free will than the mere chess pieces which are being played from behind the table-top.³

Error Number Two:

Perkins' second systemic error is that, although he does point out, that the leading roles of swindles of victim nations run through Robert McNamara's World Bank and the International Monetary Fund, were based on what was, in fact, a classical Venetian oligarchical usurers' loading victim-nations with the poison pill of a pre-calculated, crippling overload of project-debt, Perkins does not grasp the crucial point about the systemic quality of the role of George Shultz *et al.* in the 1971-1972 destruction of the Bretton Woods fixed-exchange-rate, regulated monetary-financial system. Without that change in the world monetary-financial system, the specific cases referenced by Perkins' book could not have been engineered as was done.

It was international player George Shultz who played a key role in duping President Richard Nixon's Administration into the August 1971 collapse of the U.S. post-war monetary system. It was the same Shultz who led the 1972 operation at the Azores conference, which sank the Bretton Woods system. This was the same Shultz who was a crucial factor of ruin leading into October 1987, operating within the Reagan Administration, and who orchestrated the crafting of the first administration of George W. Bush, Jr. It was he who placed sociopath Dick Cheney of Halliburton notoriety into the position to serve

3. In a commonplace Romanticist's misunderstanding of the principles of Classical drama, the issue of tragedy is the failure of leaders, such as heads of government. In actual Classical drama, the tragedy lies not with the leaders, but with the culture as a whole, as in the case of the 1618-1648 Thirty Years' War. In a real tragedy, the leader's failure is to act in consistency with the self-doomed culture, as in the case of Schiller's treatment of Spain's Philip II or Wallenstein. The leader who sticks to operating within the established rules of the game under conditions of a systemic crisis, is, by virtue of that behavior, a mere puppet of the situation, like Shakespeare's Hamlet, however wild his flailings otherwise. In such a crisis, only the exceptional leader who overturns the chessboard is of any notable value to society.

both as Vice President and co-controller of the President, with Karl Rove and Condoleezza Rice, through the Shultz who had designated Condoleezza Rice as the daily "vulcanizer" of that ostentatiously half-witted, rug-chewing, puppet President.

Error Number Three:

Third, Perkins makes a dangerous error in assuming that it was the adoption of large projects by targetted nations, which was the root-cause of those nations' ruin by Shultz's circles. On this point the following point is to be emphasized, as a matter of clarification.

Perkins is correct to emphasize that the wildly exaggerated rates of return built in, as lure, into the hitmen's forecasts for the projects, were, indeed, an obvious part of the Enron-like bait-and-switch marketing tactics used in deploying relevant I.M.F. and World Bank projects for takeover and looting of client nations.

However, it was not the large infrastructure investments which caused the problem, but, rather, as I shall elaborate that crucial point here below, a lack of broad-based development of the section of the national economy into which the infrastructure projects were inserted. Perkins, like virtually every practicing economist under sixty-three years of age today, has no conception of the rudiments of those historically vindicated principles of economic development, which were the secret of the U.S. rise to great power under Henry C. Carey's President Abraham Lincoln and later, principles laid out by the first U.S. Treasury Secretary Alexander Hamilton's 1791 Report to the U.S. Congress *On the Subject of Manufactures*.

Error Number Four:

Fourth, is Perkins' failure to grasp the deadly error of "green" assumption in his own currently advocated types of economic programs for targetted nations. He does not recognize that it was what was not done, which was the chief cause of the miserable failure of many of the high-ticket engineering projects in which he was involved. These mistakes are consistent with those recurring errors of assumption, in his book's anti-technology reaction against his own earlier economic-hitman role under Chas T. Main.

And 9/11:

Finally, on this list, Perkins has not only stated that the decision to cease postponing the writing of his long-intended book, was prompted by the wish to act against those forces responsible for the horrifying events of Sept. 11, 2001. He has repeated his identification of that as the motive for his book in at least two radio interviews which I have audited. To my knowledge, he has failed, so far, to

explain that in terms which make clear exactly what he means by that reference.

Admittedly, his statement, by itself, might appear to correspond to my own earlier estimate of the kind of terrorist action against which I had first warned publicly in January 2001, but he has not given any apparent indication of evidence to that effect. In spite of the fallacy of composition featured in the floundering, so far, by the 9/11 Commission's published reporting, the action on that date in question could only have occurred for the same reasons I had specified in my warning in January 2001. In that publicized January address, I had warned that we must expect an early event comparable to Hermann Goering's organizing the Reichstag Fire as a means for giving to Hitler the dictatorial "emergency" powers of the type prescribed by Professor Leo Strauss's infamous one-time sponsor Carl Schmitt, and emulated by John Ashcroft, Dick Cheney *et al.* in the hours following the 9/11 horror. In that sense, there has been a persisting clear connection between the Goering Reichstag Fire precedent and the way in which the horror of 9/11 was used to introduce already prepared measures of dictatorship into the U.S. system during the hours immediately following the attack itself.

Thus, Perkins' making the link to 9/11 and the matter of the economic hitmen, does suggest something broadly analogous to the actions taken by Goering in the aftermath of the founding of the Bank for International Settlements (B.I.S.), and preceding B.I.S.-linked Hjalmar Schacht's appointment as overlord of Nazi Germany's build-up for war; but, Perkins does not appear to confirm an intention to have made such a connection in his own thinking on the matter.

The "Politics of Fear" used by the Hitler regime, from the time of Reichstag Fire, reigns on, once more, still today, in the wake of 9/11, not only under puppet President George W. Bush, Jr., but in the Great Britain of Cheney's partners in the government of Prime Minister Tony Blair. It did not stop with the Nov. 2, 2004 U.S. election; it has been escalated now, again, since the date of that election.

Given those sundry relevant considerations, I have hastened to give John Perkins credit for his contribution to a presently urgent effort to warn the U.S.A. itself from the ruin into which our republic is being plunged by the catalog of infamy written by Leporellos such as George Shultz. Having awarded Perkins the credit he now deserves, I must consign the crafting of both a deeper analysis of the matter, and specification of the needed remedies, to other hands, notably including my own.

Those five points now listed taken into account to that degree, I shall now proceed by confining our attention,

essentially, to the technical aspects of Perkins' errors numbered three and four, and then conclude with an important matching reference to the matter of freeing our republic from the continued, Dracula-like grip of "The Politics of Fear."

1. Infrastructure and Productivity

Take the exemplary case of the Rural Electrification program of the President Franklin Roosevelt Administration. The success of this program, like the comparable Tennessee Valley project, lay not in the investment in that infrastructure itself, but in the apparently catalytic effect of that development on the resulting net increase of the productive powers of labor in the affected areas. Reciprocally, the effectiveness of such investments in basic economic infrastructure increase the productive powers of labor *per capita*, and *per square kilometer*, in proportion to the correlated improvement of the quality of mental development and conditions of life of the population in general. It is the failure to deliver such catalytic benefits to the increased net productivity of the labor-force in the population of the affected region as a whole, which is the mark of an engineering project which failed economically, not by fault of its design, but the lack of relevant, coordinated development to raise the net quality of life and productivity in the affected area.

Basic economic infrastructure has the essential character of an intermediate product to be consumed in the economic process as a whole. It is in the final product of which infrastructural development is an essential intermediate component, that the means of payment to the benefit of the national economy is found. So, as in the case of an excellent education for unemployed graduates, it is the unrealized portion of the properly intended use of the infrastructure which determines the marginal rate of net outcome of the investment for the economy as a whole.

This means, for example, that the development of the productive potential of the population, and hence also its physical-economic standard of living, must be increased at rates which will enable that population to realize the benefits of capital and related improvements in basic economic infrastructure and capitalized modes of production of goods and services. Failure to do this, will turn an otherwise good project into the equivalent, for that nation, of a burdensome "white elephant." The improvement of the tool is delimited by the development of the

The success of the Rural Electrification program of the President Franklin Roosevelt Administration, like the comparable Tennessee Valley Authority project, lay not in the investment in that infrastructure itself, but in the apparently catalytic effect of that development on the resulting net increase of the productive powers of labor in the affected areas, per capita and per square kilometer.

President Franklin D. Roosevelt signs the bill authorizing creation of the TVA, May 18, 1933.



TVA

whole population of the labor-force to the degree needed to realize the potential represented by capital improvements in infrastructure and modes of production.

Under the prevalent Anglo-Dutch, “cheap labor” dogmas of monetary-financial systems, this needed coordination between capital formation and population’s development breaks down. Only by ridding the world of that Anglo-Dutch Liberal system now operating, could the world be rescued from the presently onrushing general economic collapse of the existing monetary-financial system. However, simply eliminating a failed economic system does not cure the mess that system has now created. The appropriate alternatives must be defined. To clarify that point, let us now consider some crucially relevant science basics.

Economy as Noösphere

Today, the best way to understand these connections is by reference to the implications of Russian scientist Vladimir I. Vernadsky’s portrayal of what he named the Noösphere.⁴

4. Cf. Lyndon H. LaRouche, Jr., *The Economics of the Noösphere* (Washington, D.C.: EIR News Service, Inc., 2001).

The potential population-density of the human species is always bounded by a combination of three interconnected sets of conditions. The first of these sets of conditions, is represented by a vision of the Earth as if prior to any quantitatively significant presence of forms of living processes. The second experimental domain, which Vernadsky identified as the *Biosphere*, is represented by the necessary effects of those processes, such as the generation of fossils such as the atmosphere, oceans, and soils, which are indispensable and otherwise beneficial to the emergence of a growing human population, which come into existence, as processes, only through the action of living processes. The third, and highest, are those necessary effects, defined as the *Noösphere*, which are beneficial to mankind’s increase of potential relative population-density, which come into existence solely through the socialized creative-mental activity unique to the human individual member of our species.

In today’s world, as informed by this work of Vernadsky, civilized nations will think of the need to manage the balance of development among the abiotic, Biosphere, and Noösphere, to the increasing relative advantage of the Biosphere over the abiotic, and of the Noösphere over the Biosphere. We must now think of the abiotic, Biosphere, and Noösphere as physical capital, which we must build up, in the order of those relative priorities, to create

the expanded preconditions for not only growing populations, but a higher standard of living, of higher productivity *per capita* and *per square kilometer*, of general development, and longevity of those populations.

These forms of capital as identified by Vernadsky, are three distinct qualities of interacting (e.g., multiply-connected) sets of universal physical principles of a Riemannian universe, a universe which we must qualify ourselves, increasingly, to manage, as we were God's gardener.

The means by which we may be enabled to accomplish that mission, is through a better understanding and development of what the Classical scientific tradition of European civilization has defined as *powers*.

Like Kepler's discovery of universal gravitation, each of these principles, of any among the three types, corresponds to an efficiently existing, but sense-invisible object of the quality of a universal physical principle. These principles are located in a physically defined complex domain,⁵ in which the object, a sense-invisible principle in question, expresses itself as operating efficiently on the ordering of events in the sense-visible portion of the physical complex domain.⁶

Vernadsky's conception of the Noösphere so definable, is congruent with the earliest emergence of what became the achievements of European culture's physical scientific development. This is typified by the work, in establishing a pre-Aristotelean category of scientific rigor and progress associated with the legacy of such figures as Thales, the Pythagoreans, and Plato. This method is in opposition to those so-called reductionist practices associated typically with the likes of the Eleatics, Sophists, and modern empiricists and positivists. The modern viewpoint which corresponds to Vernadsky's discoveries, is that which Vernadsky rightly associated with the leading work of Bernhard Riemann.⁷

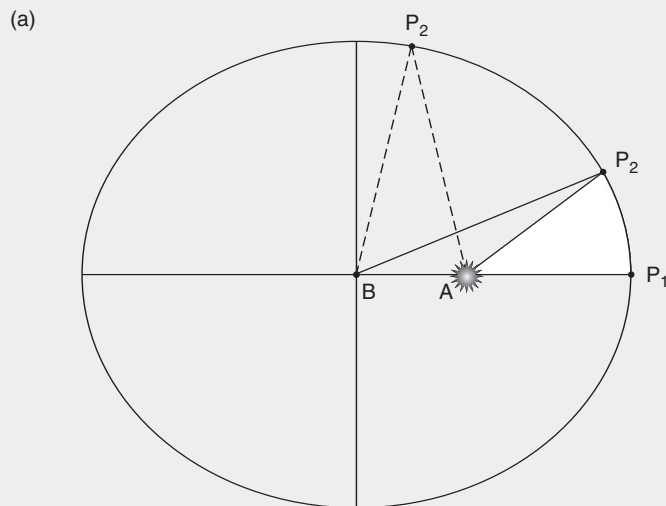
Among the ancient Pythagoreans, Plato, and so on,

5. As distinct from a merely mathematically formal domain.

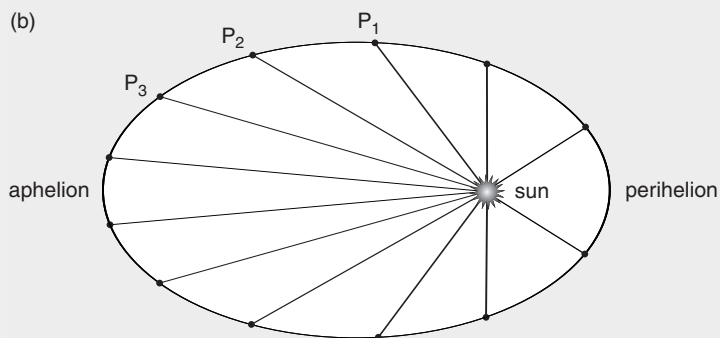
6. This is the physical (complex) domain as defined by the Leibniz-Bernouilli principle of universal physical least action (i.e., infinitesimal calculus), and as elaborated, most notably, by Gauss and Riemann successively. E.g., *Riemanns Werke* (New York: Dover Publications reprint edition, 1953), pps. 273-287, 88-142.

7. LaRouche, *op. cit.*

FIGURE 1. (a) Kepler's elliptical orbit hypothesis. Here, length P_2B is not constant, but constantly changing at a changing rate. What lawful process now underlies the generation of swept-out areas?



(b) Kepler's constraint for motion on an elliptical orbit. The ratios of elapsed times are proportional to the ratios of swept-out areas. In equal time intervals, therefore, the areas of the curvilinear sectors swept out by the planet, will be equal—even though the curvilinear distances traversed on the orbit are constantly changing. In the region about perihelion, nearest the sun, the planet moves fastest, covering the greatest orbital distance; whereas, at aphelion, farthest from the sun, it moves most slowly, covering the least distance. This constraint is known as Kepler's "area law," later referred to as his "Second Law."



and with the modern science of such as Nicolaus of Cusa, Johannes Kepler, Fermat, Pascal, Christiaan Huygens, Leibniz, Gauss, Riemann, *et al.*, the characteristic feature of physical science is its founding on a notion which modern English translation of the relevant ancient Greek term designates as *powers*.

This notion of powers is typified by Kepler's uniquely original discovery of a principle of universal gravitation:

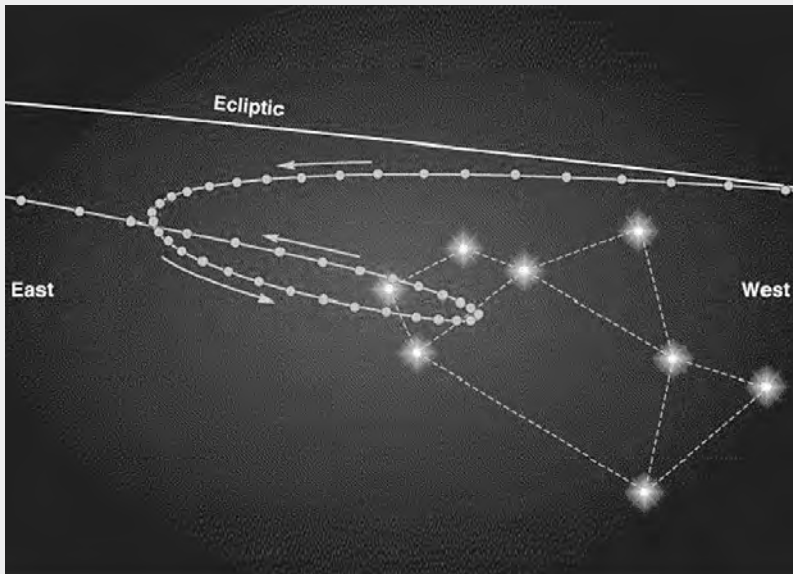


FIGURE 2. The “retrograde,” or looping, orbits of Mars and other planets, puzzled astronomers from the time of ancient Greece. It was finally solved by Johannes Kepler.

not as a percussive, or “pulling” action impelling an object in Cartesian space, but as a continuing action of change through every minutest, infinitesimal interval conceivable [SEE Figures 1(a) and (b)]. Gauss’s proof of Kepler’s principle, in Gauss’s own discovery of the orbit of the asteroid Ceres, is typical. The apparent “back-looping” of Mars in its own orbit, is an illustration of the infinitesimally, physical-geometrically “non-linear” continuing action which generates such stunning anomalies in the apparent transit of Mars as viewed from Earth [SEE Figure 2]. A comparable anomaly in the comparison of the orbit of Ceres to that of Earth, expresses the same Gauss-Riemann derivation from the pioneering discoveries of Kepler [SEE Figure 3].

These kinds of conceptions of *powers*, to which the notion of efficiently universal physical principles is properly restricted, are the most crucially determining feature of real-life physical-economic processes. They are typified by a modern mathematical physical-geometrical view of Archytas’s solution for a continuous process of exact doubling of a cube by geometrical construction, as expressed in modern mathematics by Gauss’s 1799 correction of the misconception of “the imaginary” by D’Alembert, Euler, Lagrange, *et al.* Their occurrence corresponds mathematically to *systemic discontinuities* in the formal-mathematical domain; their existence and role may be expressed pedagogically in the form of corresponding animations whose characteristic feature, like the apparent back-looping event in the Earth-observed Mars orbit, expresses the action of a sense-invisible power which is the complex-domain identity of a universal physical principle. Experimentally validatable apparent mathematical anomalies of this type, are the crucial principles governing real-life physical-economic processes.

The referenced two cases from astrophysics, Kepler’s discovery and development of the principle of universal gravi-

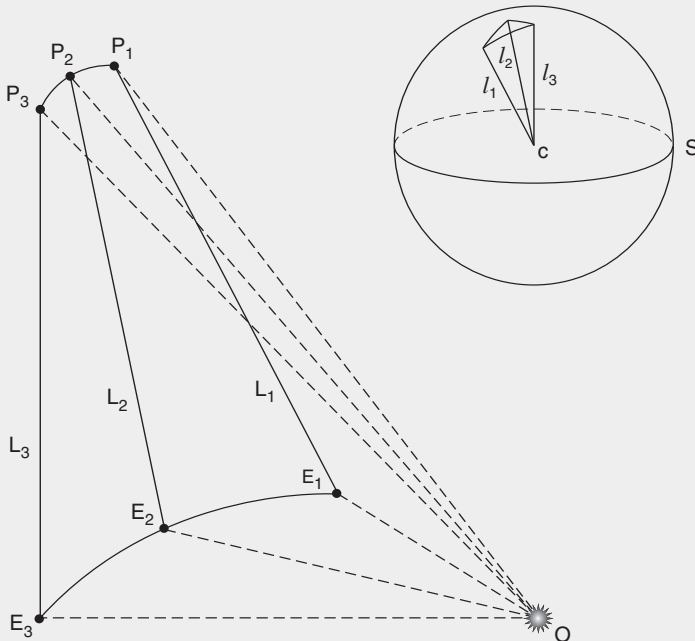


FIGURE 3. Gauss’s spherical mapping of the problem of finding the orbit of the new object (P, the asteroid Ceres) from several closely-spaced observations, and positions of the Earth (E) at those times on its orbit around the sun (O). Gauss transferred the directions of the lines L to an imaginary sphere S, and transferred all other directions in the problem to that reference sphere. For an animation of this problem, see www.larouchepac.com.

tation, and the generalization of such a physical geometry by Gauss, beginning his discovery of the Keplerian orbit of Ceres,⁸ as this, and as Gauss's later work on the general principles of curvature, are to be read (inclusively) from the standpoint of the referenced Riemann works.

Animations of this class, are the central technical feature of the currently developing program of analysis and forecasting, by LaRouche PAC,* of pedagogical exposition on the current crisis of the U.S. economy. Although insight into the ostensibly more sophisticated references just given, is essential for the relevant scientific professionals, for the layman and the policy-shaper, the animated representation of singular qualities of long-wave statistical patterns among physical factors of medium-to-long-term capital cycles, is sufficient for conveying the notions involved in specific cases. For the layman, the effect of such animations of critical relations among physical-capital cycles, is the quality of ready comprehension of a principle of action otherwise conveyed by means of judiciously employed lapsed-time photography.

By powers, we mean an experimentally discoverable universal physical principle, a principle of a class, such as universal gravitation, whose efficient ontological existence appears to lie, as to the reductionist variety of mathematical formalists, like cubic roots, within the "imaginary" factors of the complex domain.⁹ The ostensibly anomalously enhanced effect of the early-Twentieth-century introduction of individual electric motors to power individual factory machines, is an example of an apparent anomaly which the physical economist seeks out in the behavior of economies considered as physical processes.

Let us illustrate this here and now, by reference to what might appear, deceptively, to be a simple case.

The Education of Freed Slaves

Prior to the close of the U.S. Civil War, the leading edge of the U.S. abolitionists' approach to education of slaves of African descent, was typified best by such cases as Frederick Douglass: the freeing of the mind by advanced education, was considered, as by Douglass himself, as the necessary condition for the freeing of the slave from the behavioral habits expressed as the mental and spiritual shackles of induced conditioning to

conditions of slavery. At the close of the war, after abolition of slavery, many among the former liberal opponents of slavery revised their views on education of the masses of now freed slaves. The liberals' policy became, in effect: "Let us not excite the expectations of this mass of freed slaves, by educating them above their prospective station in life." Thus, "leave none behind," but move few forward.

This example has broad implications for the frequent failures of what have been proposed as economic-development programs around the post-1945 world at large. It illustrates the root of a systemic fallacy in the argument of John Perkins on economic development in nations which had been targeted by the economic hitmen.

This seeming anomaly has a long history. The introduction of African slavery into the Americas, first by the Iberian Peninsula's racists in the footsteps of Grand Inquisitor Tomás de Torquemada, as copied by the Iberian Peninsula's later creditors, the Dutch and British, was a qualitatively new phenomenon of modern history, but the roots of this modern practice are traced deep into all known and inferrable history of our species planet-wide.

The brutish dogmas of slavery and Mexican (for example) peonage developed under the influence of the faction of the Grand Inquisitor, were unique inventions of modern history, but the earlier roots of those notions and practices are deep. Indeed, in all known or reasonably inferrable cases, the history of mankind has been the role of the reigning minority in holding the majority in the bestial condition of herded or hunted human cattle. That tradition formed the heart of the doctrine of those, such as the Anglo-Dutch Liberal followers of John Locke, and the pro-bestial Physiocrats in the Physiocratic tradition of Quesnay and Turgot; but, the principle of slavery or the like, is traced to such ancient locations in European civilization as the cult of the Olympian Zeus, as the relevant issue was central to Aeschylus's *Prometheus* trilogy.

The Olympian argument of the evil Zeus against Prometheus, was that mankind must be prevented from gaining acquisition to knowledge of universal physical principles, and must be kept thus in a state where even the idea of being other than herded or hunted human cattle, must be banned from their knowledge.¹⁰ A similar effect, was introduced into modern times as the empiricist dogma of Paolo Sarpi, his household lackey Galileo, Francis Bacon, Thomas Hobbes, John Locke, François

* Lyndon LaRouche Political Action Committee, on the web at www.larouchepac.com.

8. *Theoria Motus Corporum Coelestium*, in *Gauss Werke*, Vol. VII (1906) (Hildesheim: Georg Olms Verlag, 1981).

9. C.F. Gauss, First Edition of "The Fundamental Theorem of Algebra," 1799, in *Gauss Werke, ibid.*, Vol. III, pp. 1-31.

10. As in the following reference to the time of England's pathetic Richard II: "When Adam delved and Eve span, who was then nobleman?"

We must think of the abiotic, Biosphere, and Noösphere as physical capital, which we must build up, to create the expanded preconditions for not only growing populations, but a higher standard of living, of higher productivity, of general development, and longevity of those populations. We must qualify ourselves, increasingly, to manage this Riemannian universe, as we were God's gardener.

Crop irrigation, Yuma, Arizona, 2002.



USDA/Jeff Vanuga

Quesnay, Bernard Mandeville, David Hume, Adam Smith, Jeremy Bentham, and the Eighteenth-century Enlightenment generally.

With the Fifteenth-century Renaissance's introduction of the modern sovereign form of nation-state republic, as in Louis XI's France and Henry VII's England, Europe's efforts to elevate the population as a whole toward actually thinking people, rather than herded human cattle, generated a powerful expansion of potential relative population-density, an expansion dependent upon the new flourishing of scientific, technological progress, and great eruptions in Classical artistic composition and performance. Amid the Venetian-orchestrated conflict among nations of the Sixteenth through Eighteenth Centuries, the strategic dependence on the economic and related advantages of scientific and technological progress could not be simply outlawed, except by stupid nations.

However, while allowing the progress in techniques which Aeschylus's Zeus forbade, the modern Venetian financier oligarchy and its Anglo-Dutch Liberal successors sought to maintain technology, while suppressing the spread of the methods of knowledge of the creative-scientific method which had been passed down from the Pythagoreans *et al.* through modern leaders such as Nicolaus of Cusa, Leonardo da Vinci, and Kepler. For the

Venetians led by Paolo Sarpi, the use of the neo-Aristotelianism of Henry VIII's Venetian marriage-counsellor Francesco Zorzi was not radical enough. Sarpi introduced the empiricism which has been the core of the mind-crushing Anglo-Dutch Liberal method of Adam Smith and Jeremy Bentham, to the present day.

It is that empiricism, and its positivist and existentialist outgrowths, which has been the root of the cultural suicide of European culture during, especially, the recent four decades.

The ultimately fatal systemic flaw in that Olympian view, as in today's collapsing world Liberal monetary-financial system, is that the elevation of the human species above that level of several millions living individuals suitable for higher apes, depends upon the efficient role of a quality of the human mind which does not exist in any lower species. This quality is typified by the discovery and use of what modern culture recognizes by the name of experimentally validated universal physical principles, principles by means of whose exercise the human species today is numbered in excess of six billions living individuals.

In the language of the science of physical economy, this factor is measured in terms of *potential relative population-density of living populations, per capita, and per square kilometer*. The driver of such progress is physical

scientific progress and a matching role of Classical modes of artistic composition and performance. It is the transformation of the abiotic and biotic conditions of the planet, by man's application of the discovery and perfected use of experimentally defined discoveries of universal physical principles, which has enabled our species to rise above the condition of the higher apes, to the Noösphere as it exists even today.

In physical economy, the fixing of the technology of practice to some existing level, defines the physical trend in the economy as entropic. Empires and the like forms of exploitation of foreigners, compensate, if only temporarily, for the decadence of the mother country by parasitism against the foreigner's physical wealth and human bodies. As the factor of entropy in the combined system of native and foreign operations closes in on the combined elements of that imperial or quasi-imperial system, as upon the U.S.A. and increasingly "outsourced" Europe today, the logic of the decline and fall of the Roman Empire in the West, and then in the East, is expressed as the doom of the system, as the U.S. is threatened by destruction by its own hand today.

Without scientific and technological, and related cultural progress in increase of the potential relative population-density of society, *per capita*, and *per square kilometer*, the nation, the culture, which engages in such a virtual zero-technological-growth practice is doomed by its own hand.

Outsourcing, by now-decadent nations which had been formerly the world's exporters of scientific and technological progress, to markets where labor is at its relatively cheapest, spells the impending doom of both sets of partners to that system, as today. The combined effect of that combination, spells global entropy for all involved. So, the recent forty years of drift of Europe and the Americas into the quicksands of a predatory form of "post-industrial" utopianism, has brought us to the point of immediately threatened, entropic collapse of global civilization as a whole.

Today, especially since 1982, the U.S.A. economy has survived, in large part, by sucking the juices from the bodies of Central and South America, as from others. In this process, as in the notable examples of Mexico and Argentina, the profits enjoyed by the Liberal predators have destroyed the net levels of technology and productive powers of labor of the populations of those victimations. The general effect of "globalized" outsourcing is the same generally.

This process of self-inflicted doom of the U.S.A., among others, has been associated with approximately four decades of down-shift of the economy and culture of the people of the U.S.A., from the world's leading pro-

ducer society and leader in applied scientific and technological progress, into a parasitical wreckage of moral and physical-economic decadence today. Under Bush-Cheney we have become, during the past four years, a clearly self-doomed nation of cannibals, creating an intended, fascist Anglo-Dutch Liberal empire, to consume and destroy all nations, including our own.

The clinical marker of this process is the frenetic emphasis on ever-cheaper labor. Kill grandmother to cut health care and pension costs. Drive U.S. labor down into conditions of life which "compete" with virtual slave labor in countries whose exports are the cheapest. The present Bush-Cheney government of the U.S.A. is, in particular, collectively clinically insane, and is now lurching for its great, climactic swan dive, at the brink of a horrid collapse into the pit of Hell it has marked out for both itself and the poor self-doomed fools who voted for its continuation.

What John Perkins saw abroad in his experience as an economic hitman, and otherwise, was his own participation in this degenerative process of self-destruction of both the targetted foreign empire his masters aimed to loot into a Dark Age condition, and of his own U.S.A. itself. The active factor of this process of our nation's self-destruction has been the radical form of empiricist dogma which has worked to uproot all traces of the actual creative processes of scientific and Classical cultural faculties on which man's increasing mastery of our place in the universe depends. We have, thus, become, the willing victims of that satanic tyrant Aeschylus's Olympian Zeus. Call this descent into the Hell of Aldous Huxley's *Brave New World*, "environmentalism."

2.

Physical and Financial Capital Cycles

The hierarchy of real (physical) productivity, is, first, the development of the creative powers of the individual, as this is typified by the accumulation of masterful knowledge of what we translate from the ancient Greek of Pythagorean Sphaerics as *powers*. By powers we mean objects of the mind, not themselves directly visible to the senses, but which we have discovered and proven, by aid of relevant experimental methods to have been accessible powers in the universe, but powers we can not identify directly as objects of sense-perception.

These powers include the direct relationship of the knowing individual mind to the physical universe in which we live and act. They also include what are best

identified as Classical principles of artistic composition, powers of communication among persons, by means of which knowing persons are brought into effective cooperation to form, develop, and lead societies on missions which foster the advancement of the human condition.

To the same end, we must reshape the environment in which we live, as we must shape the environment of production in ways which augment the power represented by the action of the individual who knows powers.

To this end we must raise the level of development of the Biosphere, to improve the planet's ability to sustain life, especially human life, for the present and future advantage of society. We must promote a rich variety of strains of living species, to lessen our vulnerability to the failure of some species, or variety which may be directly or indirectly essential for promotion of human life. To similar effect, we must manage the abiotic processes of Earth and the nearby portions of the Solar System for our immediate and long-term security.

All of these and comparable investments, including the estimable twenty-five-year investment in transforming a new-born infant into a qualified professional, represent physical capital. There is the physical-capital investment in the development of the human individual. There is the physical-capital investment required to enable and increase the effective power of informed individual action for the common good. There is physical capital invested and maintained over the long term, to defend and improve the conditions of human life and work on this planet and beyond.

In modern economy, we depend on an increasing ratio, *per capita* and *per square kilometer*, of physical-capital investments of typical "lifetime cycles" of a quarter to a half-century or longer. The general trend must be an increase in the ratio of physical capital formation *per capita* and *per square kilometer*.

Since the included essential function of national economy, in particular, is to utilize the "free will" exercise of development and application of powers by the individual person, as a principal source of those improvements in net physical productivity (*per capita* and *per square kilometer*); and since a modern economy combines investment of about half its total capital in public investments, predominantly in basic economic infrastructure, by government, but promotes individual creative initiative of the types associated with science and Classical artistic principles, we require a carefully managed, government-managed money system. The result is a functional interconnection between physical and monetary-financial capitals.

Contrary to the usurer's dogma typified by the Anglo-Dutch Liberal financier oligarchical system, money is, at all times, an idiot. It has no conscience, no sense of which

direction it should go, and so on. Therefore, society must create rules, and provide methods of regulation which ensure that the flow of money neither overflows the banks of sanity, nor kills worthy enterprise through thirst.

To such ends, rational governments establish systems of regulation, chiefly under law, for domestic and foreign trade promoted according to a general set of notions of "fair trade," as these notions are adopted, and modified, from time to time. Laws against the practice of usury, the right to fair-trade protection for worthy enterprises, and so on, in addition to trade and tariff agreements among nations, are typical.

However, apart from general considerations of that sort, the fact of history is, that the present-day evil known as the Anglo-Dutch Liberal system of rampant financial usury is nothing other than a current expression of the greatest of the evils which have proliferated in and among civilizations during all recorded history, including, notably, the recurring catastrophes which usury promoted among the systems first founded in southern Mesopotamia by a Dravidian-language group's Sumerian-Akkadian civilization.

The related problem today, is that the processes of business practices and government are presently so much polluted by induced belief in lunatic forms of monetarist-financial dogmas, that scarcely a sane man can be found in the departments of economics and related teachings of business management and management of governments in the world today. The resulting state of popular and official mind creates the spectacle of a pandemic of mass insanity spread through the corridors of administrative and related power.

It is exactly that form of mass-insanity, spread among European powers, the U.S.A., and less powerful nations alike, which made possible the legalization of the type of moral criminality which John Perkins reports from his former practice. Monetary theory, including Keynes and the rest, should be banned from university campuses, accounting practice, and government for a period of quarantine of approximately one to two generations, until the current form of world-wide mass-insanity is brought down to substantially less than its current pandemic status.

We must use the respite provided by such quarantine measures to educate our governments and general population in the arts of sanity, which is to say, the principles of physical economy, and of the regulation and use of money in a society become aware of the place of human intellectual capital in the maintenance and prosperous improvement of the conditions of production and life of a sane form of society.

The LaRouche PAC's program of mass and other education in the use of animations to educate populations and their governments in the rudiments of a sane practice of physical economy, is intended to aid that mission of organizing a general recovery from the present, worldwide physical-economic collapse of the existing monetary-financial system.

3. What Is U.S. Interest, Actually?

Damnable fools today would describe the alleged "interests" of the U.S.A. in terms of a Hobbesian world-order of each against all. How shall we fool our allies, and destroy those which have chosen to select to serve as targeted adversaries? What damned fools those people are—literally damned fools! Your problem is that these damned fools are not only determined to go to Hell; they are damned set on taking you with them.

What, then, is the interest of the U.S.A.? What are the principles which provide a safe exit from the nightmare which John Perkins has attempted to describe? For reasons to be made clear enough in these concluding remarks, I must speak autobiographically.

From all evidence currently in view, I am the only person presently qualified, intellectually and emotionally, to serve as commander-in-chief of our U.S.A. under the present conditions of global general breakdown-crisis of the world's present, floating-exchange-rate monetary-financial system. Lacking access to that formal constitutional position, my obligation is to provide that essential ingredient of my talent along alternate pathways presently probably available.

The conspicuous short-fall of otherwise talented leaders among us, is that we have become a nation which, for all its current rant about religion, has no actual conception of a real form of immortality. In this mass-entertainment-soaked, "Where's my money" citizenry of today, there are few Jeanne d'Arcs, Abraham Lincolns, or Rev. Martin Luther Kings among us, who are prepared to put all that which is mortal in them, as a talent on the altar of service to the foreseeable good of the future of mankind. As for religion, they are too busy trying to bargain with God, to tolerate discussion of the kinds of issues which Jesus Christ, for example, treated during his mission. Some typical cowards slyly snicker: "If Jesus were so smart, why did he die?" For the most part, "hypocrites" is too kind an epithet to describe their devotions. These spiritually bankrupt, money-mad evangelicals, or their

complement, the kill-crazy fanatics, and their like, had been given a talent, but they hoard it, and, if they are successful in that passion, their talent will be buried, mercifully, to rust and rot with their shameful ashes.

"What is my advantage?" "You have to learn to go along to get along!" Those are not the voices of leaders for a time of crisis; theirs are not the talent of commanders-in-chief.

For me, this republic of ours has a sacred mission. The fulfillment of that mission is our overriding self-interest as a people, it is the passion of a sacred national dedication which might make the humblest among us a virtual giant in the coming history of the world.

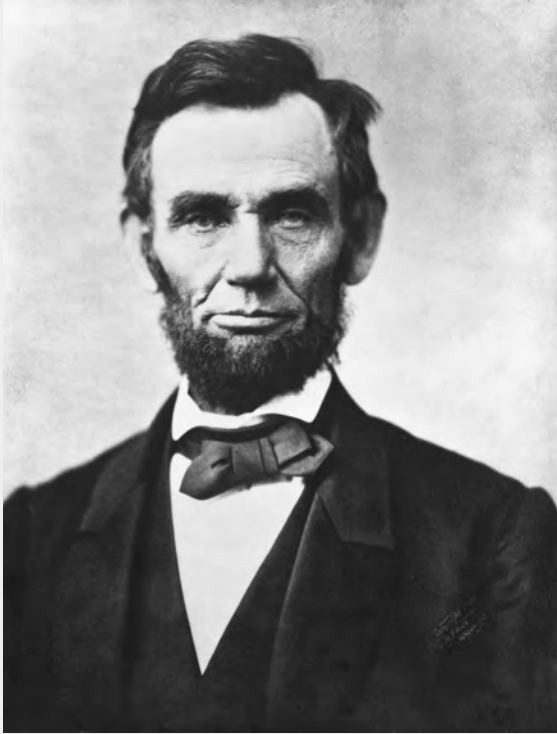
Since the beginnings of what became European civilization, in a Greece living in the shadow of the great pyramids of Egypt, we have been engaged in a great long struggle, to bring forth on this planet a republic of the virtue seen by the eyes of Solon of Athens as by Plato after him. It has been a mission conceived in the certainty that the individual human being, anywhere and everywhere, is set absolutely apart from and above the beasts, as made in the likeness of the Creator of this universe, and dedicated to service on behalf of the continuing unfolding of that endlessly continuing Creation.

Nearly six hundred years ago, European culture leapt upward in a great Renaissance, which brought forth, in Louis XI's France, and in Henry VII's England, the first true sovereign republic dedicated to that principle of the general welfare known to the ancient Greeks as the *agapē* of Plato's *Republic* and the Apostle Paul's celebrated 1 Corinthians 13.

However, from the beginning of the Sixteenth century until the 1648 Treaty of Westphalia, the wicked forces of the Venice-led financier oligarchy unleashed religious warfare in the effort to eradicate the great work of the Fifteenth-century Renaissance. After that Treaty of Westphalia, the struggle for a modern republic grounded in the benefits of scientific and technological progress radiated from Jean-Baptiste Colbert's France, but the follies of France' Louis XIV and the 1763 emergence of the empire of the British East India Company from the outcome of the Seven Years War, put the hope of civilized life in jeopardy.

In that setting, the greatest spirits of Europe were rallied to the cause of establishing model true republics in the Americas. Out of this, the U.S.A. of 1776-1789 emerged as the model constitutional republic whose design remains, today, the crucial world factor on which the hope of a peaceful world order among nation-states depends.

Our thus historically embedded mission is to bring forth on this planet a logical successor to the intention



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*President Abraham Lincoln,
photograph by Alexander
Gardiner, Nov. 8, 1863.*

already expressed by the 1648 Treaty of Westphalia, to establish a community of respectively perfectly sovereign nation-state republics as the natural planetary order now demanded by the perilous implications of tolerating a continuation of anything resembling a Hobbesian model of conflict-management among powers.

The most important strategic asset of our republic, is our constitutional tradition born of the developments of 1776-1789, as the resurgence of that tradition is typified by Presidents Abraham Lincoln and Franklin Roosevelt. We have an embedded moral authority which is lacking in those states of Europe which are yet to free themselves from the legacy of parliamentary systems under the overreach of Venetian-style financier-oligarchy-controlled, so-called “independent central banking systems.”

The crucial consideration here is that the great enemy of civilization today, is the influence of the Anglo-Dutch Liberal variant of that Venetian oligarchical tradition whose intrinsic capacity for evil is typified by the Fourteenth-century New Dark Age, and the religious wars and related conflict of the interval from approximately 1511-1648, in addition to the spawning of fascism on continental western and central Europe by the hegemonic financier oligarchical networks of the 1922-1945 interval. Any attempted rescue of civilization from the presently onrushing catastrophe will tend to lead, assuredly, to the

worst possible outcome, unless the power of that financier oligarchical interest is broken to harness by those principles of a sovereign true republic expressed in the crafting of the original U.S. Declaration of Independence and Federal Constitution with the latter’s crucial Preamble.

The clear precedent for this urgently needed reform today is the lesson of the leadership of the U.S.A. under President Franklin Roosevelt, in establishing, at the Bretton Woods conference of 1944, the model form of regulated world monetary-financial system which was the source of the strength expressed in the post-war reconstruction of 1945-1963.

To bring a voluntary association of respectively sovereign republics into being, an association which extends the principle expressed by the great 1648 Treaty of Westphalia, should be taken as the appropriate strategic mission and most vital, long-term self-interest of our republic: a system of republics dedicated to the mission of contributing useful advantages to the other nations. Especially in a time, when evil men speak of global religious warfare as their conception of strategic self-interest, nothing but the principle expressed, as precedent, by the Treaty of Westphalia offers a pathway leading away from the presently imminent threat of a general plunge of this entire planet into Hell.

Francisco Goya, the And the Fight Against The Synarchist Beast-Man

by Karel Vereycken

As in the case of Rabelais, entering the visual language of Francisco Goya takes an effort, something that has become increasingly difficult for the average Baby Boomer. By indicating some of the essential events of Goya's period and life, I will try to provide you with some of the keys that will enable you to draw the geometry of his soul, and to harmonize the rhythm of your heart with his.

Francisco Goya y Lucientes was born in 1746, and was 13 years old when Carlos III became King of Spain in 1759. Carlos, who was dedicated to the transformation of Spain out of Hapsburg backwardness through Colbertian policies of economic and scientific development, supported the American Revolution, and fought a pitched battle throughout his reign with the British Empire and reactionary elements within Spain, centered on the Jesuits, whom he expelled; the Spanish Inquisition, whose power he fought to restrict; and the landed feudal aristocracy, who opposed his economic reforms.¹

In the 1780's, Goya was named Court Painter to King Carlos, whose revolutionary spirit he shared. When Carlos died in 1788, however, there was no strong successor, and the Inquisition moved quick-

ly to reassert itself in the aftermath of the British-orchestrated French Revolution (1789).

Despite this political reversal, Goya continued in his role as Court Painter to Carlos III's successors. He was appointed by Carlos IV in 1789, and then later, after the Napoleonic invasion of Spain in 1808 and the restoration of the Spanish Monarchy in 1814, his appointment was reinstated by King Ferdinand VII.

Fighting against despotism while simultaneously holding a sensitive post as Painter in the service of the latter two kings—and, what's more, stricken with total deafness at the age of 47²—Goya, like all resistance fighters, was well acquainted with the world of secrecy and deception.

Initially treated as a mere talented craftsman, he would spend the first 17 years of his career painting the cartoons for tapestries with fancy bucolic themes, destined to brighten up the dining rooms of the Royals, not to mention some religious, *bondieusard* frescos in Venetian fashion. He took pleasure in observing the court from behind the scenes, but his ideals were simmering, and he carefully filled his sketchbooks with "inventions," visual notes for the development of ironical ideas. These sketchbooks would be the ever-flowing

American Revolution,



Museum of the Royal Academy of Fine Arts of San Fernando

FIGURE 1. *Francisco Goya y Lucientes, "Self-Portrait," 1815.* Goya's self-portrait at the age of 69, through its forward-leaning pose, creates a shocking contrast between an off-balance composition, and the great determination speaking from the eyes, which invites us to share his vision of freeing mankind from what he called "the common prejudices and deceitful practices which custom, ignorance, or self-interest have made usual."

A Warning

By narrowing the perception of the work of the great artist Francisco Goya to a small series of paintings deemed to be mere illustrations of literary works dealing with witchcraft, whose imagery pops up in the "Caprichos" and prevails in the "Pinturas negras," the Romantic counter-revolution has succeeded in tarnishing the image of this powerful revolutionary artist.

Goya's social satire, driven by an Erasmian sense of irony that earned him the title "the Spanish Rabelais," together with his profound sense of the Sublime, have been systematically presented as the expression of a grotesque and bizarre art,³ as the monstrous fruit of a sick mind.⁴

Spain's monarchist restoration of 1814, of which Francoism⁵ is the most recent echo, willfully retarded serious research on the master. Lawfully, the core of fruitful research has been achieved outside the sphere of Spain itself.

We are obviously dealing with the slanders by which the oligarchy denigrates the geniuses of mankind, especially when confronted by an artist lampooning the foundation of the oligarchy itself: the poison of mediocrity.

In brief: If Goya is an unknown artist with a well-known name, it is essentially the result of a classic black propaganda campaign, identical to those run against many others, notably Hieronymus Bosch and Edgar Allan Poe in the past, or Lyndon LaRouche today.

'Goya, you deserve not only death, but the gallows.
If we forgive you, it is because we admire you.'

King Ferdinand VII of Spain, 1814



FIGURE 2. *Francisco Goya y Lucientes, Los Caprichos, Plate 6, "Nobody knows himself."*



The National Museum of Fine Arts, Stockholm

FIGURE 3. *Francisco Goya y Lucientes, "Allegory of the 1812 Constitution," 1812-1814. The allegorical language employed here resembles that used at the time of the American Revolution. At the center stands a handsome young woman, enlightened, embodying the freedom of the Spanish nation. In her left hand she holds a small printed version of the 1812 Constitution, while her right hand holds a little scepter. Her wrist is firmly supported by an old bearded man (Time, with an hour-glass), whose giant wings protect her from the darkness. In the foreground sits a young woman, all but naked, writing on a sheaf of paper: She is History, whose business is unveiled Truth.*

fountain of jokes, caricatures, paintings, and hundreds of engravings, most of which were not published during his lifetime.⁶

They were the groundwork for his social and philosophical satire, the *Caprichos* (*Follies*), a series of 80 etchings inspired by the art of cartooning, highly developed in England (Hogarth, Gilmore, *et al.*), and the "Scherzi" of Tiepolo, the Venetian rococo master active in Spain.⁷ For example, beneath the drawing prepared for the sixth engraving of the series, Goya wrote: "The world is a masquerade: face, costume, and voice, everything is false. All want to appear what they are not, all cheat and nobody knows himself" [SEE Figure 2].

Goya invites himself to the masked ball of his day, but he is not duped by the fake noses for which he is to become the itching powder. His work recalls Mozart's contemporaneous *Don Giovanni*: It mocks the clownishness of the fancy "petimetres" (from the French "petit-mître," the fops dressed in the Venetian fashion typical of the Court of Versailles), and reveals how, behind this giant Commedia del Arte of gallant manners, there stand the brutal intrigues settled with slashing stiletto and lethal poison, so familiar to the degenerate nobility, let alone to those poor fellows who, perhaps even worse, tried to imitate them.

To end this vast Venetian Carnivale, Goya envisioned a society that dropped the masks, offering truth—often represented as a beautiful woman—to raise and enlighten the world with the light of its reason, so that a different history for mankind could be written [SEE Figure 3, and inside back cover, this issue].

February 6, 1799 was one of these moments. On that day, more than a decade after the death of Carlos III, Goya put on sale 300 sets (yes, that is 300×80 prints, or a total of 24,000 prints!) of the "Caprichos: universal language, drawn and engraved by Francisco de Goya," as he wrote on the title page, although the printed version was to drop "universal language." The books were sold at the perfume shop below Goya's apartment, because no bookseller was willing to risk doing so. That same day, Goya announced the sale in the local

newspaper, the *Diario de Madrid*, with the following advertisement:

The author is convinced that it is as proper for painting to criticize human error and vice, as for poetry and prose to do so, although criticism is usually taken to be exclusively the business of literature. He has selected from amongst the innumerable foibles and follies to be found in any civilized society, and from the common prejudices and deceitful practices which custom, ignorance, or self-interest have made usual, those subjects which he feels to be the more suitable material for satire, and which, at the same time, stimulate the artist's imagination.

Since most of the subjects depicted in this work are not real, it is not unreasonable to hope that connoisseurs will readily overlook their defects.

. . . The public is not so ignorant of the Fine Arts, that it needs to be told that the author has intended no satire of the personal defects of any specific individual in any of his compositions. Such specific satire imposes undue limitations on the artist's talents, and also mistakes the way in which perfection is to be achieved through imitation in art. [Emphasis added]

If we have some difficulty today in getting all the references in it, that was not the case in Goya's time. The tremendous impact of the first 27 of the sets sold was immediate, and in response to threats from "la Santa" (Holy Inquisition),⁸ Goya felt obliged to halt the sale after barely ten days.

But Goya's love for the beauty of truth—even when it troubles or incites you—would be the heart of a long (82 years), exceptionally productive life: over 700 paintings, two cycles of large wall frescos, 900 drawings, and nearly 300 prints.

When, in 1824, at the age of 78, Goya arrived in Bordeaux, France, he explored and became a master of the new technique of lithography, giving us a drawing of a man walking with sticks, with the caption, "I'm still learning" [SEE Figure 4].

The Giant

To appreciate in a more direct way the political and artistic genius of Goya, and to get a sense of his powerful sense of world-



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FIGURE 4. Francisco Goya y Lucientes, "I'm still learning," *Bordeaux Album*, 1824-1828. Life expectancy in Eighteenth-century Spain ranged from 27 to 32 years. Goya, at the age of 78, nearly blind and living in exile in Bordeaux, France, joyfully learned the new technique of lithography.

historical identity, let's look at the "Colossus" [SEE Figure 5, and front cover, this issue], undoubtedly one of the most representative paintings of his outlook, whose original name was "The Giant."⁹

Below a muscular giant who towers in a sky filled with clouds bearing a thousand thunders, an indescribable hubbub captivates our eye. Herds of cattle break apart, horses throw their cavaliers to the ground, and caravans speed off in every direction. Lost in this eerie landscape, children cry, while women and men are on the run. Panic has taken over.

Most evidently, this drunken, blind blacksmith of hell incarnates none other than Napoleon Bonaparte, the "Beast-Man" placed in the saddle by great financier interests to bring to a halt the winds of republican enthusiasm blowing over the world, and to drown the European continent in rivers of blood from never-ending wars.

If the visionary Goya points to the evil to come, he does not show any sympathy for those who—be they great or small—submit to the delusory "fatality" of events. When we look more closely at the painting, we discover, slightly on the left in the foreground, a donkey, tranquilly satisfied with his own existence, and pretending to



Erich Lessing/Art Resource

FIGURE 5. *Francisco Goya y Lucientes, "Colossus," 1808-1812. Europe's Synarchists created Napoleon, to stop the spread of the ideas of the American Revolution. This painting was done during Bonaparte's bloody occupation of Spain.*



FIGURE 7. *Francisco Goya y Lucientes, Los Caprichos, Plate 42, "Thou who canst not."*



Erich Lessing/Art Resource

FIGURE 6. *Francisco Goya y Lucientes, "Colossus" (detail).*

be outside the torments of history [SEE Figure 6].

Although Renaissance humanists like Brueghel traditionally represented Aristoteleans as donkeys, the fact that the King of Spain, Carlos III, in a public event, had called his son, the Prince of Asturias and future King Carlos IV, "a donkey," gives a particularly charming twist to the painting.

But beyond this anecdote, the animal expresses here the stubborn "common prejudices and deceitful practices which custom, ignorance, or self-interest have made usual," which Goya and his republican "ilustrado" friends wanted to take on.

"Donkeyness"—a state of emotional blocking that is a caricature of animal-species fixedness—would joyfully bring life, as a mirror for human stupidity, to many "Caprichos," where one sees, for instance, who the real donkeys are: those who, with full consent, carry other donkeys on their backs [SEE Figure 7]. These are the "Leporellos" carrying the "Don Giovannis," and without these servile valets, no oligarch could manage to get his bestial whims shoved down people's throats. No slave masters without slaves!

The American Century

Goya's century was a century where enlightened elites, with Benjamin Franklin's friendship societies as their

epicenter, were conspiring to convince the peoples to throw off the yoke of a bankrupt, moribund feudal system [SEE Figure 8].

While it is true that the British victory in the Seven Years' War (1756-1763) had brought about the domination of the Anglo-Venetian British Empire, it can also be proven that what some called "the revenge" of the Franco-Spanish-Italian Bourbon family compact, offered the decisive help required to erect on the other side of the Atlantic, an adversary representing very quickly the only real challenge to the British Empire: the American Republic.

Louis XVI (1754-1793) and his Spanish cousin Carlos III (1716-1788) each provided the sum of a million pounds, in order to facilitate an agent of the French secret intelligence service, Pierre Augustin Caron de Beaumarchais (1732-1793) [SEE Figure 9],¹⁰ to create a fake trading company with the name of "Rodrigue, Hortalez et Cie," whose unique purpose was to channel money, credits, weapons, ammunition, uniforms, and engineers, together with an impressive number of experienced military commanders—including von Steuben, Lafayette, De Kalb, Bédaulx, Kosciusko, Pulaski, and so forth—to America, to

secure the ultimate victory of the insurgents.¹¹ For his part, Carlos III, in response to a proposal by Benjamin Franklin, ordered military action by Bernardo de Gálvez to seize Pensacola, Florida and Mobile, Alabama from the British, and to expel them from the Gulf of Mexico and the banks of the Mississippi.

As the fruit of that several years' long, nearly daily collaboration in Paris between the elder scientist Franklin and the insolent French intelligence officer Beaumarchais, the American victory made France appear in the eyes of the world as the key center for world-liberating republicanism.

That was the France that Goya and other Spanish patriots loved. It would be *against* this France, and its sympathizers in Spain, that, after sabotaging the revolutionary process, the Congress of Vienna would impose, in 1815, on the ruins of the Napoleonic wars, the return of monarchical absolutism: the restoration of Louis XVIII in France, and the despotic regime of Ferdinand VII in Spain.

Because Goya was part of the Spanish "ilustrado" faction—he was, in fact, a spokesman and sort of cultural ambassador for it—it is not surprising to see him being directly attacked by the evil Count

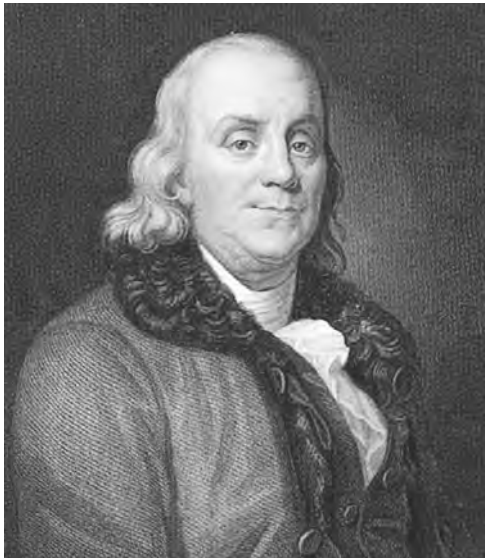


FIGURE 8. *Portrait of Benjamin Franklin, who spearheaded the international movement to establish republican government.*



FIGURE 9. *Jean-Marc Nattier, "Portrait of Beaumarchais," 1755.*

FIGURE 10. Karl Vogel von Vogelstein, "Portrait of Joseph de Maistre," c. 1810.



FIGURE 11. Francisco Goya y Lucientes, "Self-Portrait in the Studio" 1794-1795. Goya liked this window, because it had special frosted glass that allowed in bright but diffused light.



Scala/Art Resource, NY

Joseph de Maistre (1753-1821) [SEE Figure 10], one of the conceptual architects of modern Synarchism, a counter-revolutionary project designed to eradicate republicanism from the globe. De Maistre, the man who fathered the conception of the "Beast-Man," as he developed it in his description of the executioner—this apologist for human sacrifice and passionate admirer of the Inquisition—struck out at Goya's *Caprichos*, remarking that a book of English-style caricatures, published in Madrid, had passed through his hands, in which "one ridicules the Queen in the most forceful manner possible, and the allegory is so transparent that even a child could see it."¹²

Goya, according to his friends, compared painting to bullfighting. A beautiful self-portrait shows the master with palette and brushes in front of an easel [SEE Figure 11]. He wears a bullfighter's jacket and a hat equipped with candleholders, an invention of Leonardo da Vinci that allegedly was used by Michelangelo to work at night.

But the bull of Goya "the toreador," was not a physical one—it was mental. It was the concept of the Synarchist Beast-Man that he wanted to hunt down in the arena!

Goya and the 'Ilustrados'

Goya was born in 1746, the son of a gilder who worked in Saragossa, the capital of Aragon. Although the young Carlos had been king of the two Sicilies (Naples and Sicily) beginning 1734, he became Carlos III of Spain in 1759. Now in power in Spain, Carlos introduced economic and education reforms to promote the General Welfare of the Spanish people, in opposition to the interests of the feudal oligarchy and its Inquisition. To accomplish this revolutionary purpose, he selected as his advisors a number of key individuals, some Italian and French and others Spanish, who were in the intellectual tradition of Jean Baptiste Colbert and G.W. Leibniz.

The central figure of this history was

Pedro Rodriguez de Campomanes, the leading figure of the Spanish current of physical economy and organizer of the renowned “soirées of Campomanes,” *rendezvous obligé* where many Spanish “ilustrados,” including Goya as early as 1780,¹³ entered into a kind of permanent dialogue.

Here, one found in attendance:

- **Pedro Rodriguez de Campomanes** (1723-1803) [SEE Figure 12]: Economist, literateur, and a precocious Hellenist, he spoke Greek, Latin, and Arabic. As an adolescent, he went out to teach literature to poor children. Awarded a law degree at the age of 19, he would be admitted to the Academy of History, and would later reform the Spanish postal services. Carlos III, who realized that Spain needed a reformer, was impressed by his knowledge, his eloquence, and his talents as an administrator, and nominated him to be “fiscal of the Council of Castile” (Finance Ministry) in 1763, a post he would hold for more than 20 years. As reported by one biographer: “Campomanes immediately attacked the abuses that were ruining the country. By adroit measures, he reduced the number of monks, suppressed a great number of monasteries that lacked sufficient income and whose members could not live except through beggary, and increased the inadequate stipend of many priests, while simultaneously demanding from them more instruction and morality.”¹⁴

On the model of the Real Sociedad Bacongada de los Amigos del Pais (Basque Royal Society of the Friends of the Country), Campomanes founded similar societies in Madrid in 1775 [SEE Figure 13], and in numerous other regions of Spain. He developed the university curricula, focussing on mathematics, physics, the natural sciences, and languages, which were until then neglected. After Carlos III expelled the Jesuits from Spain in 1767, Campomanes had the books included amongst their possessions distributed to the libraries of the kingdom, and later opened the library of the



FIGURE 12. *Antonio Raphael Mengs, “Don Pedro Rodriguez, Conde de Campomanes.”*

Campomanes organized a movement of intellectuals to free Spain from the grip of feudalism, establishing a network of Leibnizian scientific societies throughout the country.

Imperial College, later San Isidro Library. Benjamin Franklin made him a member of the Philosophical Society of Philadelphia.

Campomanes listened carefully to farmers, entrepreneurs, and craftsmen, and opened government posts for them, which until then had been limited to the nobility. One day, he declared, not without humor, that the sewing needle was “more important than all the syllogisms of Aristotle”!

- **Gaspar Melchior de Jovellanos** (1744-1811) [SEE Figure 14]: Inspired by Campomanes, this poet, economist, and statesman

FIGURE 13. *Entrance to the Real Sociedad de Amigos del Pais, Madrid.*



EIRNS/Karel Vereycken



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FIGURE 14. *Francisco Goya y Lucientes, "Gaspar de Jovellanos," 1797-1798.*

would become the most important and noble figure of the “*ilustrados*,” and a personal friend of Goya. As Benjamin Franklin did at Versailles, he provoked a scandal by appearing in court without his lawyer’s wig, which tells you something about that century. In opposition to the Inquisition and the Jesuits, he demanded that higher education be conducted in the vernacular, not Latin. He called for the elimination of torture. Falsely accused of being a follower of the Enlightenment atheist Voltaire, this Catholic stated that his spiritual brother was Thomas à Kempis, the author of the *Imitation of the Christ* and one of the founders of the Brothers of the Common Life, the teaching order that trained Nicolaus of Cusa and Erasmus of Rotterdam. In 1797, Emmanuel de Godoy, the favorite of Queen Maria-Luisa of Parma, nominated him to be Minister of Justice and Religion. Under extreme pressure from the Inquisition, Jovellanos was exiled in 1801, to rot away in prison in Majorca, deprived of pen, ink, and paper. Only when the French invaded Spain in 1808, would he be set free, to become the *éminence grise* of the Junta Central of the Spanish patriots’ resistance based in Seville.

- **José Monino, Count of Floridablanca** (1728-1808) [SEE Figure 15]. Originally a modest lawmaker, he became the principal minister of Carlos III. He sent money to the American revolutionaries. He was particularly committed to creating and modernizing, through great public works, the economic infrastructure that had once been so advanced under the Arab caliphs of Andalusia. He worked closely with Ramon de Pignatelli (1734-1793), the canon of the Cathedral of Zaragoza, who had protected the young Goya during his early education. Co-founder of the Aragonese Economic Society of the Friends of the Country, it was Pignatelli who, in a manner similar to Franklin Roosevelt’s TVA in the Twentieth century, created a development corridor, bringing communication and irrigation to Aragon by building a gigantic canal linking the Atlantic to the Mediterranean.



FIGURE 15. *Portrait of José Monino, Count of Floridablanca (detail). King Carlos III, on his deathbed, had only one request of the incoming King—that he keep Floridablanca as Prime Minister.*

- **Francisco (François) de Cabarrus** (1752-1810) [SEE Figure 16] was a political economist and financier of French extraction, born in Bayonne. In 1783, with the support of Carlos III's finance minister Miguel de Muzquiz (1719-1785) and Floridablanca, he created the Banco de San Carlos, a state credit institution, seven years before Alexander Hamilton created the first National Bank of the United States on the same principles. The capital of the bank came mainly from Spanish, but also from Dutch and French sources.¹⁵ Goya himself was a shareholder, and did portraits of most of the bank's directors.¹⁶ Cabarrus's secretary was Léandro Fernández de Moratin (1760-1828) [SEE Figure 17], a poet, dramatist, and intimate friend of Goya, who, like him, died in exile in France.

In addition, there were other individuals close to Goya who were connected to or responsible for the Economic Societies of the Friends of the Country, including Martin Zapater (1746-1803) and one of his protectors, the Duchess of Osuna (1752-1834).¹⁷

Although most of these individuals would react in different ways to the earth-shaking political crisis that erupted with the fall of the Bourbons in France, there was an early, far-reaching consensus concerning the nature of the economic depression, and the remedies to be mobilized. Here are the essentials¹⁸:

1. On the social and economic level, Spain had "lost two centuries," the dramatic consequence of the expulsion of the Jews (commerce) and the Moors (craftsmen) by Torquemada's Inquisition, which tragically aborted the potential of Queen Isabella the Catholic to transform Spain into a sovereign nation-state along the lines of the France of her protector Louis XI. In Goya's time, a large part of the Spanish population (clergy, nobility, hidalgos, army, etc.) occupied itself in non-productive activities. Spain had 200,000 monks, nuns, and priests—twice the number of Italy, and three times that of France. Moreover, there were 500,000 noblemen, more than France, whose population was twice that of Spain. According to the social criteria of the country, the nobility



FIGURE 16. *Francisco Goya y Lucientes, "Portrait of Francisco de Cabarrus," 1788.*



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FIGURE 17. *Francisco Goya y Lucientes, "Portrait of Léandro Fernández de Moratin," 1799. Along with Jovellanos, Moratin helped Goya develop ideas for the "Caprichos."*

and the hidalgos (impoverished nobility, of whom Don Quixote is a caricature), were forbidden to work, on pain of renouncing their titles! But, since the country lacked an effective middle class of independent entrepreneurs, merchants, and craftsmen, the time had come to reestablish the values associated with production, by putting everybody to work. War on idleness!

2. Campomanes's outlook was a combination of Colbertian voluntarism (protectionism, manufacturing, and infrastructure development), Leibnizian scientific mobilization (Academy of Sciences), land reform as envisioned by Thomas More in his *Utopia* (redistribution of idle land, favor grain production over sheep raising), and philosophical optimism about human nature (educa-

Goya's Paintings: Imitate Life By Forms, Not Lines

Goya lived at a time when the late rococo style was being superseded by the new, neo-classical fashion outlined by the German theoretician Johann Joachim Winkelmann (1717-1768). In his "Reflections on the Imitation of the Greeks in Sculpture and Painting" (1755), Winkelmann defined the self-contradictory task that resulted from the fact that "the only means we have at our disposal to gain greatness, even to become inimitable (*unnachahmlich*), is through the imitation (*nachahmung*) of the ancients," for which he praised Raphael, Michelangelo, and Poussin.

Winkelmann's collaborator in Rome, with the now nearly forgotten name of Anton Raphael Mengs (1728-1779), was at that time considered the greatest genius of all time, and was invited by Carlos III to Spain to become painter to his Court. Failure to admire him was considered an attack against State and Church, and Mengs ruled as a dictator at the Royal Academy of Madrid, where he imposed strict academic training based exclusively on the imitation of Greek sculpture, which was supposedly the secret of the artists Raphael, Correggio, and Titian.

As a spokesman for those who

opposed the cold, neo-classical "Empire" style that Napoleon would later make mandatory in France and the countries he occupied,* Goya repeatedly claimed that his three masters were "Nature, Velazquez, and Rembrandt."

Here Goya echoed Leonardo da Vinci's precept on imitation,

no painter should imitate the manner of another painter, since that would make him merely the nephew and not the son of nature,

and his advice on how to train painters,



Anton Raphael Mengs, "Self-Portrait," 1778-1779.

Bildarchiv Preussischer Kulturbesitz/Art Resource, NY

The youth should first learn perspective. Then he may copy from some good master, to accustom himself to fine forms. Then from nature, to confirm by practice the rules he has learnt. Then see for a time the works of various masters. Then getting the habit of putting his art into practice and work. [Ash. I, 18a]

So, for Goya, as for Velazquez, whose paintings he copied in a series of etchings in 1778, and also for Rembrandt, whose sketches he studied in Saragossa even before going to study in Rome, nature had to be imitated, not as a template, but as an intention that appeared through what Goya called the "magic of the ambience." There is no recipe for a true creative exchange between the artist and nature. All the rest is the "oppression" of "tired styles" that leads to "nothing good in painting."

In 1792, 13 years after Mengs' death, in a report to the Royal Academy on the subject of teaching art, Goya wrote:

What a scandal to hear nature depreciated in comparison to Greek statues, by one who knows neither one nor the other without acknowledging that the smallest part of nature confounds and amazes those who know most! What statue or cast might there be, that is not copied from divine nature? As excellent as the artist may be who copied it, can he not but proclaim that when placed at

tion, equitable justice, personal freedom, and abolition of the Inquisition).

3. As early as 1771, and after a long inquiry, Campomanes and Floridablanca proposed, in the name of the “General Interest” (Common Good), to redistribute idle farmland belonging to the nobility and the religious orders. People from Germany

and France were encouraged to emigrate to Spain, to repopulate entire regions that had become depopulated. Taxes unjustly crushing the lower classes were progressively transferred to the aristocracy and the clergy, who were until then free of any form of imposition. As in France, these urgent land reforms, and the demand of just fiscal treatment, were some of the key

its side, one is the work of God, and the other of our miserable hands? He who wishes to distance himself, to correct [nature] without seeking the best of it, can he help but fall into a reprehensible and monotonous manner, of paintings, of plaster models? . . .

. . . [T]here are no rules in painting, and . . . the oppression, or servile obligation, of making all study follow the same path, is a great impediment for the young who profess this very difficult art that approaches the divine more than the other.

An early biography recalls a conversation overheard when the old Goya was in exile in Bordeaux, claiming that what the academics wanted and encouraged in their young charges, was the abstraction of “always lines, never forms.”

Any painter working through large fresco cycles has been forced to overcome this paradox. How many lines of a fresco decorating the inside of a cupola, do you still



Caprichos, Plate 32, “Because she was susceptible.”

see while standing far below on the ground? Goya here intelligently assimilated the great breakthroughs of Leonardo, Caravaggio, de la Tour, and Rembrandt, contributions that appear in Velazquez’s early illusionistic style, based on dramatic lightning, strong model-

ling, and sharp contrast.
So, Goya continued:

Where do they find these lines in nature? Personally, I see only forms that are lit up and forms that are not, planes that advance and planes that recede, relief and depth. My eye never sees outlines of particular features or details. I do not count the hairs in the beard of the man who passes by any more than the buttonholes on his jacket attract my notice. My brush should not see better than I do.

That creative, “modern” insight, based on freedom rather than formal rules, made aquatint etching a far more attractive medium for Goya than simple line etching, where tones can only be generated by increasingly dense hatched lines.

As *Caprichos*, Plate 32 (“Because she was susceptible”), demonstrates: If Goya didn’t feel the need to use lines, he simply left them out, allowing the subject matter to define the technical means of expression, and not the other way around!

—KV

* By a monumental use of sober decorative patterns derived from the ancients, the “Empire” style would revive the cold aesthetics of Spartan and Roman civilization. At the suggestion of his wife Joséphine de Beauharnais (whose boudoir still survives intact as the essence of the “Style Empire,” incidentally), Napoleon favored the architects Charles

Percier and Pierre-François Fontaine. Their standardized style of “archeological neo-classicism” gave birth not only to palaces in France (such as Fontainebleau, Compiègne, Rambouillet, and the Elysée), but was imposed on the subjugated countries (Turin, Florence, Laeken, Antwerp, Amsterdam, Utrecht, Haarlem, Aranjuez, etc.).

While in sculpture this style is identified with the works of Antonio Canova (1757-1822), whose works blend frigidity with voluptuous pleasure, and grace with languor, the realistic paintings of Jacques-Louis David (1748-1825) display the fascistic, pessimistic rationalism so typical of the Roman grandeur cherished by Napoleon.

questions to be solved to enable society to progress.

4. As a consequence, all Spaniards were encouraged to educate themselves, and to have a productive life, which is the glue of the social cohesion of the nation. To cycle the nobility into something productive, Campomanes encouraged them to get materially and actively involved in scientific research, through the creation of laboratories, centers intended to become open to all. He created jobs for the military, vagabonds, beggars, and prisoners. Industries that created jobs for women were in particular supported. The Inquisition, whose powers were sharply reduced, was asked to fight heresy with education, not with repression.

As would be expected, such far-reaching humanistic reforms provoked “structural” opposition, in particular from the nobility and the clergy, a real *ancien régime*, whose power and privileges were directly challenged by the new policy. The hard core of that resistance to progress was the Spanish Inquisition, and as such it became the legitimate target of the Christian humanism of Goya and his friends [SEE Appendix, page 44].

The Spanish Inquisition

The Inquisition was first called for in 1213 by Pope Innocent III, and instituted by Pope Gregory IX in 1231 to fight the Cathar heresy, and witchcraft in general. In

Why Goya Is a Great Classical Artist

Nowadays, Goya, if not called a Romantic, is often—and wrongly—identified as the founder or precursor of modernism, surrealism, impressionism, and the other modern “-isms.” Proof is provided by the out-of-context presentation of his quote that “there are no rules in painting” [SEE Box, page 30]. Even those academics who have tried to counter this, have classified him as a “late Spanish rococo” painter, since he definitely is light-years away from the rising neo-classicist style of his time (e.g., Mengs, Winckelmann).

Let us begin by recalling Lyndon LaRouche’s definition of Classical art, as opposed to what is taught in present-day textbooks, which in general propagate the myth that it was what is called academic “classicism”—supposedly the eternal imitation of the cold canons of proportion discovered by the “pure” Greeks, and

standardized by the pragmatic Romans—that was the outcome of Europe’s Fifteenth and Sixteenth centuries’ Golden Renaissance. LaRouche, answering a question at an International Cadre School in May 2003, said:

Classical art is not something that somebody invented. Classical art is actually a sort of secretion of the human being, a natural secretion. Any paradox in life, whether a paradox of sense perception—where you find that, in some moment, things don’t work the way you would have thought they would from habit, and you realize there’s something out there, besides what your sense perception tells you. At that point, you suddenly have a sense of



Scala, Art Resource, NY

irony—metaphor, or irony. Now, the most important experiences in life are of this type: Things that evoke a sense of irony and metaphor, that the world is not what habit instructs you to believe it was. That’s the message you find important to communicate.

1478, the Dominican monk Tomás de Torquemada (1420-1498), the Queen's confessor, convinced Isabella and Ferdinand to establish the emergency laws instituting the medieval Inquisition in Spain. Torquemada became the all-powerful Grand Inquisitor who executed heretics and blasphemers. But his main quarry were the atheists, the converted Jews ("conversos" or "marraños," the latter word meaning "pigs"),¹⁹ and the Moors ("moriscos"). On his personal account: nearly 100,000 trials, 8,800 executions at the stake, 90,000 condemned to diverse forms of repentance, and over 1 million people who fled the country!

The Inquisition continued after Torquemada's death; in Spain alone, between 1481 and 1808, some 35,000 people were burned

at the stake [SEE Figure 18]. The insatiable cupidity of the Spanish clergy, dominated by the mendicant orders, led to the arrest of the Jews and the confiscation of their money, goods, and belongings, as had been the case earlier in the fight against the Cathars. Fighting heresy and witchcraft became the most profitable business on Earth!

On March 31, 1492, the Jews were expelled from the kingdom of Spain, and the Inquisition equally attacked converted Moors and mystics, the label "allumbrados" (*illuminati*) being universally applied to all those who minimized the importance of the Catholic rites. Later, the target would become the followers of the Protestant or Erasmian reform movement, labelled without distinction "lutheranos."



Goya was deeply inspired by Rembrandt's great art of the portrait. Superseding the superficial, "physical" splendor of neo-classical perfection, exemplified here by the court painter Anton Raphael Mengs' portrait of Princess Maria-Luisa of Parma (1765) (left), Goya's love for truth and mankind enabled him to paint in the mind of the viewer a different kind of beauty, an "inner, moral (i.e., creative) beauty," reflecting the living substance of a person's soul. His portrait of the young actress Antonia Zárate (1811), shown above, demonstrates this unique quality of Rembrandtian "interiority."

These things are called ideas—genuine ideas; artistic ideas.

So, man tries to develop ways of communicating things which obviously are important to society, and to the individual, and to others. Out of this comes art. It comes in the form of Classical poetry, which is an evolution of a combination of the natural qualities of the human speaking/singing voice, which has natural peculiarities, which are used, as a way of communicating, in composing poetry. This is true in music. It's true also in painting, great painting, great art.

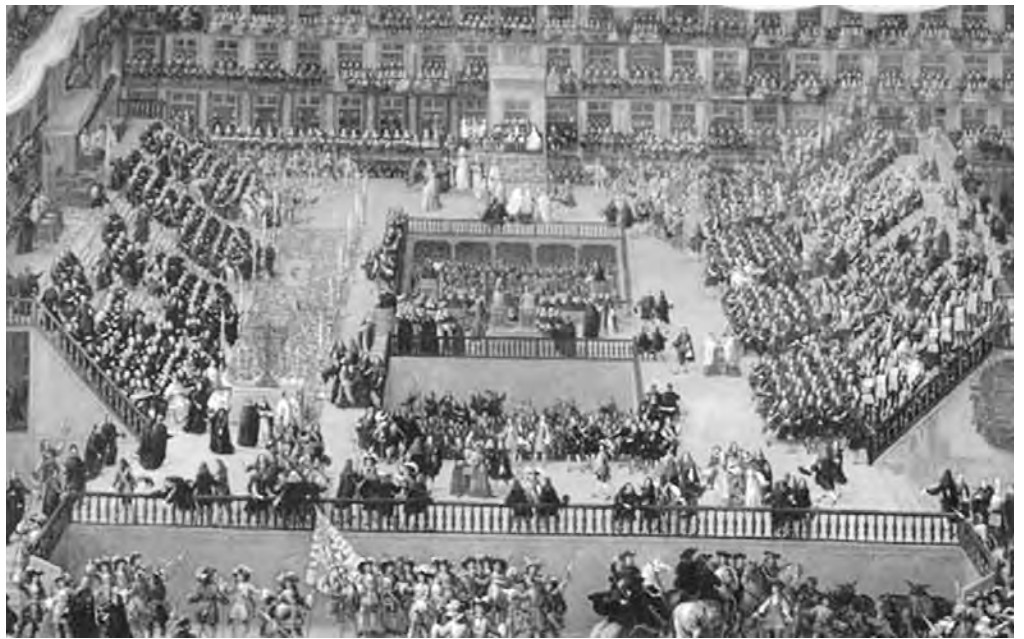
Goya clearly opposed both the idea that art is a mere formal representation or imitation of pleasing, even beautiful, forms and colors ("mannerism"), and also the barbaric fantasy that one can sacrifice the visual domain, for the sake of the pseudo-spontaneous exteriorization of some emotion or other ("Romanticism," "modernism").

His art, through the use of paradoxical metaphors, energizes those specific creative powers of the mind LaRouche identifies. By making

images of the preconscious available to conscious thought processes, and by making these ironies subjects of "truthful human communication of ideas, true or false" (LaRouche), man, through a social process, is freed of the slavery of "the common prejudices and deceitful practices which custom, ignorance, or self-interest have made usual," as Goya stated in his advertisement for the *Caprichos*. That uplifting (sublime) experience, powerfully increases man's willful mastery of the domain of self-conscious creativity, a quality that defines precisely the difference between creative man and the lower species.

Aware that pretty appearances can hide the ugliness of intentions, Goya seems to share the vision of the poet John Keats (1795-1821), who wrote in his "Ode on a Grecian Urn" that, "Beauty is truth, truth beauty, —that is all / Ye know on earth, and all ye need to know." In that sense, Goya's art is often neither pretty nor pleasing, but Classically and truly beautiful, precisely for its truthfulness. —KV

FIGURE 18. *Auto-da-fé* of 1680 on the Plaza Mayor of Madrid. The last great demonstration of the power of the Inquisition was this immense “auto-da-fé.” To open a celebration of his wedding, King Carlos II personally lit the stakes of 27 “judaizers” (converts suspected of secretly practicing Judaism).



Around 1480, Spain reached the highest degree of symbolic unity between Church and State, by consecrating the cult of “limpieza de sangre” (purity of the blood), somewhat akin to the Nazis of a later period.²⁰ Henceforth, the Inquisition, being prosecutor, judge, and jury all rolled into one,

would make rulings on these two issues: purity of blood, and loyalty to the Church.

Although torture was formally prohibited as a form of execution, it was considered necessary to obtain information and confessions. Besides many other public humiliations, the three most common methods of torture were the “garrucha” (strangulation), “la toca” (shoving a piece of wet cloth down the throat, to create the effect of drowning), and the “potro” (tightening ropes around the body). But, in Goya’s time, most victims were executed by strangulation in public, a method wrongly supposed to be less painful than burning at the stake [SEE Figure 19]. Goya left us several drawings and paintings describing the sinister human sacrifices organized by “the Santa” (Holy Tribunal) as popular entertainment, which they used as a means of ruling over the masses with death, fire, and terror, while at the same time encouraging debauchery and superstition in secret. The systematic denunciations, fuelled by sheer cupidity, would plunge Spain into a permanent climate of mutual suspicion, and would ruin the spirit of scientific inquiry and create a definite distrust of progress. The atrocities of the civil wars that ravaged Spain later, as well as the brutal massacres of native populations in the Americas, have their origins here.

FIGURE 19. Francisco Goya y Lucientes, “El agarrotado” (“The Garrotted Man”), etching, c. 1779. The Inquisition burned 35,000 people at the stake, and tortured or punished 90,000 more.



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Schiller's play *Don Carlos*, completed in 1787—the year the United States adopted its beautiful Constitution, and the year Goya tried to learn some French—contained a forceful message for Spain: Unless you take on the Inquisition, your country is doomed. Carlos III, who as early as 1737 had invited the Jews (who had been expelled by Emperor Charles V) to return to the Kingdom of Naples, and had prevented the establishment of an Inquisition in that kingdom, had later, as King of Spain, expelled the Jesuits from both Spain and New Spain, and severely restricted the power of the Inquisition. But he did not have the political power to abolish it. When Carlos IV succeeded his father in 1788, the Franco-Spanish pressure cooker was about to explode. In Spain, the Inquisition began to reassert its power in alliance with the British, who would orchestrate both the anti-republican Revolution in France, and its later Napoleonic Synarchist reaction.

The Shock of 1789

Carlos IV, a donkey in the center of historical torment, decided that hunting was far more interesting than ruling, and left the daily management of state affairs to his wife, Maria-Luisa of Bourbon Parma (1765-1819) [SEE Figure 20, and inside back cover, this issue]. A superficial spouse, Maria-Luisa hated her despicable son, the future Ferdinand VII (1784-1833), and took her favorite, her young bodyguard Emmanuel de Godoy (1767-1851), to run the country [SEE Figure 21]; in 1792, Carlos IV appointed Godoy Prime Minister.

The reform movement created by Carlos III, which had been given institutional expression, was still sufficiently strong after nearly 30 years of rule by Carlos III, that it could not be fully broken initially. Carlos had taken care to stipulate the policies which his successors should implement, in a 1787 “Confidential Memorandum” to the State Council drafted for him by Florida-Blanca. Although Maria-Luisa and Godoy were both instruments of the Inquisition after the French Revolution, which target-



Erich Lessing/Art Resource, NY

FIGURE 20. *Francisco Goya y Lucientes, “Family of Carlos IV,” 1800. Goya demonstrates in this vast canvas all the science he had learned from the great masters. From Velazquez’s “Meninas,” he takes the “mirror” effect: all the figures, and especially Queen Maria-Luisa, who is standing at the geometrical center of the composition (and the monarchy), are posing as if admiring themselves in front of a mirror. And, as Velazquez did in his painting, Goya also includes himself, in the left, shadowy part of the wide canvas, standing behind the royals. As in Rembrandt’s “Night Watch,” and violating every formal rule of “classicism,” Goya dares to present a figure clothed in black (King Carlos IV) at the very front. While their degenerate nature speaks for itself today, the royals were immensely charmed with these truthful representations. Blinded by their own vanity, they saw only the glittering garments of the Queen, and the triumph of royal decorum. Belonging to the oligarchical caste prevented them from seeing the evident moral ugliness of their own appearance, or the powerful shadow that creeps in from the left and announces their coming doom. Hence, Goya indeed immortalized their foolish mortality.*

ted the pro-American intellectual elite in that country for execution or imprisonment, they did not yet have the power to destroy the pro-American elite in Spain.

Thus, even though Godoy was their enemy, he was forced initially to continue to defend Campomanes’ “Friends of the Country” societies, to encourage the industrialization of Spain, and to upgrade basic education, including the introduction of the advanced pedagogical model of the Swiss Johann Pestalozzi (1746-1827), a collaborator of Wilhelm von Humboldt.²¹

Godoy commissioned Goya, who was the Court Painter, to paint four tondos, depicting allegories of the economic values



FIGURE 21. Francisco Goya y Lucientes, “Emmanuel de Godoy,” 1801. The Queen’s young bodyguard, Godoy was promoted to take over the reins of government. Known for his sexual escapades, Godoy betrayed the humanists on behalf of the Inquisition. In this portrait, painted the same year Godoy was given the title of Generalissimo of the Armies on Land and Sea, Goya suggests where Godoy’s real power lay—in the words of one biographer, “between [Godoy’s] mighty thighs, a walking stick with a knobby handle stands erect.” In the immediate background, Goya juxtaposes a horse’s ass to the seated Godoy.

defended by Campomanes and Jovellanos: Commerce, Agriculture, Science, and Industry [SEE Figure 22].

Maria-Luisa became increasingly the puppet of the Inquisition, which was out to turn her against Floridablanca, Cabarrus, and Jovellanos. In 1789, Maria-Luisa, panicked by the events in France—where Louis XVI, after the storming of the Bastille, made it known he might take refuge in Spain with his first cousin—



FIGURE 22. Francisco Goya y Lucientes, “Allegory of Industry,” 1797-1800.

wants to stop “the ideas” of the Revolution. The Inquisition is reinforced, and redoubles its efforts. Floridablanca, unable to conceive of a creative solution, installs a ferocious censorship. Not a word appears in the Spanish press on the events that are shaking up France. It never happened. If we don’t talk about it, it might disappear on its own. Alas, too late! Unable to stop “the ideas,” one arrests those who think them. It must be these damn “ilustrados”!

On June 25, 1790, for no stated reason, François Cabarrus, one of the masterminds of the Banco de San Carlos, is arrested and thrown in jail. Campomanes refuses to defend him. Jovellanos is advised to leave Madrid and go study “the extraction of coal in the Asturias”; Goya, without having requested it, receives a pass to go and “breathe the maritime air of Valencia.”

Then, in 1792, a “U-turn”: After the arrest of Louis XVI, war between France and Spain seems inevitable. The acceleration of history traps the humanists in a pincers movement. The fates of France and Spain are inextricably linked together. Either some form of revolution becomes successful, or it will bring about the loss of everything. Godoy manipulates the “ilustrados,” who are being accused of being agents of a foreign power, “afrancesados” (“Frenchies”). Cabarrus is called upon and sent to France, where he pleads in defense of Louis XVI. According to some, his secret mission is to spirit the French king out of the country.

On Jan. 21, 1793, Louis XVI’s head falls into the basket of the guillotine. Carlos IV, in a surreal act, declares war on France, and France declares war on Spain. This is when Goya might have been poisoned, or gotten the wrong medical treatment, and he leaves Madrid to live with friends in Cadiz. The daughter of Cabarrus, Teresa, is the wife of the Frenchman Tallien, one of the organizers of Thermidor, the attempted counter-coup that would send Robespierre to the guillotine.

Godoy arranges a peace agreement with France. The Spanish Bourbons are allowed to stay on the throne, but “ilustrados” Jovellanos and Francisco de Saavedra (1746-1819) are put in as ministers. Within months, the Inquisition, that meeting place of clergy and

nobility, orders them out. For Goya, that capitulation is the equivalent of treason, and he counter-attacks by tearing off the masks.

‘Los Caprichos: Universal Language’

We now know enough of the political and economic context, to bring in Goya as he starts lobbing shells into the headquarters of the enemy general staff.

Los Caprichos: idioma universal will be composed as a Socratic dialogue of the same type as Erasmus’s *Colloquies* [SEE Figure 23, selected Plates]. Beneath the surface of every one of these little histories, there is a well-directed, delicious irony, lampooning very precise political figures, who were otherwise unassailable.²² But the primary target of Goya’s attack was not the royals *per se*, but rather the false axiomatic assumptions of the popular culture, which sustained their oligarchical misrule. In the *Caprichos*, Goya takes social commentary to new heights, where human figures are distorted by appetites and passions; he exposes the sources of folly, but is confident that mankind can rise above them.

Plate 4, “Nanny’s boy,” is probably a portrayal of Queen Maria-Luisa, who was known for an incessant struggle to master



FIGURE 23. Francisco Goya y Lucientes, *Los Caprichos*, Plate 4, “Nanny’s boy.”

her maladjusted false teeth. A laborer pulls a weight towards the right, while the brat, hands in mouth, blocks his passage.

Plate 5, “Two of a kind” (“What resembles, assembles”): Marriage for mutual benefit: is this Godoy and the Queen?

Plate 8: A tragic philosophical reality intervenes: “They carried her off!” Two phantomlike figures—clergymen, or noblemen?—carry off a young woman, destroying the future.



FIGURE 23. *Caprichos*, Plate 5, “Two of a kind” (“What resembles, assembles”).



FIGURE 23. *Caprichos*, Plate 8, “They carried her off!”

FIGURE 23. *Caprichos*, Plate 13,
“They are hot.”



FIGURE 23. *Caprichos*, Plate 79,
“No one has seen us.”



To understand how the power of ideas inhabits this fantasy world of social and political satire, it is indispensable to be able to compare the captions and legends on the original drawings, drawn directly from Goya's hand and mind, with the ones that appear on the final engravings, which he softened and made purposely obscure, in an act of self-censorship probably suggested by friends (Jovellanos, Moratin) who

were concerned to avoid more trouble for Goya, who was clearly playing with matches on the pyre.

Take, as an example, Plate 13, showing monks eating a hot dinner with spoons. On the engraved version it reads “They are hot.” But, on the original drawing, the handwritten text is far more explicit: “Here are the men who are devouring us” (anticipating the theme of “Saturn devouring one

FIGURE 23. *Caprichos*, Plate 80,
“It's time.”



FIGURE 23. *Caprichos*, Plate 43,
“The sleep of reason produces
monsters.”



of his sons”). We find these monks feasting again in Plate 79, “No one has seen us,” and also at the very end of the series, Plate 80, where they are hysterically screaming, and it says, “It’s time.” The famous print, “The sleep of reason produces monsters,” (now Plate 43, approximately half way through the series, introducing the theme of superstition taking over if reason falls asleep), was initially conceived as Plate 1, the opening statement, and would have made clear the full significance of the last plate, i.e., “‘It’s time’ for Reason to wake up!”

One of the monsters that pops up often in the *Caprichos* is the owl. In Spanish popular culture at the time of Goya, as it was in Flanders during Hieronymus Bosch’s lifetime, this bird of night was a metaphor for sin, able to see and operate in darkness. Also, in the very common practice of bird hunting, an owl was attached with a little string to a tree. The owl’s screeching attracted other birds, who then fell in the nets or got stuck on the branches of the tree covered with glue by the hunter. Plate 19, “All will fall,” shows that stratagem, with a bird-woman as the bait on the tree, and the man-birds being castrated in the foreground.

With Plate 55, we’re back at the royal palace: “Until death” features Maria-Luisa, flaccid and withered, trying desperately to



FIGURE 23. *Caprichos*, Plate 19, “All will fall.”

restore her looks with make-up in front of a mirror (a theme developed in the painting, “Time and the Old Ladies” [SEE Figure 24, and inside back cover, this issue]).

The most explicitly political cartoon of the series is without doubt Plate 56, “To rise and to fall.” In addition to the title’s reference to Godoy’s sexual performances, one sees him being lifted up by a giant satyr (bestial force). Godoy is depicted with



FIGURE 23. *Caprichos*, Plate 55, “Until death.”



FIGURE 23. *Caprichos*, Plate 56, “To rise and to fall.”



Figure 23. *Caprichos*, Plate 2, “They say yes and give their hand to the first comer.”



Erich Lessing/ART Resource, NY

FIGURE 24. Francisco Goya y Lucientes, “Time and the Old Ladies,” 1808-1812. Taking up *Caprichos*, Plate 55, this painting gives an extra twist to the cartoon, since the old bearded man—Time, whom we saw in the “Allegory of the 1812 Constitution” [Figure 3]—is about to sweep the elderly oligarchs away with his broomstick. Queen Maria-Luisa is generally identified, because she wears in her hair the same arrow-shaped diamond hairpin seen in the portrait of the royal family (Figure 20).

flames and smoke—an image of the Inquisition—pouring forth from his head, and in his rise, two figures are thrown aside: Jovellanos and Saavedra, the two “ilustrados” he threw out of the government.

The theme of marriage for convenience, status, or money appears in a satirical poem by Jovellanos, “A Arnesto,”

Without invoking reason, nor weighing
In their hearts the merits of the groom,
They say yes and give their hand
To the first comer,

which opens the *Caprichos* [SEE Figure 23, Plate 2], and will be treated in prose in Moratin’s masterpiece, the “Si de las niñas” of 1806, which was banned by the Inquisition. Without ignoring macho behavior, Goya goes after the tradition of Spanish women’s self-degrading behavior as sex objects, often encouraged by their mothers acting as bawds or procuresses, which got innocent young girls “into the game” (a theme that had become popular with Fernando de Rojas “*Celestina*” (“Procuress”) in 1499) [SEE Figure 25]. But the painting “*Majas on the Balcony*” [SEE Figure 26] shows clearly the “men in the shadows,” behind their backs. The Inquisition, and the police of the king, were probably running large chunks of organized prostitution, a traditional tool of information-gathering for most intelligence services.

The ‘Ilustrados’ and Republican Popular Culture

Goya and his friend Léandro Fernandez de Moratin rejected the idea of a culture reserved exclusively for the elites and the salons, as did the most enlightened of the nobility. Through the theater, in particular, Moratin tried to take up the great challenge of changing the cultural environment, a necessity in terms of both day-to-day political fights, and long-term human potential. How many intrigues and palace coups were settled in the streets of Madrid by the manipulation of a whipped-up “populacho” (rabble)? Not only in Spain, but elsewhere? A population de-sensitized through bullfighting and public executions of “heretics,”



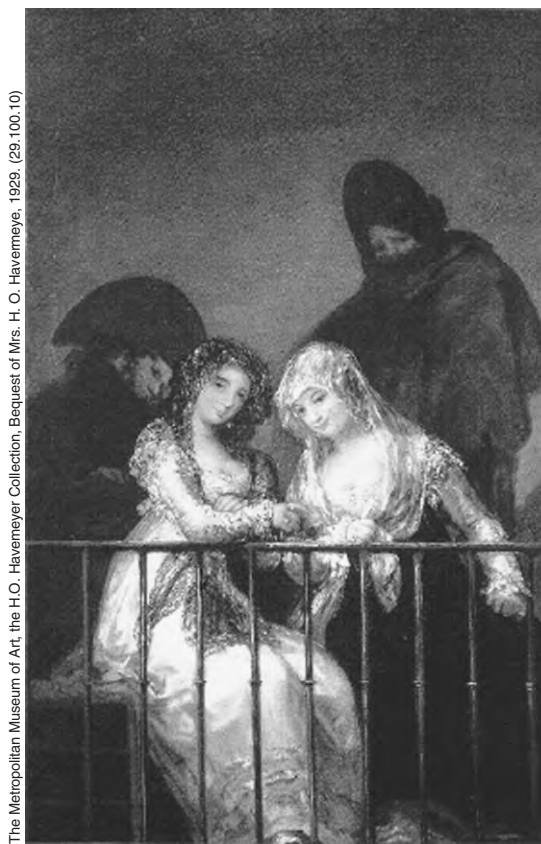
FIGURE 25. *Francisco Goya y Lucientes, "Maja and Celestina (Procuress) on the Balcony," 1808-1812.*

and further debased by theater productions aimed at appealing to the lowest instincts (similar to today's soap operas), was a grave threat to the republican spirit of government "of, by, and for the people."

Moratin expressed his convictions in a 1791 letter to Godoy, criticizing the works of Ramon de la Cruz (1731-1794), the most popular playwright of his day, whose productions did nothing but reflect

the life and customs of the most miserable rabble: the tavern keepers, chestnut sellers, pickpockets, imbeciles, rag sellers, blackguards, jailbirds, and, all in all, the disgusting doings of the Madrid slums: such are the characters of these pieces. The cigar, the gambling house, the dagger, drunkenness, dissipation, abandonment, all the vices of such pieces rolled together, are painted in seductive colors If theater is the school of behavior, how can one correct vice, error, and absurdity, when the same people who ought to be amending them are propagating them?

Moratin argued that the Hollywood-



The Metropolitan Museum of Art, the H.O. Havemeyer Collection, Bequest of Mrs. H. O. Havemeyer, 1929. (29.100.10)

FIGURE 26. *Francisco Goya y Lucientes, "Majas on the Balcony," 1810-1812.*

style repertoire of some 450 de la Cruz "sainetes" (25-minute, one-act sketches), were becoming popular among "the highest levels of society." To which de la Cruz responded, that he was not a degenerate, merely a realist, who wrote of the real life one could live in Madrid.

Moratin passed the year 1787 in Paris, where he entered into an ongoing dialogue with Carlo Goldoni (1707-1793), a playwright and reformer of the Italian theater in exile in France, who was the Italian language teacher to the Court of Louis XV. In 1786, Moratin had already written his first comedy, "El viejo y la nina" ("The Old Man and the Girl") and the year before, he had published, anonymously, a pamphlet, the "Derrota de los pedants" ("Rout of the Pedants"), mocking bad poets and authors. To ridicule the surrounding anti-culture, Moratin even founded a burlesque society with his friends, with the name of the "acalophiles" ("lovers of ugliness," from the Greek *a-kalos*), of which Goya might have been a member.

The Beast-Man and the 'Pinturas negras'

It would be impossible to comment on every one of Goya's works, and their interaction with his revolutionary time. But, having discussed at least some aspects above, I will now try to go to the essence of his work, by underlining his very special, unique contribution.

Having participated in the revolutionary regime of Carlos III, and then having experienced its overthrow by the very oligarchy Carlos III had combatted, Goya had an acute comprehension of the difference between man's true humanity, his cognitive nature in the image of the Creator, and the Beast-Man phenomenon—an understanding he mobilized to provoke a universal awakening of conscience capable of stopping it.



FIGURE 27.
Francisco Goya y
Lucientes,
Disasters of War,
Plate 71, "Against
the common
good."



FIGURE 27.
Disasters of War,
Plate 72, "The
consequences."

There remains the question of what can lead men to become Neros, Torquemadas, Napoleons, or Hitlers; what can bring them to commit such horrible crimes, that they can justly be called Satanists, in the sense of depriving mankind, and men, of their dignity as human beings.

Goya points the finger, and it required enormous courage to do so, at the egoism of the *ancien régime*, a generation so preoccupied with itself, that it was prepared to devour its own offspring, rather than be deprived of its own pleasure, privilege, and comfort.

This is Goya's enduring "heavy idea," which appears towards the end of the *Disasters of War*, a series of etchings produced during the French occupation of Spain [SEE Figure 27, selected Plates].

That war was for France what today's Iraq war is for the United States. Projected to require less than six days, Napoleon's Grande Armée would stay for six years, because every Spanish corpse that fell to the ground became a new barricade. Immortalized by Goya's paintings, the "Dos" and "Tres de Mayos" [SEE Appendix, Figure A, page 44], the war would see the birth of the "*guerrilla*" ("little war").

We have no more need for the Inquisition (abolished by Joseph Bonaparte), says Goya in the *Disasters*. Denunciations, torture, strangulation, bodies chopped into pieces—it is now all done by the people themselves, bestialized by an unjust and absurd war!

Goya's horror recalls the declaration of Abraham Lincoln's General Sherman, who said, to the graduating class of the Military Academy of Michigan in 1879: "It is only those who have neither fired a shot, nor heard the shrieks and groans of the wounded, who cry aloud for blood, more vengeance, and more desolation. War is hell."

After having reconstructed and engraved innumerable, unbearable deeds of Frenchmen (and Polish officers) against Spaniards, acts of men against women, of humans against humans, all behaving inhumanly, Goya tries to advance some kind of answer to the question, "Why?" He gives his answer in Plate 71, which has the caption, "Against the common good," below a portrait of some

sort of Grand Inquisitor with bat-wings for ears! What does this have to do with the war? Plate 72, “The consequences,” shows a monster devouring the corpse of a man who resembles the figure in Plate 1 [SEE Appendix, Figure C, page 45]. The Beast-Man of Plate 71, becomes a total beast in Plate 72. This theme is restated in Plate 81, the “Fierce Monster,” where an ogre eats/vomits human corpses. It is possible that some of these plates were done for the *Caprichos*, but removed because of their virulence; they certainly form a bridge to that series.

Is it war, then, that is the ultimate folly of the sleep of reason? *That this “monstrous” subject—which is much more than a mere “subject,” as it encompasses the future of humanity—haunted Goya, is not a sign of mental illness, but the contrary!*

In 1823, angered by the crushing, by the French Army under orders of the Congress of Vienna, of the last attempt to adopt the 1812 Constitution of Cadiz, Goya covers the beautiful landscapes and dancing giants he painted on the walls of the “Quinta del Sordo,” his house in the outskirts of Madrid, with his “Pinturas negras” (“Black paintings”).²³ Along with some 12,000 families of Spanish “ilustrados,” Goya went into exile in France.

His “Saturn devouring one of his sons”—Saturn being the Roman (Latin) name for the Greek Titan Cronos, associated with time (*chronos*)—expresses the ultimate outcome of the extreme logic of the oligarchy: Since we refuse to create a future for the coming generations, let’s prevent them from existing! [SEE Figure 28]

Conscious of that monstrosity, Goya told his friend Zapatar in a letter: “I’m not afraid of witches, hobgoblins, apparitions, boastful giants, knaves, or varlets, etc., nor indeed of any kind of beings, except of human beings” (February 1784).

It was this monster that haunted Goya, and which he fought; neither as a Don Quixote, nor as a Sancho Panza, but as a republican enlightened by the sources of Renaissance Christian humanism. It is up to us to honor his life and works, by putting the last Beast-Men of our time in the requisite cages!



FIGURE 27. *Disasters of War*, Plate 81, “Fierce Monster!”



Erich Lessing, Art Resource, NY

FIGURE 28. Francisco Goya y Lucientes, “Saturn devouring one of his sons,” 1820-1823. Romantics and existentialists are generally incapable of coming up with a credible explanation of this image. They claim that it is the expression of Goya’s “profound pessimism” regarding “the evil nature of man.” In reality, Goya is using a powerful metaphor to present a “heavy idea.” Saturn is the Roman name for the Greek Titan Cronos (time = *chronos*). The artist points his finger at the egoism of the “ancien régime,” a generation so preoccupied with itself, that it would rather devour its offspring, than be deprived of its own privileges and comfort. That this concept was not a simple outburst of blind rage, when Goya was covering his walls with the “Black paintings” after the Spanish republicans were crushed in 1823, is proven by a red chalk study of the same subject, datable long before 1800, and planned for the *Caprichos*.

APPENDIX

Goya and Christianity

Let us underline here, that if Goya had trouble with the Inquisition, it was precisely because he was a Christian humanist, as was the great Cervantes. In total opposition to his reputation as virulent religion-hater, many elements prove

the fact that Goya, like his friend Jovellanos and other “ilustrados,” was a whole-hearted Christian. According to some sources, Goya even started each letter he wrote with a cross.

For a long time, attentive observers

FIGURE A. *Francisco Goya y Lucientes, “Tres de Mayo,” 1814. Napoleon grew more hated by the Spanish people every day he occupied Spain, but he faced no organized opposition. This changed when his troops picked people off the streets of Madrid at random for an all-night orgy of executions. Although his forces had been able to march into Spain almost without firing a shot, Napoleon now faced hand-to-hand combat with men, women, and even children. Goya is careful to show almost every type of emotion on the faces of the victims, but the executioners are faceless, anonymous, machine-like.*



Scala/Art Resource, New York

FIGURE B. *Miguel Gamborino, engraving, 1813.*



have identified the similarity of pose, arms in the air, of the standing man of the “Tres de Mayos” [SEE Figure A], a painting done in 1814 to commemorate the martyrs of 1808, and the pose of Christ on the cross. Here, it is the martyr, a simple citizen in a white shirt, who unobtrusively displays the stigmata on his hands. There is no longer any doubt that the composition is based on an engraving by Miguel Gamborino, done in 1813, of the execution of several clergymen in the Murviedro quarter of Madrid [SEE Figure B], Goya discreetly doing some honor to the priests and monks who fought for the nation. Others have identified the kneeling man of the introductory etching of the *Disasters of War* series, with the image of the Christ at Golgotha, the “secular version of the theme of the praying Christ in the garden of Gethemane,” as the critic Hans Seldmayr puts it [SEE Figure C].

After all, Goya and his friend Martin Zapater, got their early education at the “Escuelas Pias,” religious schools founded by a courageous priest from Aragon, José de Calasanz (1557-1648).

Recall that Spain was one of the countries that had seen the most translations and editions of the works of Erasmus before they were banned by the Council of Trent in 1559. Cervantes himself was a pupil of the Erasmian Lopez de Hoyos, and Goya did two drawings after Erasmus’s portraits. Thus, it is not astonishing that there appeared in Spain a man like Calasanz, who, despite much opposition from the Vatican, battled for free public education for all, given in the vernacular—a real revolution in that period, when schooling took place exclusively in Latin.

Calasanz was a contemporary of Tommaso Campanella (1568-1639), author of the *City of the Sun*, who spent 20 years in jail for his opposition to the Inquisition. Calasanz and a certain number of religious schools took a stand in defense of Campanella’s friend Galileo against the Inquisition, without endorsing Galileo’s



FIGURE C. *Francisco Goya y Lucientes, Disasters of War, Plate 1, “Sad pre-sentiments of what must come to pass.”*

empiricist method, however. Goya, trained by the “piarists,” did a drawing of an unidentified bound man, with the caption, “for having discovered the movement of the Earth,” a clear reference to Galileo’s refusal to recant on the Earth’s movement—a physical principle first enunciated for the Renaissance by Cardinal Nicolaus of Cusa [SEE Figure D].

This might explain the great love for mankind that animated so many “ilustrados.” The enthusiastic initiative of Campomanes to teach literature to poor children when an adolescent himself, or the battle of Jovellanos to establish higher education in the Spanish language—all of this comes as an echo of the flame of this Christian humanism, slowly penetrating into the



FIGURE D. *Francisco Goya y Lucientes, “For discovering the movement of the Earth,” brush, 1810-1814. Note, again, the cruciform, outstretched arms.*

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FIGURE E. *Francisco Goya y Lucientes, "Portrait of Juan Antonio Llorente," 1810-1812 (detail).*

Spanish church.

There is also that exceptional portrait, done by Goya, of Juan Antonio Llorente (1756-1823) [SEE Figure E], the former Secretary General of the Inquisition who denounced its evil practices in his *History of the Spanish Inquisition*, published when he was in exile in France in 1815, and against which Joseph de Maistre (1753-1821) seems to have written, as a response, his *Letters to a Russian Gentleman on the Spanish Inquisition* that same year. In any case, Goya retained a fond memory for his teacher "padre Joaquin," and in 1819, he would paint the beautiful "Last Communion of San José de Calasanz" [SEE Figure F].

While drawing his famous etching in the *Caprichos*, "The sleep of reason produces monsters," Goya may well have been thinking of a little saying of Calasanz, who liked to remark that, "the dissipated ecclesiastic is the joy of the devil."

—KV

FIGURE F. *Francisco Goya y Lucientes, "The Last Communion of José de Calasanz," 1819. Commissioned by the Escolapian order in Madrid, the painting commemorates the moment Calasanz, some 90 years old and close to death, insisted on rising from his deathbed to take Holy Communion before an audience of his pupils. For Calasanz, the "dissipated ecclesiastic is the joy of the devil."*



NOTES

1. For a full treatment of this subject, see William F. Wertz, Jr. and Cruz del Carmen Moreno de Cota, "Spain's Carlos III and the American System," *Fidelio*, Summer 2004 (Vol. XIII, No. 1-2).
2. After being paralyzed for six months, Goya became irretrievably deaf in 1793. Although symptoms of spatial-temporal dysfunction were observed beginning 1776, the thesis of poisoning cannot be dismissed, as it was very common at that time. Even the future king, Ferdinand VII, was accused of preparing the poisoning of his own mother, to gain the throne. In this period, other sympathizers of the American Revolution developed strange health problems: the untimely death of Mozart (1791), and the deafness of Beethoven (beginning 1798), are two such cases. On the other hand, both meningitis and toxification caused by intensive exposure to the white lead in oil painting, are not to be excluded. Yet another poison that killed many patients was bad doctors: Goya represented them as donkeys, as in Plate 40 of the *Caprichos*, "Of what evil will he die?"
3. Among the modern existentialists, for example, Charles Baudelaire shamelessly said that, "The great merit of Goya is the creation of a plausible unnatural [monstrousness]," while he considered his work, "a nightmare of unknown things, of fetuses boiled at the center of Sabbaths, of old people in front of mirrors, and naked children"; André Malraux, more inspired on the subject, thought that Goya was mainly sensitive "in a nearly brutal fashion, to the demons and the terror within each of us"; Aldous Huxley expressed his morbid fascination, stating that, "Many engravings of Goya refer to strictly private events that take place at the obscure levels of the mind and their creator"; Théophile Gautier: "There exists especially a really fantastic engraving that is the most awful nightmare that we have dreamed: his title, 'They are not yet leaving.' It is terrifying, and Dante himself does not arrive at this level of suffocating terror; imagine a naked gloomy field above which hangs a cloud with the strange shape of a disembowelled crocodile, and then a big stone, a tombstone that a suffering meagre figure tries to uplift . . ."
4. Paul Mantz, writing the article on "Goya" in an 1859 dictionary, says: "Goya painted as in a feverish delirium. He often treats the form with absolute disdain; this was both out of ignorance, and intentional. However bizarre, this master, who seems happy with ugliness, cultivated a strong sentiment for female grace and the piquant attitudes of the beautiful girls of Spain. Whatever can be said, Goya, so errant, so crazy, so incomplete in his paintings, left behind a series of caricatures of great value."
5. For the Synarchist roots of Spain's Hitler-allied dictator Francisco Franco, and the continuing legacy of Francoism in the organizing of today's Nazi International by Spanish Franco protégé Blas Piñar, see *Special Report: The Synarchist Resurgence Behind the Madrid Train Bombing of March 11, 2004*, ed. by Tony Papert (Leesburg, Va.: LaRouche in 2004, June 2004).
6. The only polemical drawings published during his lifetime were the *Caprichos*, printed in a dependency of the French Embassy in Madrid in 1799.
The "Tauromachies" (lithography) were not published until 1855.
The *Disasters of War* was only published in 1863, although it had been produced in the 1808-1814 inter-

val, and used in 1814 for the elaboration, in the paintings "Dos de Mayo" and "Tres de Mayo," of the events of 1808.

The "Disparates," or "Proverbs," was never published.

The "Pinturas negras" were discovered in 1868 by Goya's friend Bernardo de Iriarte.

7. The erudite Spanish historian Enrique Lafuente Ferrati has indicated similarities between certain images of the *Caprichos* and the 1776 engravings in France by Charles Monnet for the edition of Charles Palisseau de Monteno's (1731-1814) burlesque poem, "The Dunciade, or, The War of Fools" (1764), a polemic against Diderot, Voltaire, and the Enlightenment *esprit*. Similarities to certain drawings of Fragonard have also been acknowledged.
8. In 1825, Goya answered a letter from his friend, the banker Joaquin Maria Ferrer, considered by French police "a dangerous revolutionary," who was also in exile in Bordeaux. Goya tells him he was forced to stop the sale, because the "Santa" had accused him.
9. One is reminded of the English nursery rhyme: "Baby, baby, he's a giant / Tall and black as Monmouth steeple, / And he breakfasts, dines, and suppers / Every day on naughty people. / Baby mine, if Boney hears you / As he gallops past the house, / Limb from limb at once he'll tear you, / Just as pussy tears a mouse." It has to be emphasized that, initially, the engraving of the Colossus was planned to open the *Disasters of War*, a series on the disastrous French occupation of Spain.
10. It is fairly well documented that pressure was placed on Louis XVI by the inner core of Louis XV's private secret service (*Le secret du Roi*), and Lafayette's immediate liaison officer Charles-François de Broglie (1719-1781) in particular. Gilles Perrault, *Le secret du Roi* (see Recommended Reading for publication information).
11. If von Steuben was crucial to the military training at Valley Forge, so too did the receipt of the money equivalent of five million pounds of war materiel help Washington win the decisive Battle of Saratoga in 1777. Half the funds came from the French and Spanish Bourbon kings, while the rest came from French and European sympathizers of the American cause. The ships of Rodrigue, Hortalez et Cie (Beaumarchais) sailed from Bordeaux, Le Havre, and Marseilles. In August 1779, some 2,000 Spanish troops under the command of Bernardo de Gálvez open a flank against the British in Louisiana. In 1781, at Yorktown, 6,000 insurgents led by Washington, supported by the French volunteers of Lafayette, faced 8,000 British troops under the direction of Cornwallis, until the arrival of the 5,000-man French expeditionary force of Rochambeau gave the victory to the Continental Army. The victory at Saratoga prepared the way for the later diplomatic recognition of the United States by France in 1783.
12. De Maistre letter from Moscow to Chevalier de Rossi, 1808, quoted in Evan S. Connell, *Goya, A Life* (New York: Counterpoint, 2004), p. 126. For more on de Maistre and the "Beast-Man," see *Children of Satan* (Washington, D.C.: LaRouche in 2004, 2004). Nor is it astonishing that another Satanist, the English Pre-Raphaelite John Ruskin, allegedly the greatest art critic of his day, in a fit of moral hysteria, burned an entire set of Goya's *Caprichos* in his fireplace, as a gesture against what he conceived to be Goya's intellectual and moral ignobility.

13. Jeanne Baticle, *Goya, d'or et de sang* (Paris: Gallimard, 1987), p. 25.
14. Quoted in the online encyclopaedia *Imago Mundi*, <http://www.cosmovisions.com>.
15. It would be interesting in this regard to inquire into the visit of Beaumarchais to Spain in 1764. While in Madrid, Beaumarchais represented the important banking family Paris-Duvernay, the financiers of Louis XV and Mme. de Pompadour. He met José Clavijo y Fajar, the science minister of Carlos III who worked with Alexander von Humboldt. His stay in Spain provided Beaumarchais with the material for the *Barber of Seville*, used by Rossini in his opera of the same name.
16. Goya owned 25 shares of the Banco de San Carlos. His presence at one of the meetings of the stockholders in February 1788 is documented.
17. Martin Zapater was treasurer and a member of the Aragonese Economic Society of Friends of the Country. The Duchess of Osuna directed the "Damas Junta," women's council, of the Economic Society of Friends of the Country in Madrid, and organized her own "tertulias" (intellectual soirées). She and the Duke of Osuna were Goya's first patrons, and the Duke personally intervened to save Goya's life when the circulation of the *Caprichos* was ordered stopped. The Osunas had a mansion in the suburb of Madrid called "El Capricho," where literary and musical soirées were organized. For six years, the Duchess employed Joseph Haydn (1732-1809) to write music for her. It was she who commissioned Goya to paint a series of paintings illustrating literature dealing with witchcraft. One of them, now lost, featured the famous stone *Commendatore* Mozart used in his *Don Giovanni*. She also fought to stop the degradation of women in Spanish society, which put her in direct opposition to the Duchess of Alba. It is believed by some that it was during a visit to the home of the Alba family in southern Spain during December of 1792 that Goya may have been poisoned.
18. See Wertz and Moreno de Cota, *op. cit.*
19. Anti-Jewish legislation was first called for in the Fourth Lateran Council at Rome in 1215. Such legislation was never fully enforced in Spain because of powerful Jewish opposition, but the Cortes of Castile did approve of it in 1371, and later in 1405. The question erupted in 1391, in the worst series of massacres ever suffered by Jews in the peninsula. Over 4,000 were murdered in Seville alone; pogroms occurred in all the largest cities of Spain; the ghettos of Seville, Barcelona, Valencia, and Toledo were totally wiped out. Those who were not murdered, were compelled to accept baptism. Thus did the "conversos," or "New Christians," come into existence. They soon came to be distrusted even more than the Jews, as they were considered to be a fifth column within the body of the Church. From Henry Kamen, *The Spanish Inquisition* (New York: New American Library, 1965).—KK
20. The activity of the Inquisition was not always so intense. The last great ceremonial demonstration of its power was the immense "auto-da-fé" ("act of faith") in the Plaza Mayor in Madrid in 1680. To open a celebration of his wedding, King Carlos II personally lit the stakes of 27 "judaizers" ("conversos" suspected of secretly practicing Judaism). Abolished by Joseph Bonaparte during the 1808-1814 interval of the French occupation, it was reestablished by Ferdinand VII, and later abolished for good in 1834.
21. A description of Pestalozzi's educational reforms, which were championed by Wilhelm von Humboldt, can be found in Marianna Wertz, "Education and Character: The Classical Curriculum of Wilhelm von Humboldt," *Fidelio*, Summer 1996 (Vol. V, No. 2). One of the geniuses to come out of these schools was the celebrated German geometer Jacob Steiner (1796-1863), father of synthetic geometry, and teacher of Bernhard Riemann.
22. See footnote 7.
23. Recent x-ray analysis of paintings now in the Prado in Madrid, as well as stratigraphic examinations, have shown that, with one exception, what is now visible are over-paints. Maurice and Jacqueline Guillaud mention joyous figures and landscapes painted over by Goya, or eventually by someone else. For example, underneath "Saturn," stands a giant dancer with a leg raised, while Laocadia, Goya's young love, reposes her arm on a chimney. "The dog," of which only the head is visible today, might have been one of the few details Goya refused to cover.

RECOMMENDED READING

- Jeanne Baticle, *Goya, Painter of Terrible Splendor*, translated from the French by Alexandra Campbell (New York: Abrams, 1994).
- Georges Boudaille, *Goya* (Paris: Nouvelles Editions Françaises, 1979).
- Evan S. Connell, *Francisco Goya, A Life* (New York: Counterpoint, 2004).
- Enrique Lafuente Ferrari, *Goya: His Complete Etchings, Aquatints, and Lithographs*, translated from the Spanish by Raymond Rudorff (New York: Abrams, 1962).
- Pierre Gassier, *The Drawings of Goya: The Complete Albums*, translated from the French by Robert Allen and James Emmons (London: Thames and Hudson, 1973).
- Werner Hofmann, *Goya, das Zeitalter der Revolution* (Munich: Prestel, 1980).
- Robert Hughes, *Goya* (New York: Alfred A. Knopf, 2003).
- Gilles Perrault, *Le Secret du Roi* (Vol. I, 1992); *L'ombre de la Bastille* (Vol. II, 1993); and *La Revanche américaine* (Vol. III, 1996) (Paris: Fayard, Collection livre de poche).
- Alfonso E. Pérez Sánchez, *Goya*, translated from the French by Alexandra Campbell (New York: Holt, c. 1990).
- Goya, génie et monde* (Paris: Hachette, 1964).
- Karel Vereycken, "Comment la folie d'Erasmus sauva la civilisation," <http://solidariteetprogres.online.fr>
- William F. Wertz, Jr. and Cruz del Carmen Moreno de Cota, "Spain's Carlos III and the American System," *Fidelio*, Spring/Summer 2004 (Vol. XIII, No. 1-2).
- Judith Weyer, "Goya, Las Luces, and the National Bank of Spain," *The Campaigner*, August 1978 (Vol. 11, No. 6).

An Introduction to Pythagorean Sphaerics

*A skit intended to provoke curiosity
about why we study the heavens*

by the Los Angeles LYM Sphaerics Group

*This skit was written for a March 2004 Los Angeles cadre
school. Danny Bayer, Aaron Halevy, Cody Jones, Tara Khalsa,
Johnny Martinez, Limari Navarette, Vickie Overing, Ed Park,
John Tique, and Tim Vance worked on the project.*

Induction

[*California. Bronze Guy, Silver Girl, Steve.*]

BRONZE GUY: Whoa! This is so cool, look at how many stars are out!

SILVER GIRL: We need to get out of the city more often. I know we are always talking about things that we should do, that we never get around to, but seriously, sometimes I just need to get away from the whole college/party scene and chill.

BRONZE GUY: Isn't that what we usually do when we go to college and party—chill?

SILVER GIRL: You know what I mean. Sometimes it's just kinda nice to get away and get into something kinda deep.

BRONZE GUY: Oh, yeah, remember what we were talking about last time?

SILVER GIRL [*amusedly reminiscing*]: Oh, yeah, there was that hippie guy in our econ class, who was so excited to take us up here and get us blazed. And he had just taken an astronomy class, so he was completely stoked on how many stars there were . . .

BRONZE GUY: And he had the connects for the best herb ever.

SILVER GIRL: Yeah, that was back in the days when Steve still knew how to have a good time, before he turned into a total geriatric.

STEVE: C'mon, that was like two months ago, you guys talk about it as if it were ancient history.

SILVER GIRL: And that was probably the last time you even smoked.

STEVE: Sorry if I think that we should be able to get into deep stuff all the time. We sure aren't getting into anything too deep in school, and I don't think that I should need to smoke in order to think about something profound.

BRONZE GUY: But, last time you did smoke you were totally getting all deep, remember? You were lying on top of the car, and you were, like, "We don't even really matter, imagine how big the galaxy is." Remember, you were, like, "Just imagine that, how do you find yourself in the universe, it's like looking for yourself on a sesame seed."

SILVER GIRL: Oh yeah, the sesame seed. . . . That should have taught us all the lesson that watching the Discovery Channel while under the influence of the recreational drug marijuana can be hazardous to your mental health. Remember how freaked out we were, when we got up here, all because of that show, because it had William Shatner or some other cheesy guy walking on the beach, and he had sand in his hands and he was, like, "If a grain of sand were a sun, then all the sand on the Earth would equal all the stars in the universe."

BRONZE GUY: Whoa! That's fucked up. Wait a minute, you better shut up, or we're going to go through it all over again.

SILVER GIRL: I wouldn't even mind, I kinda like to think about the whole cosmos thing, but it's just so inapprehensible, totally unknowable.

BRONZE GUY: It's times like these that I always say: Just look at it and enjoy it Just look at it and enjoy it. It's simple . . . so just *be* simple.

STEVE: I really don't think that's necessarily the case. I'm starting to think that we could know it. I went to another one of those LaRouche meetings . . .

SILVER GIRL: Oh, God, not another one! Steve, you are going to turn into one of those freaks.

BRONZE GUY: Hold on, I'm getting lost here. What does politics have to do with the stars? No, better yet, what does politics have to do with my buzz?

SILVER GIRL: You and your buzzes.

BRONZE GUY: Bzzzz. Bzzzzzz Hold up! [*to Silver Girl*] You and your buzzes!

STEVE: Look guys, I'm telling you, you wouldn't be so skeptical, if you had actually been there. I don't know yet whether or not I agree with everything; but I do know that people have to start thinking about the kind of stuff that they talk about, because I know that we never would have gotten so messed up from thinking about space, if we had seen what they were talking about. They were saying that "our very existence is actually pivoted on the knowability of the universe."

BRONZE GUY: Huh?

STEVE: Yeah . . . they started . . . with the Egyptians . . .

Ancient Egypt

[*Sutimes, Ma-aht, Heru.*]

SUTIMES: “Watir-weh-nebu-tah-mury-iw-wahi-wud-wahara” “ha-weh-teh-mutir-wan-weh-neht-wap-wutir-nab-suwat.”

MA-AHT: There’s our friend recounting once again the old tale of creation. I can hear him, in fact. He is now speaking of that black void known as Nun, the vast and endless ocean of darkness from which a great shining egg spun forth, the sun known to mortals as Almighty Ra. Apparently, it was from the receding black floodwaters that the various gods and goddesses would emerge. Ha! Hear how he describes the canopy of stars above us as the goddess Nut, whose arms and feet stretch from one horizon to another, whose starry body bending over us is held up by Shu, the god of Air, standing upon Geb, the god of Earth. From that point on, though, he loses me with all this talk of the battles of Osiris, and the journey of Isis. What this has to do with a procession of lions and fish, beats me! Yet, he always manages to connect these stories to the heavens above. Wait, he’s finally stopped. [*pause*] Look how motionless he stands, how intently he has fixed his gaze.

HERU: It’s getting late, Sutimes. What on Earth are you staring at?

SUTIMES: That plateau over there.

MA-AHT: Near the suburb of Giza?

SUTIMES: Yes, solid bedrock rising several hundred feet above the western bank of the Nile.

HERU: What of it?

SUTIMES: It’s a perfect location for observing the heavens. It has a flat, near-perfect horizon, which allows one to see almost everything found in the night-time sky.

HERU: Still, what of it? What good is there in missing a good night’s sleep to look up at the same old . . .

SUTIMES: . . . To improve your soul, Heru; and, to elevate your mind above the limits of your sight, in order to grasp the unseen principles which generate all that is laid before your eyes. Besides, it was taking the time to look up, which has produced all the strength and riches of our great civilization, the backbone of our economy, of which we have everything to be thankful.

HERU: I see you’ve been spending too much time with

that cult of Imhotep. He was just a scribe, you know. Okay, maybe the world’s best architect. But, you’ve let all his philosophical writings go to your head; there’s no relationship between economy and the stars!

SUTIMES: In these two kingdoms of Egypt, from what is all our wealth produced?

HERU: The Nile, of course.

MA-AHT: That’s right, it’s her regular flood-waters that allow our skilled farmers to plant and harvest such a rich crop every year.

SUTIMES: And, how do you know when to plant for the best harvest?

MA-AHT: I know that one. Just count a certain number of full moons till the next flood. Twelve moons, I believe, just about one every month.

HERU: Oh, no, Ma-aht, now *you’re* into this as well?

SUTIMES: Great idea, Ma-aht, But I think if you pay close attention, you’ll find your method only works for a year or two.

MA-AHT: How so?

SUTIMES: It’s about 12 months, but the phases of the moon don’t quite match up perfectly with the seasons. It falls a little short from coming back to the same position at the same time each year.

HERU: Wait, where are you getting this from? The sky appears to me just a random splattering of stars across a dark backdrop.

SUTIMES: Okay, what’s the shape of the backdrop onto which these stars are splattered?

MA-AHT: I’ve never thought about the shape of the sky before . . .

HERU: [*mumbles*] Who cares about the shape? . . .

SUTIMES: Well, take a look. How does it appear to you?

MA-AHT: How can I begin to describe what I’m seeing, Sutimes?

SUTIMES: Well, let’s try an experiment, Ma-aht. Using one eye, point to a star with your finger.

MA-AHT: Which one?

SUTIMES: The first one that catches your eye. Hold your finger right there. Now, pick another star, with your hand still outstretched, and with a single gliding motion point to that new star.

HERU: How does pointing at something tell me anything about it?

MA-AHT: Wait, it was what we did *between* pointing at the two stars.

SUTIMES: Moving our finger in a circular way around us . . .

MA-AHT: . . . Creating an arc, that's right! [*pause*] Wow, the more I think about it, the more everything around me takes shape. Whichever direction I point toward, I find myself moving about the inside of what appears to be a great . . .

SUTIMES: . . . sphere. What the priest-astronomers call the celestial sphere. [*pause*] And now, dear friend, you've been initiated into the secrets of observational astronomy known to the wisest since ancient times, and with which all our knowledge of the heavens has been produced. It's by tracking the positions of stars, both moving and fixed, and the relationship between them severally, across the inside surface of this celestial sphere, that we have discovered the tools of mathematics, tracked the seasons with which to plant our crops, and mastered the calendar around which our society runs.

MA-AHT: Please, describe this celestial sphere a little more.

SUTIMES: Let us then anchor ourselves in this great sphere! Now, point to the spot straight up and directly overhead. This imaginary point is commonly referred

Astronomy Of the Great Pyramid

Modern day “establishment” historians of science will fulminate against the notion of an advanced ancient-Egyptian astronomical tradition. Apparently counterposed to them, the “alternative” Egyptian history movement, created under the influence of the Synarchists, claims that ancient Egyptian astronomy derives from either space aliens, or psychotropic drugs, or secret societies. Plato, Herodotus, Diodorus Siculus, and the Great Pyramid itself tell a different story.

In his 1982 *The Toynee Factor in British Grand*

Strategy, Lyndon LaRouche hypothesized that Egypt was founded by the remnants of an earlier Atlantean civilization, moving eastward from the Straits of Gibraltar, as the last Ice Age was ending, and carrying with them a knowledge of astronomy. The First-century B.C. historian Diodorus Siculus described Atlas, the father of such an Atlantean civilization, as

the man who “discovered the spherical nature of the heavens.” Plato’s masterwork on the physical principles governing the universe, *Timaeus*, not only cites Egypt as the fount of Greek astronomy and mathematics, but dates Egyptian civilization back to at least 9600 B.C. And Herodotus reports that the Egyptians had knowledge of the precessional astronomical cycle of 25,900 years.

Sphaerics, or astronomy, dominated the architecture, religion, and economy of ancient Egypt,

especially the magnificent Old Kingdom (2700-2180 B.C.), which built the Great Pyramid of Khufu as an astronomical observatory. Located on the Giza plateau, the Great Pyramid is stunning in the precision of its construction, a construction which could only have been meant for astronomical study. It is located precisely at 30-degrees



The Sphinx, on the Giza plateau, site of the Great Pyramid.

to as the zenith. Now, imagine another point directly underfoot, extending out into the universe below the Earth on which you stand, as if the Earth were transparent. This is known as the nadir. Now, trace out a great circle around you, that lies exactly half-way between these two points . . .

MA-AHT: . . . The horizon, Sutimes! It traces out the horizon!

SUTIMES: Wonderful, Ma-aht, your mind has now divided the infinite whole of the visible universe in half. These two equal divisions of our great sphere have given us a geometry around which to navigate our voyage of discovery. Let us now sail to the northernmost point on our heavenly ocean.

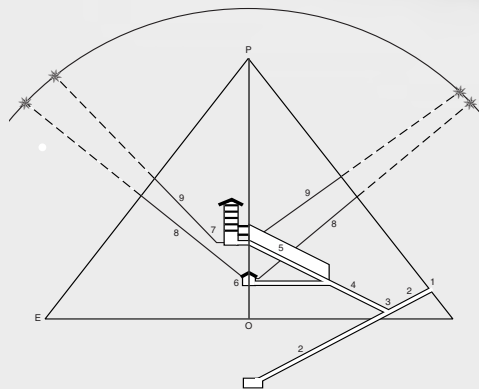
[They locate the North Star and elaborate.]

SUTIMES: Now, let us create more equal divisions of the sphere with our mind, by tracing out another great circle, starting from the North Star, and arching across the zenith directly above us. This is called a celestial meridian. It's crucial for describing the changing posi-

tion of stars. We can now describe and locate all night-sky phenomena within this newly created geometry. And so you begin to see, Heru, that what to your initial frustration seemed nothing more than the complete randomness of stars splattered about, is in fact highly ordered in the most divine and beautiful of fashions. In fact, the sun and moon, and even the planets which everyone would expect to fly about all over the place, follow roughly the same arc across the sky. We call it the ecliptic, on which the Zodiac lies. And interestingly enough, the twelve constellations or signs of the Zodiac that lie equidistant from each other on its path, appear to march across the sky on an annual basis, giving us a reliable reading of the season we're in.

MA-AHT: And that's how you know for certain when to plant for the best crops along the Nile?

SUTIMES: Almost, but not quite, Ma-aht. Actually, it is the perfectly synchronized movement of another constellation (not of the Zodiac, though) that signals with precision the beginning of the flood season. It is Sirius, the Dog Star, that pokes its head above the eastern horizon at the beginning of early dawn just before the sun rises, which tells us the flooding of the Nile's life-giving waters. Her flood-waters are so important to



Above: *The Great Pyramid of Khufu.*
Right: *Diagram of the Great Pyramid, showing observation shafts.*

latitude, and is more accurately aligned to the four cardinal points than modern structures built to the same end. Within that alignment, the shafts built into the Pyramid, at crucial angles, allow for precise observations of key stars, such as Sirius, the North Star, and Orion's brightest star, as they transit the celestial meridian.

For the builders of the Great Pyramid to have accomplished such a task, the understanding of the regular motions of the stars and the celestial geometry of sphaerics had to have existed long before such an undertaking. The Pyramid Texts carved on the smaller pyramids of Saqqara,

describe important astronomical cycles as myths in which, for example, figures such as Osiris and Isis are represented by the constellation Orion and the star Sirius, respectively. Although carved in stone during the Old Kingdom, the Pyramid Texts are presumed to be much older.

—Susan Kokinda

the strength of our great kingdom, that the rising of the Dog Star marks the beginning of our civil calendar every year.

HERU: And your point is?

MA-AHT: Ignore him, Sutimes, he's caught up in the dog days of summer . . .

SUTIMES: . . . Quite literally . . .

MA-AHT: . . . but this is profound. Tell me, are you implying that there are indeed regular cycles of motion to everything in the heavens above?

SUTIMES: Almost. And although the daily motions are subsumed by seasonal motions—which, in fact, are

observed to repeat with some regularity over the years—there *is* some discrepancy. For instance, I recently visited the great temple and scientific complex around Saqqara, built by the great astronomer-architect Imhotep himself, 72 years ago. To my surprise, all the markings used to track various cycles, such as the rising and setting of key stars, and yearly phenomena such as the equinoxes and solstices, were off by exactly one degree!

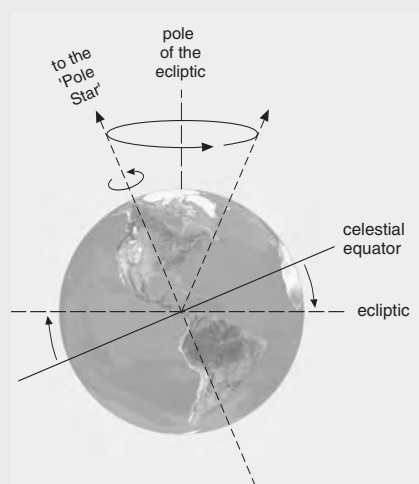
MA-AHT: I'm not quite sure what that means.

SUTIMES: Well, I doubt the great Imhotep could make such a simple mistake as that. Which leads me to believe that the whole image of the sky, with its cycles and all, is in fact moving within a greater cycle which, to complete one rotation at a rate of one degree every 72 years, would take at least . . .

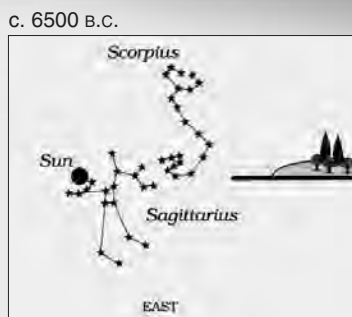
MA-AHT: . . . 25,920 years to come back around, given

The 'Precession Of the Equinoxes'

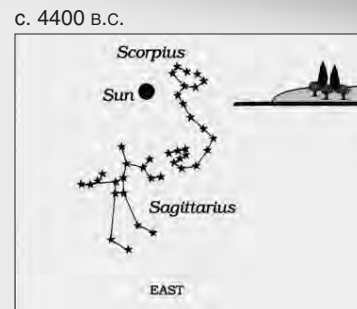
The "precession of the equinoxes" is an observed effect caused by the slow, top-like wobble of the north-south axis of the Earth over a period of 25,900 years. Hence, the "North Star"—which is, by definition, the star to which the axis points—shifts over that period. Today it is Polaris, but during Egypt's



Earth's axis of rotation itself rotates around the "pole of the ecliptic."



Shift in the heliacal constellation, 6500 B.C. (Sagittarius) to 4400 B.C. (Scorpius).



Old Kingdom it was Alpha Draconis. This shifting celestial geometry (1° every 72 years) results in another important change in observations: The constellation of the Zodiac which rises just before the sun on the vernal equinox, which is called the heliacal constellation, also changes slowly over time, as if the band of the Zodiac were sliding backwards against the fixed annual position of the equinoctial sun. This effect is known as the "precession of the equinoxes."

The 12 constellations of the Zodiac are the ones which follow the

same path as the sun along the ecliptic, and Egyptian mythology and religion are filled with images of them. The dominance of a particular image, such as the scorpion, the bull, or the ram, often corresponds to the historical period in which it was the heliacal constellation. For example, the death of Osiris, which Freemasons and Synarchists make a great mystical to-do over, can be seen simply as the disappearance of the constellation Orion from the sky on the vernal equinox, which occurred around 6700 B.C.

—Susan Kokinda

360 degrees in a circle.

SUTIMES: Remarkable, no? In fact, this precession is most noticeable when observing the rising of the sun in a particular constellation of the Zodiac at dawn on the vernal equinox of each year, in other words, the first day of spring, in which night-time and day-time share an equal number of hours. In fact, many of the markers honoring this phenomenon, now taking place in the constellation of Taurus, are beginning to appear more suited for the constellation Aries instead. These constellations act as flagships heralding in a new Age and Season. In fact, imagine this: Over the course of the next 4,000 years, the position of the equinoxes will proceed from one Zodiacal sign to another, in like manner, remaining a little while longer in a period of Taurus, then continuing into Aries, shifting for a time into Pisces, and eventually one day looking east at dawn we'll find ourselves in the Age of Aquarius.

MA-AHT: Isn't it strange, given how short our lives are, to even conceive of something 26,000 years into the future?

SUTIMES: [*pause*] Of course it's only a working hypothesis. Certain proof of it requires greater experimentation. Fortunately, I have plans for a massive work-station, modelled off the design of the Great Step Pyramid of Imhotep built under the reign of Zoser. Amazingly, the exact latitude at which we find ourselves here at Giza, permits the perfect witnessing of the conjunctions which mark the beginning of various ages in this heavenly precession. Such a viewing station would have to be taller than any known structure ever built by the hands of men, and be perfectly aligned to the celestial meridian (which we mentioned before), to give us accurate measuring of the cardinal directions.

HERU: I figured. Look, I respect your passion for these ideas, but charming as they are, I doubt you'll see them take shape anytime soon.

SUTIMES: Of course, Heru, such a great project will require at least a generation to complete. But once completed, think of the advances in science and technology that could be made. Think of the impact on our society, a renewed outlook for our great nation, and because of it, it shall be the pride of all the known world.

MA-AHT: The question is, how such a thing is feasible!

HERU: What authority has the power to mobilize on a national scale for such an ambitious project?

SUTIMES: That stubborn ass, the Great Pharaoh.

HERU: Sutimes! Such name-calling, against the very living god-incarnate of these two kingdoms of Egypt!

SUTIMES: But, is it true?

HERU: Yes—but have you no shame?

SUTIMES: Shame, for saying that which is true?

HERU: Regardless!

MA-AHT: If the Lord Khufu is as you say he is, how then shall you move the Pharaoh to such noble action?

SUTIMES: As you would any stubborn ass—appeal to his sense of immortality.

Plato's Greece

[*Herdsmen and son.*]

BOY: By Zeus, father, this most astonishing view of the blazonry embedded on that heavenly canopy, overwhelms my soul with such a sense of wonder and beauty that it nearly approaches a painful threshold!

HERDSMAN: True, my son, it is a most enthralling sight, which has been crafted to circumscribe our vision's domain. But to advance towards manhood, is to grasp the hands that have stitched this most wondrous tapestry, which envelops us at twilight and warms our souls after dark. You see, our midnight dome has been crafted by the most skillful hands in the entirety of the cosmos. The night-time stars are not mere burnished jewels embedded as on any tapestry you have ever seen; but rather, these illuminations are ablaze, and are in motions congruent with divine justice itself!

BOY: They do seem to me to be ablaze. But father, I do not believe that I have ever seen them move.

HERDSMAN: And see them move you never shall. Not with your eyes, at least. And this, then, is my objective for you, as concerns perfecting yourself into adulthood: That you must begin to become able to hold these images firm in the waxen tablet inscribed in your soul, so that a comparison of those mental after-images, with new images you impress onto that waxen tablet, will allow your mind to see the motion that your eyes can not. We men have not been given the eyesight that reaches into the night, as has the cat; nor the wings to fly unbounded, as has the eagle; nor the longevity to live many generations, as has the cricket. But, if you take course to see that which is unseen, you shall soar to a level of immortality envied even by the

gods themselves; and that, and only that, is what makes us human. Suitably spoke Socrates on this subject: “For the soul which has never seen the truth, can never pass into human form. For a human being must understand a general conception formed by collecting into a unity by means of reason, the many perceptions of the senses; and this is a recollection of those things which our soul once beheld, when it journeyed with God and, lifting its vision above the things which we now say exist, rose up into real being.”

BOY: So it wasn't really the case, as they say, that Prometheus ran out of gifts of abilities and talents, after bestowing them on all the other creatures, leaving humankind with nothing else but fire?

HERDSMAN: Now you are starting to perceive the true meaning of our origin. For it is true that we were not given any physical prowess, as that had already been

doled out to the animals. But Prometheus knew that none of these creatures had bodies that could house a spirit capable of governing the world around. So, crafty Prometheus had the foresight to know that the seed of heaven lay sleeping in the Earth. He scooped up some clay, moistened it with water from a river, and kneaded it this way and that, and shaped it into the image of the gods. In order that we might have life, the core of many animals was locked in our breasts; but our true nature came only after Athena marvelled at it all, and breathed into us the spirit, the divine breath, which made us completely alive. Even so, we aimlessly moved about. We saw, yet we did not see; we heard, yet we did not hear. We wandered as figures in a dream, until Prometheus stole for us the sacred prize of Olympus, fire. Then, when we sheltered ourselves from the elements with our gift of fire, and our eyes started to follow the smoke up into the night sky, did our souls float upward following after. For then Prometheus taught us about the rising and the setting of the stars, discovering for us the art of counting in true number, and communicated to us the music of poetry.

The Legacy of Plato

A physical concept of magnitude was already fully developed by the circle associated with Plato, and expressed most explicitly in the *Meno*, *Thaetetus*, and *Timaeus* dialogues. Plato and his circle demonstrated this concept, pedagogically, through the paradoxes that arise when considering the uniqueness of the five regular solids, and the related problems of doubling a line, square, and cube. As Plato emphasized, each species of action generated a different species of magnitude. He denoted such species by the Greek word *dunamis*, the root of the English ‘dynamo,’ translated as ‘power.’ The meaning of the term *dunamis* is akin to Leibniz’s use of the German word *Kraft*.

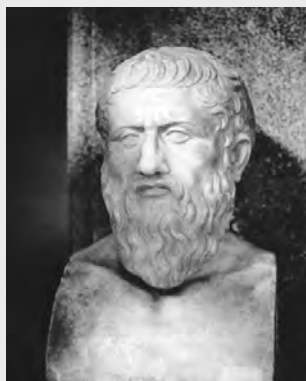
That is, a linear magnitude has the *power* to double a line, whereas only a magnitude of a different species has the *power* to double a square, and a still different species has the *power* to double a cube. In Bernhard Riemann’s terminology, these magnitudes are called, respectively, simply-extended, doubly-extended, and

triply-extended.

Plato’s circle emphasized that magnitudes of lesser extension lacked the potential to generate magnitudes of higher extension, creating, conceptually, a succession of higher *powers*.

Plato’s circle also emphasized, that this succession of magnitudes of higher powers, was generated by a succession of different types of action.

Specifically, a simply-extended magnitude was produced from *linear action*, doubly-extended magnitudes from *circular action*, and triply-extended magnitudes from *extended circular action*, such as the rotational actions that produce a cone, cylinder, or torus. Plato’s collaborator, Archytas, demonstrated that the magnitude with which a cube is doubled, is not generated by circular action, but by extended circular action, i.e., conic sections.



Plato (427-347 B.C.)

EIRNS/Philip Ulanowsky

—Bruce Director

BOY: But what about the barbarians, who never look up?
What do they have to live for?

HERDSMAN: Do you know of the demi-god Asclepius?

BOY: Assuredly, he was raised by the centaur Chiron and became the greatest master of the art of medicine. Socrates spoke of his importance even in his dying words.

HERDSMAN: But did you know that he also goes by another name, a name from his native land?

BOY: What name is that?

HERDSMAN: He is the great Egyptian city-builder, physician, and the father of the Great Pyramid, Imhotep. You see my boy, while it is true that we are most favored and fortunate to be Greeks, do not think that all the barbarians have always been as they are now. We are not the first group of people to study the sphaerics of the heavens, and we will not be the last, either. For whenever men wish to advance the cause of humanity, they first need to attempt to contemplate the eternal. And that humbling act, as we were just humbled now, produces all the curiosity needed to investigate the true nature of all physical things. Indeed, astronomers know that there are Vedic peo-

ples who have stories of the heavens that are older than time itself, and our own ancestors from Egypt succeeded in unfathomable deeds without which we would not even exist. And, furthermore, that no civilization could ever have even survived without this kind of understanding.

BOY: That sounds beautiful, but I can not help but think that I can imagine one society that would not: What about a simple group of farmers, who would only have need to know how to plant a seed, and how to water it?

HERDSMAN: And also *where* to plant it, insofar as is best?

BOY: Certainly.

HERDSMAN: Then, I take it they would also need to know *when* to plant it, insofar as is best?

BOY: I suppose they would.

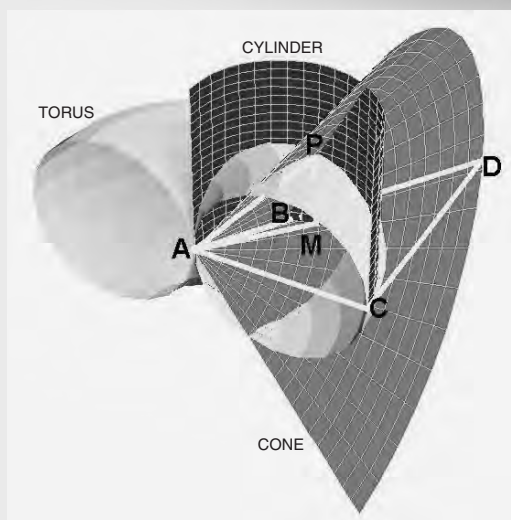
HERDSMAN: Then, suppose they needed to plant a certain seed in a certain place, right at the beginning of the season called spring, how would they know when to do the planting?

BOY: It wouldn't take an astronomer to count the phases of the moon. Just find the right time to plant, then wait 12 cycles of the moon, and you would be back at the beginning of spring.

HERDSMAN: Except that what actually determines our

Archytas's Construction For Doubling the Cube

Archytas developed a construction to find two geometric means between two magnitudes, AC and AB. Magnitude AC is drawn as the diameter of circle ABC; AB is a chord of the circle. Using this circle as the base, generate a cylinder. The circle is then rotated 90° about AC, so it is perpendicular to the plane of circle ABC; it is then rotated about point A, to form a torus with nil diameter. (The intersection of the torus and the cylinder produces a curve of double curvature.) Chord AB is extended until it intersects the perpendicular to AC at point D; this forms triangle ACD, which lies in plane of circle ABC, AB, and AC. Triangle ACD is then rotated around AC, producing a cone. The cone, torus, and cylinder all intersect at point P. Perpendicular PM is then dropped from P along the surface of the cylinder, until it intersects circle ABC at point M; this forms right triangle AMP. Through this construction, a series of similar right triangles (only partially shown) is generated, which produces the continued proportion, $AB:AM::AM:AP::AP:AC$. Thus, AM and AP are shown to be the two geometric means between magnitudes AC and AB.



seasons is not the cycles of the moon, but a different set of relations, which we think has to do with where we are in relation to an orbit that the Earth takes around the sun. There is a battle raging on right now as we speak, over whether it is our Earth going around the sun, as Aristarchus and the Pythagoreans think, or as Aristotle says, the sun is going around our Earth.

BOY: Why do they not all agree?

HERDSMAN: It is not so easy. It requires a proof of somewhat higher causes, and may take many generations to prove. Here is why: Take your finger and orbit it around your eye, with your other eye closed.

BOY: It looks like my finger is circling my eye.

HERDSMAN: Now, orbit your eye around your finger.

BOY: It looks the same, my finger still appears to be orbiting my eye.

HERDSMAN: From the point of view of the observer, there is no difference in the perceived motion from a relatively stationary body observing a body in motion, or the inverse, from a moving body observing a relatively stationary one.

BOY: If it is so difficult to figure out what is actually going on, how then can it be of such fundamental importance?

HERDSMAN: Perhaps you have heard the story of how Thales was able to achieve a fundamental peace treaty between warring states, simply by outflanking the heads of state with his ability to forecast an eclipse based upon his knowledge of the true motions. But even more fundamental, is how these ideas have been used by sea travellers.

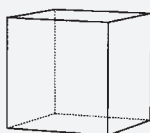
The Platonic Solids

Among the many startling discoveries of the application of universal physical principles to the organization of the visible world found in the scientific investigations of Plato and his associates, was the recognition of the unique constructability of the five regular (Platonic) solids. The most important aspect of this discovery did not lie in the visible world, however, but in the necessary implications for the existence of what Carl Gauss would call the “complex domain” two millennia later.

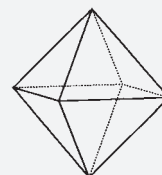
The proof that no other regular solids but these—the pyramid, cube, octahedron, dodecahedron, and icosahedron—could be constructed in visible space, was tantamount to the assertion that, contrary to



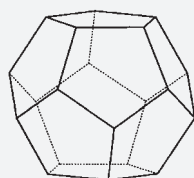
Tetrahedron



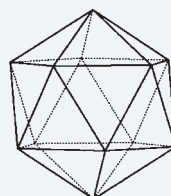
Cube



Octahedron



Dodecahedron



Icosahedron

textbook Euclideanism or the dead world of Isaac Newton, physical space was not “empty,” but instead shaped by unseen boundary conditions inherent in the possibilities of physical action. What appear to be the axioms, definitions, and postulates of mathematics, must yield to the causal relations of physics; in

fact, the very proof of the uniqueness of the Platonic solids—one of the greatest achievements of Greek geometry, which required the development of a

theory of proportions able to deal with incommensurable species of magnitudes (*powers*)—represented, paradoxically, a complete overturning of the method of deductive (logical) proof upon which it was based.

Although Plato presents these issues directly in his *Timaeus*, they are also embedded at the heart of the *Republic*, in the twinned metaphors of The Cave and Divided Line. Here, we see that what we know truly, we know metaphorically—but only by reference to an unseen *Power* which animates and unifies the more immediate aspects of our experience.

—Ken Kronberg

BOY: How is that?

HERDSMAN: Before man conceived of a ship, we had no way to explore the planet and discover what else there was, including the discovery and colonization of our Greek islands by ancient seafaring cultures. With ships, the pilot's art was given birth—the essence of which lies in more than just how to steer a ship.

BOY: But isn't that the essence of the pilot's art? How to steer a ship, insofar as is best?

HERDSMAN: And by "best," would you mean any way that would get you somewhere, or the most direct way to get where you intended to go?

BOY: The latter, of course.

HERDSMAN: Then, as one final exercise, I would like you to imagine yourself in the middle of the ocean. What do you see when you look around?

BOY: I see water, in every direction I look.

HERDSMAN: So, if you want to go to some island directly

east of you, which way do you steer?

BOY: Well, I know where the North Star is, so I just keep going in the direction to my right when I face the North Star.

HERDSMAN: And, if you were going slightly northeast or slightly southeast, how would you know?

BOY: Well, I don't know.

HERDSMAN: Or, if you were going a lot northeast, or a lot southeast, then probably you would miss the island you were aiming for?

BOY: I suppose, then, that you are going to tell me that there is something more to the astronomy of the pilot's art, than simply knowing where to find the North Star?

HERDSMAN: First off, there are problems with trying to map out the activity of a sphere, onto a flat plane of papyrus. These mappings explode at the edges of the map, where they start to lose all accuracy the closer you get to the edge. But, Platon rediscovered the lost method of mapping the sphere onto the plane, with his now-famous regular divisions of the sphere.

BOY: I would like to know more about that.

HERDSMAN: Then you should try to figure them out for yourself, on your own, and maybe they will accept you into the Academy at Athens.

BOY: Regular solids, huh? But, that still doesn't explain how pilots can go east or west without missing their targets.

HERDSMAN: If the pilot goes too far north or too far south, what do you think happens to the North Star's position in the sky? If you watch it from here every night, it will appear to always be in the same position, wobbling a little here or there, but always in the same position, with the rest of the stars circling around it. However, if we travelled south to Alexandria, it would drop a bit in the sky.

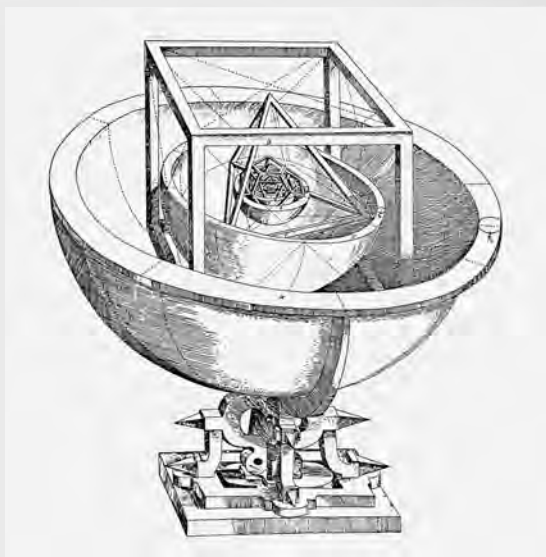
BOY: How can that be?

HERDSMAN: Well, imagine that the Earth is a sphere, and that the North Star was very, very far away. What would happen as you moved along the surface of the sphere toward the top?

BOY: What do you mean by "top"? I thought you said a sphere.

HERDSMAN: A rotating sphere always spinning.

BOY: Then, by "top," I guess you mean one of those two



Johannes Kepler discovered that the ordering of the visible planets corresponded to the ordering achieved by inscribing and circumscribing spheres around the five Platonic solids, in the order depicted in this illustration from his "Mysterium Cosmographicum."

poles that correlate to where the sphere meets the axis of rotation.

HERDSMAN: Exactly. Now, if that axis of rotation lines up with some relatively fixed star in the sky . . . then?

BOY: The North Star!

HERDSMAN: And, where would it be if you stood at the top of the sphere and you wanted to look at the North Star?

BOY: Directly overhead, at the zenith point in the sky?

HERDSMAN: Then, where would it be if you stood at the half-way point between the poles on the surface of the sphere?

BOY: I suppose it would be straight out at the horizon.

HERDSMAN: And, if you walked a little more than half-way up between the middle and the top, say 50 degrees up from the middle?

BOY: I think I need to draw it out in the dirt.

HERDSMAN: Nonsense! You are a Greek: you need to be able to do geometry in your head. Just think about it and you will get it.

BOY: Okay, I will. But, do you think that I am ready to learn about something that I heard some of the older shepherds talking about, called “the retrogradations of the wandering stars”?

HERDSMAN: Are you familiar with the Pythagorean student of Archytas by the name of Eudoxus?

BOY: Indeed, he is the mathematician from Cnidos who attends all of Platon’s lectures at the Academy at Athens.

HERDSMAN: Well, you do seem to be familiar with him. But one thing you may not know is, that he is now studying astronomy in Egypt with the priests of Heliopolis, and just before he left he had discussions on this very subject with one of the oldest herdsman I know.

BOY: And you were present when these dialogues took place?

HERDSMAN: Not exactly, but I do from time to time run into that old herdsman, and he has been more than happy to repeat for me the discussions in their entirety.

BOY: Could you?

HERDSMAN: Could I what?

BOY: Could you repeat those conversations, so that I might be enlightened?

HERDSMAN: I could and would, so long as I can remember them, that is. For as of this very moment, I am not entirely certain that I will be able to fully recall them.

BOY: Well, by Zeus, I hope you can remember.

HERDSMAN: For your sake, my son, and mine too, I hope I can as well.

Kepler and Tycho Brahe

TYCHO: On this instrument, a small quadrant of gilded brass, where there would otherwise be a blank surface, I had an artist paint a young man, wreathed in laurel, sitting on a square stone near a tree that is green and leafy on one side. In one hand he holds a celestial globe, and in the other a book, all the while stretching his feet out upon the green grass and herbs that cover the root of the tree.

KEPLER: Yes, it all looks very beautiful—and expensive.

TYCHO: I must admit, Johannes, that over the past few months you have done a most excellent job in assisting

Mathematical

In *The New Astronomy*, Johannes Kepler demonstrated that Ptolemy’s, Copernicus’s, and Tycho Brahe’s planetary

systems gave exactly the same computational results, so there was no way to tell which one was true. Despite the fact that all three were radically different, there was a common error that pervaded them.

All three were

mathematical models for the purpose of predicting the motions of the planets, while making no attempt to discover the physical causes.

Consequently, all three imposed the mathematics of perfect circles and uniform motion onto the planetary



me in calculating my observations of the stars.

KEPLER: M'lord Tycho, sir, you were there as well.

TYCHO: When you submitted your book *Mysterium Cosmographicum* to me, some time back—I believe it was about four years ago, in 1596 or 1597—I said to myself, “What a mind on this young lad! But he needs the help and experience of a nobleman.” I still can’t believe that teacher of yours tried to hide you from me. My good friend . . . what’s his name?

KEPLER: Michael . . . Michael Maestlin.

TYCHO: Right. When I was still doing observations in Hven, if you recall, on my pretty little island, in the palace which I called Uraniborg, where I had many more people on my staff.

KEPLER: Yes, I remember. Lord Christian IV, after the death of his father, Frederick II, sought to harm your

comfort of place. Lord Christian, unlike his father, held you in low esteem, took the gold that fed your mistress Uraniborg, and soon you had to close down, all because you refused to repair the chapel of the Magi at Rokilde.

TYCHO: That ungrateful child, all the things I did for that court he refused to recollect. Let him lose the best thing he ever had! *Me!*

KEPLER: You do speak of yourself quite often, and well.

TYCHO: Yes, I do. Have I mentioned that, because I am an artist, I make instruments, and map that which is logically perfect: the heavens? These works of art

Models vs. Truth

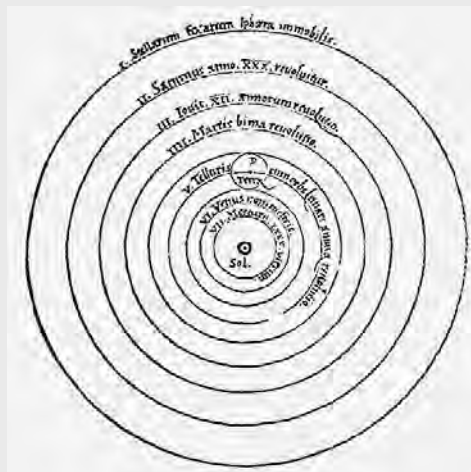
orbits, when the physical observations showed otherwise. Kepler’s investigation of physical causality—the “intention” of the Creator—led him to the discovery that the planetary orbits were elliptical.

(a) The Ptolemaic system, with the Earth at the center and all the planets and the sun moving around it in perfect circles. (b) The Copernican system, with the sun at the center, and all the planets, including the Earth, moving around it in perfect circles. (c) The system of Tycho Brahe, in which the Earth is at the center, and all the planets move about the sun in perfect circles, while the sun moves about the Earth in a perfect circle.

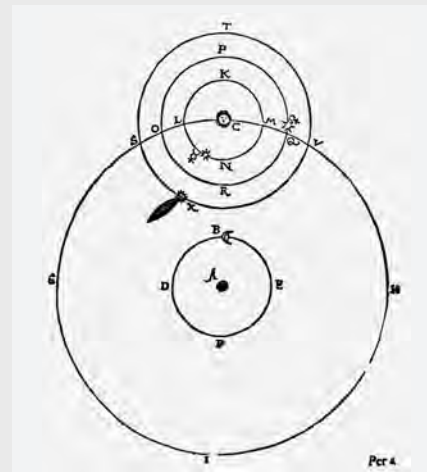
—Bruce Director



(a) Ptolemaic system: Earth-centered.



(b) Copernican system: sun-centered.



(c) System of Tycho Brahe: mixed Earth- and sun-centered.

must reflect the flawless work of God, and that which he ordained us to do—which is, simply to admire and record.

KEPLER: It is widely known throughout all Europe that you excel, above all men, in these so-called art forms.

TYCHO: Therefore, I am *a god!* For he who is unable to live in society, or who has no need because he is sufficient unto himself, must be a god—as Aristotle has said.

KEPLER: Or a beast, as Aristotle has also said.

TYCHO: Is that Aristotle’s bad opinion?

KEPLER: Think about the root of these things. If one holds these instruments, and asks, “What are their uses?,” then one may come to a better understanding

of what prosperity is. We use them to further our knowledge of the world and the heavens, in order to increase our children’s well-being, do we not?

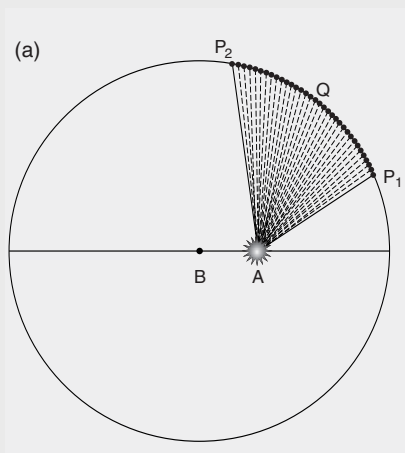
TYCHO: I don’t understand. To better our children’s well-being?

KEPLER: It is well known, today, that those awe-inspiring pyramids standing on the shore of the Nile, built by peoples so long ago, however beautiful, are meaningless to a civilization out of harmony. And by “out of harmony,” I signify the reckless disregard of human reason in seeking to further mankind. Man goes about the world seeking knowledge, and using that knowledge to better his surroundings, in order to live better and happier. If only we had a nation based on that today—a nation whose sole purpose was to perpetuate the happiness of men’s souls, by allowing them to participate in a process of making discoveries and implementing them to the benefit of themselves and their posterity. Today, war

Kepler’s Physics of Non-Constant Change

Kepler’s revolution was, to derive the principles of planetary motion from physical principles, not mathematical ones. He conceived that the sun moved all the planets by a virtue (*power*) emanating from it, whose intensity diminished with distance. Thus, if the planet were moving in an orbit in which its distance from the sun varied, it would physically speed up and slow down as it moved around the sun.

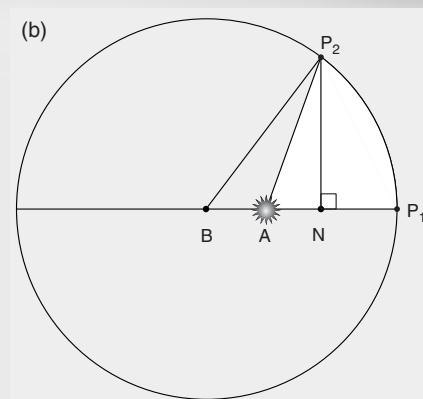
(a) The planet at P_1 is closer to the sun A , than at P_2 . Thus, as the planet moves from P_1 to P_2 , it is always slowing down. This



means that equal portions of the planet’s period do not correspond to equal distances along its orbital path. Kepler showed that these equal portions corresponded to equal areas swept out by a line connecting the planet to the sun.

(b) Kepler measured these areas.

The area swept out as the planet moves from P_1 to P_2 is the white area (P_1-P_2-A). That area is measured by the portion of the circle, P_1-B-P_2 minus the triangle P_2-B-A . The area of that triangle is the distance BA times the height P_2-N . But, the line P_2-N ,



as Nicolaus of Cusa showed, is incommensurable with the arc P_1-P_2 . Thus, the principle of non-uniform planetary motion is dependent on magnitudes which are not susceptible of precise calculation. This gave rise to the famous “Kepler problem”: If Kepler knew where the planet had been, he could calculate what portion of the orbit (time) had elapsed. But, owing to the transcendental relationship between

and disease are all that nations seem to perpetuate.

TYCHO: Oh, Johannes! The young are easily deceived, because they are quick to hope. We make war, so that we may live in peace.

KEPLER: Where's the peace? Religious warfare has been raging since before my birth. In war, truth is the first casualty, our fathers the second.

TYCHO: Truth? We will never know truth.

KEPLER: So, even you don't think that man can know the truth, and that the truth sets men free?

TYCHO: Man can never and will never know the truth. All man can do is sharpen his eyes, so that he may better perceive that which is happening; but sadly, he will never know why it is happening. Do not look too much into the underlying causes of things; simply try to find a nice model that everyone can accept, which fits the description of what you see. And if at some time it no longer works, don't worry, just make whatever adjustments are needed to your system . . .

KEPLER: But . . .

TYCHO: . . . as long as it fits your observations, it will do just fine. Besides, you can never really know what is going on, especially up there in the heavens.

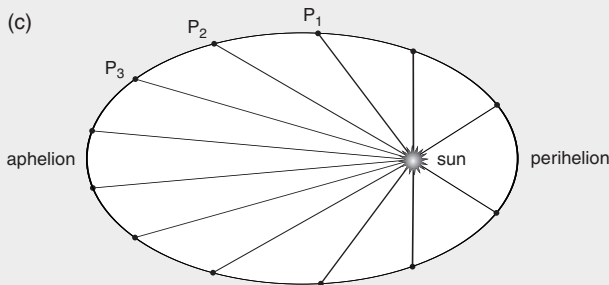
KEPLER: Take, for example, the observed motion of the planet Mars, god of war. See how he marches steadily across the sky, relative to the fixed stars behind him, in the same eastward direction as the rest of the planets and our moon. Yet, every two years he turns back westward, pausing for a brief moment before looping back eastward to resume his annual track. He certainly is a troublesome god, for not being able to proceed regularly along his perfectly circular orbit like this. [pause] The paradox leads me to wonder . . .

TYCHO: You and I can't solve that. All we can do is provide a model that best represents what is happening.

KEPLER: In other words, an *opinion* about what is happening?

TYCHO: Yes, an opinion.

KEPLER: Your beloved Hippocrates said, "There are, in fact, two things, science and opinion; the former begets knowledge, the latter ignorance." So, then, the question becomes, are we—but more specifically, you—a scientist at all?



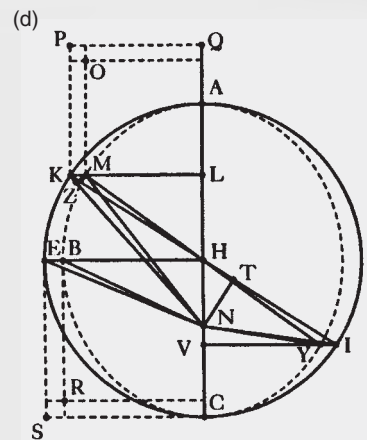
sun at an eccentric point. After comparing his results to the true observations, Kepler found he was 8' of arc off. It is a tribute to Kepler's

the line and curve, he could not precisely calculate where the planet would be when an equal amount of time would have elapsed. Kepler called on future geometers to solve this problem, which provoked Leibniz to develop the calculus.

(c) Kepler's initial discovery of the "equal areas, equal times" principle was developed under the assumption that the orbit was circular, with the

genius, that he saw that this small discrepancy was a matter of principle, not simply a minor error. He subsequently revised all his work, and discovered that the planetary orbits were ellipses with the sun at one focus.

(d) Kepler's diagram from *The New Astronomy*. The dotted curve is an ellipse. As you can see, this ellipse is very close to a circle, but as Cusa



had forecast in *On Learned Ignorance*, there is no perfectly circular motion in the created world.

—Bruce Director

TYCHO: I would certainly like to say so.

KEPLER: Should scientists avoid ignorance, and seek to be wise?

TYCHO: To the best of their abilities.

KEPLER: Does the scientist search for the rational order in things?

TYCHO: Yes.

KEPLER: And, would it be reasonable to call that rational order, a sort of harmony?

TYCHO: Certainly.

KEPLER: Do we, then, after finding that order and harmony, communicate both the former and the latter, in the language we call mathematics?

TYCHO: Yes.

KEPLER: Then, the chief aim of all investigations of the external world, should be to discover the true rational order and harmony, which has been thorough-composed by God, and which He has revealed to us in the language of mathematics.

TYCHO: Yes, Ptolemy's god-like system explained the heavens to the best of his ability. Well-known to both you and me, he proposed that at the center of the universe we find the Earth, as is self-evident. Around us revolves everything: Closest is the moon, then the planets Venus, Mercury, and next, of course, the sun. Anyone with eyes can see that much. After which we are circled by the outer planets, Mars, Jupiter, and Saturn, and finally a transparent backdrop of fixed stars. Each one revolving about in a perfect circle; an exquisitely beautiful model, yet sadly out of date.

KEPLER: Copernicus, to whom I am most sympathetic, no more than 50 years ago—echoing what Aristarchus had proposed 2,000 years earlier—spoke of something different. Copernicus hypothesized that the sun lies at the center of the planetary system, and that Mercury, Venus, our very Earth, and Mars, Jupiter, and Saturn, in that specific order, orbit around it in similar, perfect circles.

TYCHO: Yes. And because my model is the perfect combination of both, my dear Johannes, it follows that my system is the best. I don't know how many times I must explain this to you before you get it, but I will keep trying. The moon of course revolves around us, and the sun revolves around us, along with the rest of the so-called planets, which circle about the sun like moons. The whole planetary system is composed of perfect circles, while the Earth, because we here are furthest away

from heaven, lies idle and unable to move.

KEPLER: I must object, m'lord. For all idle things turn stagnant, like water.

TYCHO: Yes, we lowly creatures on Earth are stagnant and foul, which keeps us far below and ever distant from those things which are higher.

KEPLER: Plato would argue otherwise, you know.

TYCHO: What of it? And what does Plato have to do with astronomy? He's just a philosopher.

KEPLER: In the dialogue called *Republic*, Socrates speaks of people chained inside of a cave, entertaining themselves with shadows; in other words, acting as if it were science to master the images. These fettered men's folly lay in the fact that they had no idea that what they were observing were merely shadows, until one day one of the men happens to escape. Not only did this man find that it was only a candle generating these shadows, but also that there existed a whole beautiful world outside the cave. He came back to free his friends, but not only did they not believe him, they even sought to kill him, for defying what they were set in believing! They didn't get too far away from their beloved shadows though, being chained, to harm the newly enlightened man.

TYCHO: Are you calling me a "Shadow Gazer"?

KEPLER: Well, in a sense we all are. As we sit here gazing at the stars, how would we know if we were just looking at another lifeless shadow?

TYCHO: Well, we wouldn't.

KEPLER: Unless we knew that ember we call the Cause, which, because of its quality, is too hot to touch, and too bright to look at directly.

TYCHO: I'm not following you.

KEPLER: Well, in another one of his dialogues, *Timeaus*, Plato harks back to Egypt by discussing the nature of the solids, according to which the pyramids themselves were built. Those solids, which come from the divisions of spheres cut by great circles, reveal some striking secrets. Those same solids, on which my hypothesis of the solar system is based, gave man more power in the universe. The ancients were able to discover, through spherical geometry, the order of things displayed in the stellar canopy, using their minds alone, and prove through the physical construction of great astronomical structures, that the world is lawful. This didn't happen because of the pyramids, but because of a mind that existed before the pyramids, which was

able to grasp the knowledge of the universe, and apply it to further his welfare and that of his posterity.

TYCHO: That is a most interesting notion of posterity. But, continue to elaborate on these matters of geometry.

KEPLER: Well, are there geometric principles which, when employed, are the same on Earth as throughout the rest of the universe?

TYCHO: How should I know?

KEPLER: Well, should things in the universe be so inconsistent, that the Pythagorean Theorem would not work elsewhere, and yet be true in Athens?

TYCHO: No.

KEPLER: So, it should work in Athens as well as in any other place?

TYCHO: I can't see why not.

KEPLER: What about on the moon?

TYCHO: Inconceivable, although you must be correct.

KEPLER: So, in understanding these principles, can we know something that is truthful about the universe?

TYCHO: Yes, that these geometric principles are truthful.

KEPLER: When Eratosthenes measured the circumference of the Earth, did that prove we could know the nature of things?

TYCHO: It seems so.

KEPLER: Are there geometric relationships in the stars, however diverse?

TYCHO: Certainly.

KEPLER: Then, the diversity of the phenomena of nature is so great, and the treasures hidden in the heavens so rich, precisely so that the human mind should never be lacking in fresh nourishment—that nourishment being truth.

TYCHO: Hmmm. Is that what you spoke of when you wrote your book?

KEPLER: Yes, I began by trying to inscribe squares, hexagons, and other figures inside a circle, in order to find the ratios involving the successive distances between the planets. When this failed, suddenly it struck me. "What have plane figures to do with the celestial orbits?" I cried out. "Inscribe the regular solids." To represent the Earth, I used a sphere as the norm and measure of all; around it, I circumscribed a dodecahedron, a solid with 12 pentagonal sides, and put a

sphere around that for the orbit of Mars; around that, again, a tetrahedron, a solid defined by four equilateral triangles for sides, whose corners mark the sphere of the orbit of Jupiter; around that sphere, again, I placed a cube, for the orbit of Saturn.

TYCHO: And for Venus and Mercury?

KEPLER: I inscribed in the sphere of the Earth's orbit an icosahedron, a figure that has 20 equilateral triangles for sides; its sphere was for Venus. And inside that sphere, I placed an octahedron, with eight equilateral triangles for sides, and its respective sphere.

TYCHO: And what did you find?

KEPLER: The nature of the universe; God's motive and plan for creating it; God's source for the numbers; the law for such a great mass; the reason why there are six orbits; the spaces which fall between all the spheres; the cause of the great gap separating Jupiter and Mars, although they are not in the first spheres—here Pythagoras reveals all this to you by five figures. Clearly he has revealed by this example that we can be given a rebirth, after 2,000 years of error.

TYCHO: This seems truly profound, Johannes, but I must go, or I shall be late for dinner with the illustrious Peter Vok Ursinus Rozmberk. Farewell.

KEPLER: Yes, m'lord, you'd better hurry along. I think you have heard quite enough for one day.

The Underground Railroad

[A group of slaves gathered 'round.]

SLAVE 1: All right y'all, you gotta be quiet, for massa' come an find us out at any minute.

SLAVE 2: So, you say we'z gonta 'scape here?

SLAVE 1: Well, I was talkin' to a carpenter who stayed at massa's house, an he tol' me there's a railroad for us, but its under ground.

SLAVE 3: What's that mean?

SLAVE 1: Well, that there's a way to get outta here, there's folks up North who's tryin' to help us to freedom—

SLAVE 4: That'll never happn, James.

SLAVE 2: Would you jus' listen!

SLAVE 1: Look up dere, you see that thing there, that look like a sippin' gourd?

SLAVE 3: What?

SLAVE 1: A gourd, like a squash with a big bottom, but hollow fo to drink with.

SLAVE 3: That there looks like a chariot, and its just aswingin' low, kissin' de ground.

SLAVE 4: It's movin' 'round the North Star up there in a circle.

SLAVE 2: Yeah, I sees it up there.

SLAVE 1: Yeah, dis drinkin' gourd, if you look over, it's pointin' to 'notha star. Dat dere is de North Star.

SLAVE 4: Afore my momma was sold away, she told me

'bout dat star—it leads to God.

SLAVE 1: Well, to get to freedom, we have to meet dis man, "Peg-Leg Joe." He'll be up aways, but we gotta get up dere ta meet 'em.

SLAVE 2: How?

SLAVE 1: Well, first you gotta know when. Winta's the best time, cuz we got longer in de night, and de ribers is froze fo ta cross 'em.

SLAVE 3: How do we get dere?

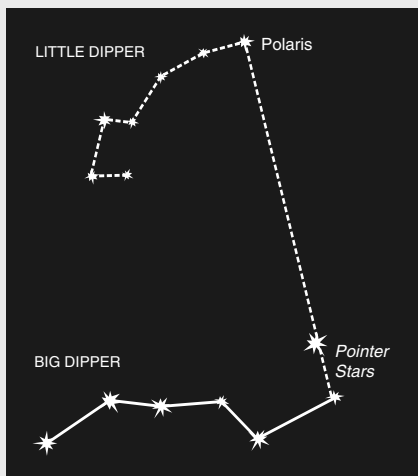
SLAVE 1: If you follow de drinkin' gourd, 'long de riber, just keep goin' till you see de dead trees. Keep on that riber, an not de others.

SLAVE 2: Fo how long?

'Follow the Drinking Gourd'

*When the sun comes back
And the first quail calls,
Follow the Drinking Gourd.
For the old man is a-waiting for
to carry you to freedom,
If you follow the Drinking Gourd.*

This haunting folk song, first sung by slaves in Alabama and Mississippi before the Civil War, was rediscovered in 1912 by folklorist



Finding the North Star using the Big Dipper.

H.B. Parks, who overheard an African-American man in North Carolina singing it. The words were a puzzle, but the singer flatly refused to explain their meaning. A year later, Parks heard the song again in Louisville, Kentucky—but again, the singer kept mum. It was only after 1918 that he learned from a Black man in Texas, that the lyrics gave escaping slaves directions to find their way north to freedom. They would always travel under the cover of night. By finding the "Drinking Gourd" in the sky—the constellation we call the Big Dipper, which points to the North Star, Polaris—they would follow a route north (described in "code" in the song), along first the Tombigbee River, then the Tennessee, and finally crossing



Harriet Tubman

the Ohio River into the free state of Illinois.

The idea of using the vast, unfettered expanse of the starry heavens to find one's way to freedom, became more than just a navigational "trick," but a metaphor for the quest for freedom. Frederick Douglass, the great

leader of the movement to free the slaves, named his newspaper *The North Star*. He understood profoundly that science means the liberation of man; only if your oppressors can keep you ignorant, can they control you.

As most people know, the slaves were helped along their way by the "Underground Railroad" of people who would feed and safehouse them, and direct them on to the next "station." The most famous

SLAVE 1: Well, when ya come on de end of de riber, wid two hills, keep wid de drinkin' gourd and you'll see a meetin' of two riber on de otha side. That's where you meet Joe, to take you up North onta freedom.

SLAVE 4: Oh no, here come massa.

[All sing "Swing Low Sweet Chariot," first verse]

MASTER: What in hell! What y'all doin' here, justa singin'? You niggers are dumber'n I thought, out here in the cold dark. Why arn't y'all in the shed, justa drinkin' and screwin' and havin' yo fun, like good fellas? Lookin' at the stars, heh? Well, I c'n tell ya, ya won't see nothin' up dere? I seed the same shit fo thirty years. Now, git yer asses insides, 'fore y'all git sick and can't work. Git! Git. . . .

[Exits]

SLAVE 1: Alright now, massa's gone. Here's de plan, remember dis . . .

[All sing "Follow the Drinkin' Gourd"]

[Fade . . . tones . . . ambient sounds of a Dark Age . . . hip hop, Age of Aquarius, radio sounds . . . WWII . . .]

Epilogue

[Silver Girl, Bronze Guy, Random Guy, Visitors]

SILVER GIRL: Let's turn the music down for a minute! I'm trying to find Steve. I think we nodded off for a minute, and I'm afraid that since he took his own car up here, he just got sick of how buzzed we were getting, and decided to try to catch the end of another one of those LaRouche meetings. Everyone says they run really late on Saturdays.

BRONZE GUY: I just hope we still have a future—ya know, there's no jobs out there anymore.

SILVER GIRL: The last thing I remember Steve talking about, was some kind of Dark Age that we were in now. I don't know. [calling out] Steve, are you still here somewhere? We're ready to talk politics.

[Enter Myra Boomer]

"conductor" on the "railroad" was Harriet Tubman, known as the Moses of her people. Frederick Douglass wrote to her in 1868: "I have had the applause of the crowd and the satisfaction that comes of being approved by the multitude, while the most you have done has been witnessed by a few trembling, scared, and foot-sore bondsmen and women, whom you have led out of the house of bondage, and whose heartfelt 'God bless you' has been your only reward. The midnight sky and the silent stars have been the witnesses of your devotion to freedom and your heroism."

Tubman, herself a slave in Maryland,

had escaped to freedom at the age of 28, with only the North Star to guide her. She then helped more than 300 others to do the same, telling them: "Children, if you are tired, keep going; if you are scared, keep going; if you are hungry; keep going; if you want to taste freedom, keep going."



Helping slaves to freedom on the "Underground Railroad."

She kept a six-shooter under her skirt, to provide a little encouragement to anyone who fearfully complained that he could not take another step. Tubman summed up her life's work: "On my

Underground Railroad I nebbber run my train off de track and I nebbber los' a passenger"—a quote which was inscribed on a plaque in her honor by the citizens of Auburn, New York, at the courthouse in Cayuga County, where she died in 1913.

Prints and Photographs Division, Library of Congress

—Susan Welsh

MYRA BOOMER: Oh, I used to be political. Are you guys up here talkin' about astro—logy?

BRONZE GUY: Um, not exactly.

MYRA BOOMER: That's really great. I'm Myra Boomer. You know, I was up here meditating on some healing crystals, and I could feel some youthful spirits. Your energy chakras were radiating so much, that I just had to come over to see if you were real, or signs from Muktasal.

SILVER GIRL: Who?

MYRA BOOMER: You have an interesting aura. What's your birthdate?

SILVER GIRL: Uhhh, June 13th.

MYRA BOOMER: Ahhh . . . [*takes deep breath*] Taurus! You are modest, and often rather quiet or shy. You are a person who is content to be in the background, or to serve as an assistant, in the supporting role rather than in the lead. You are quite humble in your own assessment of yourself, and you have a very strong, perfectionistic attitude, with a tendency to be overly self-critical. Often, you will simply refuse to attempt something, because you feel you cannot meet your own high standards.

SILVER GIRL: Actually, my sign is Cancer.

MYRA BOOMER: That's what I said, right? . . . I forgot . . . [*takes deep breaths*] . . .

BRONZE GUY: She's creepin' me out!

RANDOM GUY: Hey Myra, I just lost my job, and my kids need food and diapers, and all I got is bucks. Should I get an herbal body saran wrapping, or can you tell me my lucky lottery numbers?

MYRA BOOMER: Well, I've summoned my Mother Earth powers of Venus, and can tell you . . . that your sign is ruled by Mars, which rules the natural seventh house. When a planet or house cusp contains Libra, it will show where one will strive for harmony, creativity, and balance, as indicated in the natal chart. Your numbers are 2, 4, 6, 8, and 10.

RANDOM GUY: Thanks!

BRONZE GUY: Do you really believe this?

MYRA BOOMER: You must conform to my prophecies! Do you feel it happening? Huh? Do you feel it? Here take some acid, it will help.

BRONZE GUY: Huh? What?

MYRA BOOMER: Just take it. If you start now, you'll

ascend to truth in about 12 hours. . . .

SILVER GIRL: This lady is gone!

BRONZE GUY: Just don't pay attention to her, she feeds off it.

MYRA BOOMER: Wow, I can see the Eyes of Love, they're staring at me. My soul is being lifted to the final act. . . . [*starts singing the Beatles' "Here Comes the Sun"*]

[*Exit Myra*]

SILVER GIRL: Man, that lady was fucking nuts!

BRONZE GUY: Uhh, was that my mom?

SILVER GIRL: I don't know, but I think I here someone else coming.

[*Enter Nerds*]

NERD 1: . . . and if my calculations are correct, this is exactly where Hawking made his revolutionary discovery . . .

NERD 2: Man, this is almost as exciting as Christmas, when I got an Isaac Asimov book, *The Mummy II*, and a textbook on mathematical physics.

BRONZE GUY: Man! What the hell! I hope we can ignore these guys—they definitely don't fit our chosen style of personality.

NERD 2: Oh, and what do we have here?

NERD 1: I would hypothesize that we are dealing with some very amateur astronomers.

NERD 2: If they are doing astronomy, then where are their computers?

NERD 1: Did I say "very amateur"? Perhaps, I should have said "very, very amateur."

BRONZE GUY: Uhh, what are those computers for?

NERD 1: Please hold, I will respond to you in approximately 37.8 seconds . . .

NERD 2: The reason is this, that the greatest physicist and scientist of our time will soon dwindle your appearance, Sir Stephen Hawking. And by the way, it is elementary what these cpu's are for.

BRONZE GUY: What?

NERD 2: Starry Night version 4.0 Pro Edition.

BRONZE GUY: Oh, I don't know, is it some kind of astronomy software?

NERD 2: What?! I'm more than a little surprised that you have never heard of it?! . . . [*pause, then, demean-*

ingly] It's been out for about two years. Hmm?

BRONZE GUY: Oh.

NERD 2: Silence! Prepare to have your appearance dwindled.

[*Enter Hawking*]

STEPHEN HAWKING: Hello, boys!

NERDS [*in unison*]: Awesome!

SILVER GIRL: Hey, Mr. Hawking, I'm just waiting for Steve to get back here, but as long as you're here, uhh . . . , we were just talking about the history of astronomy, and the requirement of knowledge for sustainability of humanity on the planet. Do you know anything about that?

STEPHEN HAWKING: I would like to discuss whether time itself has a beginning, and whether it will have an end. All the evidence seems to indicate that the universe has not existed forever, but that it had a beginning, about 15 billion years ago. We are not yet certain whether the universe will have an end.

BRONZE GUY: That makes me want to cry.

[*Exit Nerds and Hawking*]

SILVER GIRL: Wow, that was crazy too!

BRONZE GUY: Oh no, another one this way comes.

[*Enter Alien Guy*]

ALIEN GUY: Hello guys, you better watch out on this mountain, you may find it troublesome.

SILVER GIRL: What do you mean?

BRONZE GUY: Aliens!

SILVER GIRL: Okay?!

ALIEN GUY: The specific encounter I am describing was not my first. But, I would not like to remember my previous abductions, but to describe one specific abduction that occurred when I was 17.

SILVER GIRL: I was just thinking this!

ALIEN GUY: I was on my way home from military training. About that time, I noticed a glowing object. The time was approximately 8:30 p.m. As this wasn't my first encounter, I assumed it was a UFO. As I was staring at it from my car, I suddenly got out to view it. I was viewing the object for quite some time, until I saw it drop down and land somewhere in the woods. I was about to walk down the road, when I saw four or five

figures emerging from the woods. I was shocked and frightened. I did nothing but stare at the figures as they came closer, until they came in my car and took me in their ship. Inside, it was pitch black, and there was a screen on one wall, and a chair right in front of it. They placed me in the chair, and put some sort of drill in my nose, and then checked my eyes with some sort of a metallic device that had a blue light. I became aware of what seemed to be a slender probe that had been pushed up inside me and was gently vibrating against my prostate. I wondered what in the world was going on, and then I felt small, child-like hands—

BRONZE GUY: Man, you are disgusting!

ALIEN GUY: Well, nobody believes us, because there's no proof. But, look how crazy I am—that's proof enough!

SILVER GIRL: Who did this to you?

ALIEN GUY: THE GOVERNMENT!

BRONZE GUY: Okay, what do you want us to do?

ALIEN GUY: I got some drugs from the aliens.

SILVER GIRL: You got drugs from aliens?

ALIEN GUY: [*Exiting*] It's all on the Internet! The truth exists somewhere on the Internet!!!

BRONZE GUY: [*to Silver Girl*] That's where the hippie guy from econ class gets his drugs! [*calls to Alien Guy*] Do you know a guy named Javier?

[*Alien Guy exits*]

SILVER GIRL: Whoa, slow down. I really think Steve went back to reality.

BRONZE GUY: Well, that's just more non-reality for us, anyways.

SILVER GIRL: Oh, geez, I'm getting tired . . .

BRONZE GUY: Me too . . .

[*They doze, wake up*]

SILVER GIRL: Where are we?

BRONZE GUY: I don't know. There's sand everywhere.

SILVER GIRL: It reminds me of this movie, *Stargate*. Maybe those alien drugs put us here.

BRONZE GUY: Wait, what does that sign say? . . . It says, ABU GHRAIB!

[*In unison*]: We've been drafted!

END

U.S. Labor Day Conference LaRouche: ‘A Fight To Turn The Course of History’

The semi-annual conference of the Schiller Institute and I.C.L.C. in the United States brought together approximately 900 people at locations in Northern Virginia and Southern California over Labor Day weekend, Sept. 4-6, 2004, to deliberate on how to save the United States, and the world, from *disaster*—specifically, the re-election of George Bush and Dick Cheney on November 2. As Lyndon LaRouche expressed it in his keynote address, entitled “A Moment of Epic Decision,” this was not a fight to win an election, but “a fight to turn the course of history.”

Speaking before a polemical conference banner that read, “The Crash You Were Hoping for Is Here!,” LaRouche developed the key ideas which define how this fight for the nation could be won. These ideas were then returned to in subsequent conference panels. Later that day, Helga Zepp LaRouche, leader of the German political party Civil Rights Movement-Solidarity, and founder of the

Top, right: Lyndon LaRouche delivers conference keynote. **Above and right:** Conference participants in Northern Virginia and Los Angeles.

international Schiller Institute, gave the second keynote, on the theme, “The Crash Began in Germany.” She stirred the audience with a lively account, aided by extensive audio-visuals, of the development of the 1989 Peaceful Revolution in Germany, which led to the fall of the Berlin Wall, and laid the basis for the growing mass strike ferment, in which the LaRouche Youth Movement (LYM) was playing a leading role.

On Sunday morning, September 5, three members of the *Executive Intelligence Review* economics team, Marcia Merry Baker, John Hoefle, and Paul Gallagher, gave a powerful historical review of the rise and decline of the U.S. physical economy, in the form of visual animations called for by LaRouche to awaken the lower 80% of income

brackets of the United States into action in the coming election and beyond.

That afternoon, LaRouche joined with his national spokespersons Debra Freeman and Harley Schlanger, to present “The War Plan for November,” an outline of the strategy by which the LYM, in particular, could create the conditions for LaRouche to shape both a landslide victory for the Kerry candidacy, and a Kerry Presidency armed with a team capable of dealing with the economic, financial, and strategic crises that confront the world.

This was followed in the evening by a music panel celebrating the life of the late vocal coach Sylvia Olden Lee. This panel served as a pedagogical demonstration of the power of Classical music, and the quality by which an individual achieves immortality by devoting his or her life to truth and the welfare of future generations.

Change the Course of History

In his 90-minute keynote, LaRouche hit relentlessly on the idea that the republican tradition of the United States must



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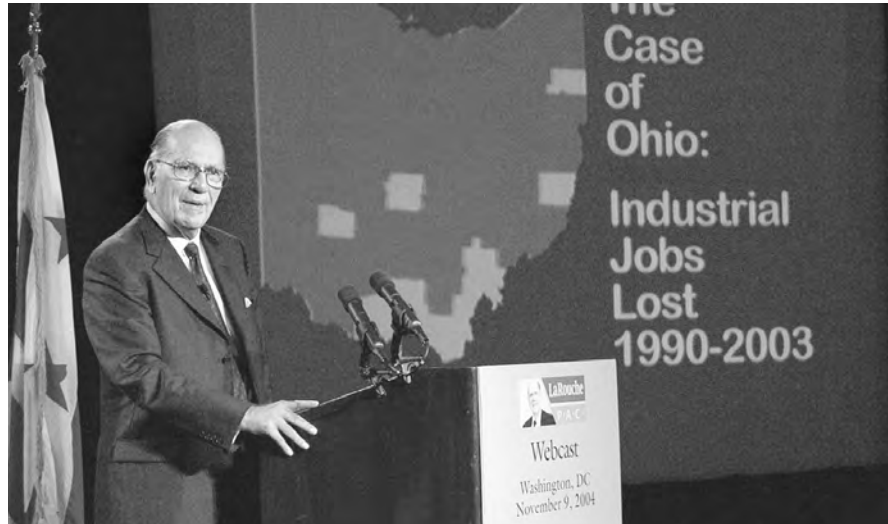
EIRNS/Gene Schenk

LYM chorus performs in Los Angeles.

be revived, in order to save not only our own nation, but the world. “Winning this election is not winning a prize,” he said. “It is moving in, at a moment of crisis, to save humanity when humanity might not otherwise survive.”

America has saved the world from disaster before, LaRouche continued, beginning with its founding in the Eighteenth century. Abraham Lincoln did it in the Nineteenth century, and FDR did it again in the Twentieth century, by leading the war against fascism. But, over the past 40 years, we have destroyed ourselves, by adopting a post-industrial ideology that has driven the economy into financial bankruptcy. “With the introduction of free trade, and worse, with globalization, we have destroyed private capital, on which we depend for employment, and for improvement of the productive powers of labor.” The only solution lies in dumping the system, and going back

Webcast: Beauty, *Real* Economics Are Needed To Save the Nation



Lyndon LaRouche uses animations to illustrate the economic collapse of Ohio.



Institute founder Helga Zepp LaRouche

to Hamiltonian, American System methods.

“In fact, the planet as a whole would not survive, without an intervention by the United States, of the type that Washington and Hamilton, and others made in that time of crisis; the kind of intervention which Abraham Lincoln made—which was not simply something in the United States, it changed the world for the better, very quickly, throughout Europe and elsewhere; the kind of critical change made by Franklin Roosevelt. We, in the United States, must make that kind of intervention.”

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On November 9, one week after the disastrous 2004 election, Lyndon LaRouche put forward, to an overflow audience of 225 people in the nation’s capital, an exhilarating remedy to the crisis thus created. His words were carried simultaneously, via Internet webcast, to audiences across the globe.

Many of those in the room—among whom were 80 members of the LaRouche Youth Movement, and 20 additional LYM guests—had worked their hearts out to elect John Kerry, and to defeat the Bush Administration. Also present were state legislators and city councilmen; community and constituency leaders, and several representatives of foreign governments.

The event began with a performance by the Boston LYM Chorus, introduced by LaRouche as, “an opening, integral part,” of his keynote. Under the direction of John Sigerson, J.S. Bach’s motet, “Jesu, meine Freude,” was performed by the 19-person chorus. The complex polyphony of the 11-part motet was conveyed with great beauty and transparency by the singers, who had been working for two hours a day, over several months, to perfect the piece.

As LaRouche explained, following the performance, there is a “very defi-

nite purpose”—indeed, “many purposes”—to the work on Classical music, “and they pertain to saving the nation and civilization from the threatened catastrophe which has just occurred: The announcement of the re-election of the world’s worst idiot, George W. Bush.”

The study of Classical art, combined with the discovery of universal principles in science, beginning with Carl Friedrich Gauss’s 1799 Fundamental Theorem of algebra, is the basis for the self-education of youth, LaRouche stated. “The secret of the Bach motet is ‘performing between the notes,’ in order to get the connection of the whole composition to each part within it, and how the parts relate to this whole idea.”

Thus inspired, the audience was given a lesson by LaRouche in the kind of leadership required now. Using historical examples, such as those of Frederick the Great at Leuthen and Douglas MacArthur at Inchon, LaRouche illustrated how a commander-in-chief must sometimes take great risks to achieve victory. Unfortunately, John Kerry, with his “Hamlet problem,” lacked those qualities—although, LaRouche said, with the right team around him, he

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Euro Conference: ‘A Turning Point in History’

The Schiller Institute held its European conference in Idstein, Germany on Sept. 24-26, 2004. Among the more than 300 participants, were guests from over 30 countries, including members and supporters of the LaRouche movement from around the world, representatives of European and Asian institutions, and a large contingent of youth who form the growing LaRouche Youth Movement (LYM) in Europe. The presence of over 100 LYM members was the defining characteristic of the conference, as it represented a significant step forward in the movement’s ability to mobilize the population of Europe to halt the global economic collapse and the drive for perpetual war led by Dick Cheney and his cohorts in the Bush Administration.

The conference came in the wake of a breakout in the movement’s activity in Germany, represented by the election campaign in the eastern German state of Saxony, and the mass protests against austerity which were launched by the LYM and Helga Zepp LaRouche, Schiller Institute founder and leader of the Civil Rights Movement-Solidarity party in Germany (BüSo)—protests which eventually involved tens of thousands and spread to 240 German cities, as well as to Paris, Vienna, Switzerland, and across the Netherlands.

This intervention, in which BüSo candidates quadrupled their vote in Saxony and forced the so-called “major” political parties to address the financial establishment’s attempt to dismantle the European social welfare systems, has thrust the



EIRNS/Eves Paumier

Left: Helga Zepp LaRouche (fourth from left), with LYM organizers. **Right (clockwise from top):** Panelists Lothar Komp (EIR), Hrant Khachatryan (Armenia), Dr. Altay Unaltay (Turkey).

for very much worse, in a very long time.”

Strategic Context

LaRouche then gave an in-depth presentation of the strategic context in which the conference was taking place. The fight, he said, is between the

LYM into the center of German political life, and demonstrated the potential for bringing about a radical shift in the population during this period of crisis.

In his keynote address to the conference, Lyndon LaRouche told those listening in the conference hall and around the world on the Internet, that we are living in a time whose importance exceeds that of any in the memory of any living person on this planet. “What will happen between now and the date of the inauguration of the next President of the United States, will be the greatest turning point in history, for better, or

principles embodied in the Preamble to the U.S. Constitution, and the British imperial system, which has looted the world and attempted to reduce human beings to the level of cattle. In the Eighteenth century, the faction which sought to create a true republic was unable to do so in Europe, but they achieved their goal through the creation of the United States of America, as “a beacon of hope and a temple of liberty for all mankind.”

LaRouche explained the philosophical background to this fight, and the challenge before us today in guaranteeing the immediate survival of our civilization.

The following day, Helga Zepp

LaRouche addressed the conference, detailing the shift which the BüSo has forced in German politics, and comparing it to the revolutionary ferment which led to the fall of the Berlin Wall in 1989. Dennis Small and Lothar Komp used data and animations developed by EIR’s economics staff to document the drastic collapse of the physical economy in the United States and Germany. On the same panel, representatives from Italy, the Czech Republic, Slova-



EIRNS/Clemens Eife

LYM in Leipzig, June 2004: “In Saxony, the economy must grow.”



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EIRNS/Christopher Lewis

kia, and Hungary reported on the crises in their respective countries.

Growth of the LYM

The youth panel on Saturday night gave an exciting demonstration of the process of creative development which the LYM has followed under LaRouche's direction. A group of youth organizers staged a chorus rehearsal of the Bach motet "Jesu, meine Freude," to allow the audience to "look in" on how discovery of creative principles proceeds. They showed video clips of the recent explosive developments in the Saxony campaign, and invited the audience to sing the African-American Spirituals and Classical songs which the LYM uses to organize the population through beauty. From this panel, and the numerous questions and interventions of the youth throughout the weekend, it became clear that the LaRouche movement's activity is moving to a new level in Europe, as a result of the development of the LYM here.

Other panels included one on the "strategy of tension" being carried forward by the insane forces in Britain and the U.S. who hope to force the disintegration of Russia through the destabilization of Central Asia. Five years ago, LaRouche had commissioned a video warning of this strategy, entitled "Storm over Asia." Today, the terrorist events in Russia and the Caucasus can only be understood in the context of this drive for global war, emanating from the circles of Dick Cheney and the neo-conservatives.



EIRNS/Stuart Lewis

Boston LYM chorus performs Bach's "Jesu, meine Freude" at November 9 webcast.

Webcast

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could have been a good President.

How did it happen, then, that a George Bush, a "certified mental case," was *re*-elected as President? This is the tragedy of the American people today. Therefore, LaRouche said, we must talk about the remedy: Americans must relearn real economics. We must go back to the physical-economic policies that Franklin Roosevelt carried out, to bring the United States out of the Great Depression.

The Remedy: Real Economics

"You are the remedy," LaRouche challenged the audience. "Your freeing yourselves of the shackles of illusion, is the remedy. Your giving up belief in money, is the remedy." What you need, LaRouche said, is housing, food, clothing, education, medical care. "The dollar in your pocket is imminently worth nothing!" His comment that, "It's like the mathematician who married a plastic dummy, because her measurements were nice," produced uproarious laughter.

"We're now in the greatest depression in modern civilization's history. What I have to do, in this process, is to get Americans to understand what economics *is*," he said, and illustrated, with a series of animations, the collapse of the physical economy, using the state of Ohio as a case study. The principle of animations, he explained, "is to take what is happening, or will happen, in an economy, over a

period of years, or months at least, and to accelerate that into a lapsed-time picture of the actual changes occurring over that larger period of time." This was done in Cleveland, at a recent LaRouche PAC town meeting, and the audience understood for the first time what had been done to them: "They saw Ohio being transformed from one of the richest industrial states in the United States, over a period of about 10-15 years, into a rust-bucket, based on cheap, hotel maids' jobs and restaurant jobs. And they saw it! And they were shocked by it."

Using these methods—Classical art, science, and animations to educate our people in real economics—we will be a catalyst in reorganizing the Democratic Party. "For the fact is, that Bush is going to fail. The war in Iraq is lost. It's finished. The financial system, of the world, is collapsing. It's finished. There'll be a general financial collapse, worldwide, beyond anything that most of you in this room could even begin to imagine—and it will come on fast."

Therefore, LaRouche concluded, "We have to put the positive side, we have to bring the spiritual side forward, in the *real* sense, not this fake, tent-show, snake-oil, sense that we get from these fundamentalists. But, the real sense: That man is a creature made in the image of the Creator! And that man must be *respected* as that; man must be developed as that. Man must have regard for other human beings based on that. Nations must cooperate on that basis. Cultures must be developed on that basis."



Counter-clockwise from top left: *National spokesperson Debra Freeman; panelists Marcia Merry Baker, Paul Gallagher, and John Hoefle; Kentucky State Rep. Perry Clark speaks from the floor.*



campaign on the issue of *physical economy*, LaRouche went on. We're going to show people how an economy actually works, and how ours has been taken down over the past 40 years. The principles which determine the health of an economy will be made clear.

LaRouche used a discussion of the tax issue, a premier "hot-button" issue of the Cheney-Bush campaign, to illustrate this point. What do these free traders do, to be able to cut taxes? They

slash infrastructure—transportation, education, health care. Let's "save money," they say, by cutting out the long-term investments in basic economic infrastructure. In this way, Bush commits more abortions—another campaign "hot button"—than any President

U.S. Conference

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The base of the Democratic Party itself must be changed, LaRouche stressed. After all, it is the action, or inaction, of the party, and its traditional constituencies, which has tolerated the slide of the United States into the condition it has now reached.

Mass Political Movement

This change can not be brought about by sticking to the usual strategies of electoral politics, said LaRouche. Instead, a mass political movement must be generated. This will require the intervention of the LYM, which has a proven capability of getting underneath the skin and *inspiring* people.

Right now, LaRouche said, people act like human cattle, occasionally complaining about the quality of the grass, but basically content to be controlled and not *think*—certainly not to think about governing. What youth can and must do, is to inspire these very people to rediscover the fact that they are *immortal*. Citing the examples of Jeanne d'Arc and Martin Luther King, LaRouche put it this way: "When we come to a crisis like this, we have to awaken in the mind of the individual on the lower echelons of life—who feels that he can only beg for favors, or blackmail the boss—to get him to look at

himself in a higher sense. We have to say, 'What's important to you?' He says, 'What I feel. What I sense.' We say, 'But, you're going to die. We're all going to die. Therefore, what's important to you, if you're all going to die? What can you take in life, as a mortal being, that you can keep? When you're dead? Is there something which you, as a human being, in the image of the Creator, must desire *above all other things*? To be a permanent part of creation, by contributing to creative knowledge, and a creative act, which only a human being can do.'"

Dealing With the Economy

Using this approach, the LaRouche movement will carry out an intense cam-

Exhibits at LYM pedagogical museum in Los Angeles included "Crystals and Kepler's Snowflake," "A City on Mars," "The Moon Model of the Atomic Nucleus," as well as working models of the NAWAPA water program, hanging chain (catenary) experiments, and Platonic solids. Right: Recruiting to LaRouche's scientific method.

Far right: Demonstrating model of Mars colony.



on record, simply by his economic and social policies!

LaRouche continued: “The basic investment in society, today, in a society at our technological level—unless we’re going to become a Third World society—is investment in the development of our young people, for the first 25 years of their life—a quarter of a century! Now, long-term infrastructure investments have a life-cycle, a physical life-cycle, generally running in the order of at least a half-century. Industrial investment has a cycle of, at least, a quarter of a century. Elements of production have life-cycles of less, maybe five years, 10 years, 15 years.

“Therefore, it’s investment in capital, in the form of *physical* capital, or intangible capital, such as the development of a human being, which is the basic unit on which a modern economy depends. . . . In the United States, we have to measure capital, in terms of quarter-centuries. That is, that part of the life-cycle, coming from birth to a matured professional, ready to enter life. We have to pay for that 25 years of that development, of that individual. That means, not only payment to the family, or by the family, but payment to the community for those things that are provided by the community, or by the nation as the whole, for each of those individuals, as opposed to what comes out of the family income.”

LYM Works To Master ‘Bel Canto’ Singing Method



Mexico’s Maestro José Briano leads LYM organizers through vocal exercises in Boston.

As the warm morning sunlight shines through the stained-glass windows of a Nineteenth-century church in Cambridge, Mass., it reveals a group of young people, appropriately named the “raggedy-pants elite” by Lyndon LaRouche. These young people, who come from the same sinister culture as pop-star Britney Spears and death-metal singer Marilyn Manson, are bridging the gap between science, politics, and beauty; by reliving the unique discovery of the *bel canto* singing method. Many of them are timid, others have never sung before, but all are eager to learn from their patient, devoted guest: the distinguished Mexican bass, and voice doctor/teacher, Maestro José Briano, who came to Boston Dec. 10-18, 2004 to intensively train 95 organizers from the LaRouche Youth Movement.

Watching Maestro Briano teach is like watching a Classical painter lovingly study his subject, and then begin to paint with precision. The ten young male organizers line up, while the Maestro faces them, sitting at the piano. And one by one, each student repeats the vocalization. Those who can do the exercise best, go to the front of the line,

while those who *struggle*, listen closely to the more advanced students, and imitate their idea. The eight or ten young people who have been leading, or want to take the leadership in the singing in the various cities, sit on the side, vigorously taking notes, with their eyes and ears fixed intently on the Maestro. He encourages the teachers to ask questions; occasionally, he asks them, “What is the purpose of this exercise?,” to make sure they understand the method.

No One Is ‘Tone Deaf’

Among the group of ten singers, there is one who consistently sings out of tune. A teacher in a music conservatory would throw up his hands in exasperation, accuse that student of being “tone deaf,” and conclude that student would never make it in the music world. But, the response of Maestro is to point out, “There is someone who is trying to be spontaneous!” He stops, and has each student sing the exercise, one by one, until he finds the one singing out of tune. Maestro works with that student patiently until he sings in tune. Then, Maestro smiles, and says, “*muy bien*,” and moves to the next student.

To another shy young singer, with a



EIRNS/Sylvia Spaniolio

EIRNS/Sharon Stevens

lovely natural *vibrato*, Maestro says, “You have a voice of quality, but you need a powerful voice.” The second time around, this organizer’s voice rings much louder, and he stands straight with confidence. The effect of this young man finding the strength in his voice, and with it, his increased ability to communicate, will give him confidence to lead others. With a combination of listening to each other, and Maestro’s meticulous guidance, these ten young men have advanced by leaps and bounds in just an hour. At the end of that hour, Maestro congratulates the young people and begins work with the next group.

Maestro Briano often compares singing to “going to the gym.” Each session consists of two parts: warm-ups, and vocal training. The warm-ups are intended to prepare the voice to do extensive training, which includes singing two-octave arpeggios in one breath, and repetition of high notes for the tenors. In one session, Maestro, with a twinkle in his eye, challenges the advanced tenors to sing a high note on five different vowels, “nu, no, na, ne, ni,” from five to ten times in a row, without breathing. Only two tenors are able to do this, but it creates a standard for which others can strive. In a different session, Maestro Briano challenges the sopranos to sing an exercise, first loudly, and then softly. The challenge of singing softly is to maintain a supported sound that can be heard.

Communication Through Metaphor

When asked how to create increasing degrees of freedom in the singing voice, Maestro Briano said, “You have to be careful with the idea of freedom, because for the voice to be truly free, there must be restraint.” The restraint comes from the register shift and the nasalization. Nowadays, when popular singers are supposedly “expressing themselves” and singing “freely,” they



Aspiring teachers study how the Maestro guides students through vocalizations, in preparation for leading singing in different cities.

EIRNS/Sharon Stevens

are just yelling, and the sound is ugly. As a result, they hurt their voices, or their voices will become hoarse. While no set of rules or formulas will yield the right method, there must be a standard for freedom, and in the case of *bel canto*, the standard is *beauty!* Maestro Briano has heard thousands of sopranos and tenors in his lifetime, all different, all distinguishable—for each voice is like a thumbprint, unique and irreplaceable. How, then, does he know what to tell each student? He says, “The medicine for each person is different.” But, that is not to say that what is right for everyone is merely relative, because then we would not be able to teach anyone to sing! So, what does Maestro hear in his mind after each person sings? Each rec-

ommendation he gives is precise, and produces an explosive result, of which the student is fully conscious. By the end of the nine days, each youth has had the opportunity to work with Maestro for four days, for an hour each, with an additional intensive three-hour choral rehearsal every night with Schiller Institute choral director John Sigerson. Furthermore, ten or more of those youth have the intention of continuing this work in regional organizing centers around the country. Each young person who works with Maestro is given the confidence that, one day soon, he or she can fully understand the method he teaches, because it is non-technical. Therefore, these young people can assimilate his ideas because they are communicated through metaphor and not just “technical language.” The LYM organizers sense that Maestro really wants students to succeed and find the beauty in their voices. Thus, a deep love and respect developed between Maestro and his students, that overcame the language barrier (Maestro speaks Spanish). Throughout the week, these young people realized that the more powerful their voices became, the more politically powerful they will become.

—Jenny Kreingold
LaRouche Youth Movement



Schiller Institute choral director John Sigerson rehearses full chorus.

EIRNS/Sharon Stevens

On ‘The Social Doctrine of the Church’ Morals and Immortality: The U.S. Crisis Now

by Lyndon H. LaRouche, Jr.

November 17, 2004

There is a deliciously ironical aspect to *EIR*’s receipt of the accompanying report by our Italian correspondent, Liliana Gorini. Since it was her ancestor who, quite literally, buried Giuseppe Mazzini, there is a certain exquisitely ironical appropriateness in her informing our English-speaking audience of the Vatican’s release, by the Holy See’s Press Office, of the 500-page *Compendium of the Social Doctrine of the Church*. It is to be hoped that this excellent work might inform, and thus improve the future behavior of many presently still misguided U.S. citizens who voted against Democratic Presidential candidate John Kerry on the pretext of “moral” issues.

As Cardinal Renato Raffaele Martino reports, the composition just released was begun by Cardinal François Xavier Nguyen Van Thuan, a late dear friend of mine.* It is now published as the completion of work in which he was engaged at the time of his death, matters which, in part, I discussed with him on several visits during the years before his death. It were appropriate, on this occasion, that I confine myself here to a matter of morals which must be raised on account of the great flood of disgustingly self-righteous sheer hypocrisy shown by a large number of self-styled “moral” citizens in, specifically, the recent, November 2 election in the state of Ohio.

Among the most notorious of the sundry pseudo-Christian cults which are echoed within the U.S. citizenry today, those which have proliferated so since



“Among the most notorious of the sundry pseudo-Christian cults which are echoed within the U.S. citizenry today, are those strains of Gnosticism which award reign in the real world to Satan, except on the rare occasions God the Creator might rudely intervene.”

times in ancient Imperial Rome, are those strains of Gnosticism which award reign in the real world to Satan, except on the rare occasions God the Creator might rudely intervene. For ancient and modern dupes of that and kindred varieties of pagan cult-traditions, morality is essentially a code of conduct adopted for the shrewdly politically cautious inhabitants of a domain ruled by Satan, a domain in which Jeanne d’Arc’s or the Rev. Martin Luther King’s courageous confrontation with death, are popularly viewed as “mistakes” by our typical, cowardly, moralizing opportunists of today.

Typical of such lack of a true sense of immortality, is the behavior of the pastor who fancies himself a rooster servicing the hens of his flock, but points the finger of rage in thunderous pronouncements against what he alleges to know to be the sinful fornication among his

parishioners. Or compare the behavior of those Ohio citizens who, like the hypocrites they were, did not blink with shame when they voted for a continuation of economic and related health-care policies which are the cause of vast increases in the deaths among our citizens and others. How could such preachers of such so-called morality lead anyone to immortality, when we know by their deeds, that they do not actually believe in it themselves?

In short, the essence of Christian morality in such matters is typified most efficiently by the Apostle Paul’s famous 1 Corinthians 13, where the principle known to Plato’s Socrates as *agapē* (e.g.,

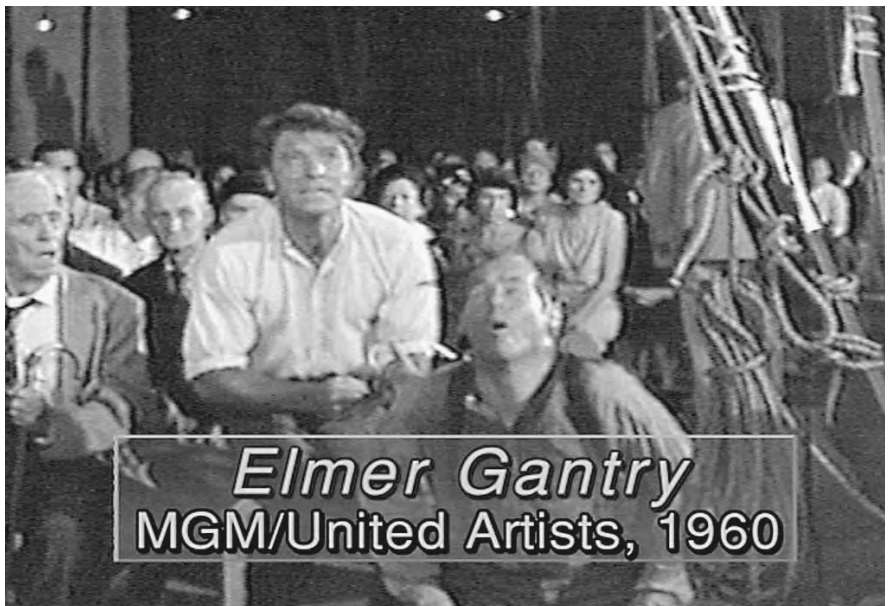
* See a review of Cardinal Van Thuan’s book, *Testimony of Hope: The Spiritual Exercises of John Paul II*, by William F. Wertz, Jr., *Fidelio*, Spring 2001 (Vol. X, No. 1).

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love, charity) is contrasted sharply with the behavior of those among our citizens who had just recently cast their vote for the perpetration of crimes against humanity, and implicitly God himself. The immortal soul, who knows that he or she is immortal, trusts immortality, as Jeanne d'Arc and the Rev. Martin Luther King did, and therefore does the deeds which even the future alone may harvest, because he or she is certain of that future. In contrast, these hypocrites, who often esteem themselves as sincere and patriotic as the cock-of-the-walk in the pulpit, care nothing for that anti-Locke Preamble of our Federal Constitution which places sovereignty, the general welfare, and posterity above all other law which might be tolerated by our republic.

The radically consistent offshoots of pro-Satanic Gnosticism, such as the preaching of traitor Aaron Burr's grandfather, the thundering Jonathan Edwards, are the model of reference to be considered when weighing the morality of those hypocritical American moralists who condone the teachings of Locke (human slavery as property), Mandeville (that the general good comes of private corruption, such as Enron), François Quesnay (for whose religion those persons employed on the estate were merely human cattle), and the plagiarist and hater of the U.S.A., Adam Smith, who copied the Gnostic dogmas of Locke, Mandeville, Quesnay, Smith, and, worst of them all, Jeremy Bentham, as that immoral dogma of "free trade" which has wrecked and ruined the U.S. economy and many other parts of the world over a period of more than three recent decades.

Actually, these poor believers in such Gnostic trash as "free trade" are not actually Christians. They do not believe that human beings have actual souls. They do not believe that they are accountable for those consequences of their having lived in a way which must have shamed their forebears, and will disgust their descendants. They take pride in the assumption that they are not "their brother's keepers," but, like the cow not yet herded to the slaughterhouse, they fancy themselves, foolishly, as men and women passionately, and



"I think back to the 1920's of my childhood. I think hopefully of the waning of the religious fervors of the 'Elmer Gantry's' then. The religious insanity simmered down considerably under the cold realities of the Great Depression and the warmth of the Roosevelt-led recovery."

also shrewdly aware of their immediate, sensual self-interest.

So, in these times, we have many Americans who are studiously indifferent to the kind of future they are bestowing upon even their own young-adult children. Their behavior attests, that they desire nothing as much as to dwell, themselves, in a fantasy-realm of ideological "comfort zones," in which they may overlook the consequences they will leave behind at the time of their deaths. Thus, we have the gambling mania spread among demoralized Americas of various generations today. They have no sense of personal immortality; therefore, why should they expect any? Therefore, how could they be Christians? Why should we be surprised, therefore, when we see how they behave, at the polls, or otherwise: as disgusting hypocrites?

I think back to the 1920's of my childhood. I think hopefully of the waning of the religious fervors of the "Elmer Gantry's" then, disgusting hypocrisies not unlike those which the Falwells and even worse peddle today. I recall, that with the economic realities of 1929-33, there was a crushing of the prevalent religious devotion to the rhetoric of Coolidge and Hoover by the simple fact

of a rude confrontation with reality. I do not think theology improved much during the 1930's U.S.A., but at least the religious insanity simmered down considerably under the cold realities of the Great Depression and the warmth of the Roosevelt-led recovery of our nation. Unfortunately, there was no President Franklin Roosevelt in Germany, and we saw what turns such Gnostic varieties of religious fervor took under Hitler there.

We are not presently reliving past history, but we are facing the onrushing challenges which should warn us against repeating the kinds of mistakes which have repeatedly led nations such as our own to periods of ruin in the experience of past generations.

In summary: there is a fundamental difference between the Christian, for example, who knows what the concept of immortality means for guiding one's own behavior and that of the nation, and those like the so-called "moralists" of Ohio and elsewhere, whose idea of morality is "going along to get along" within the mortal boundaries of what they accept in their practice as a Gnostic's Satan-run domain.

Cardinal Van Thuan gave me his blessing personally a few hours before his demise. His latest work, delivered as

Signora Gorini reports here, attests to my sense of my own immortality, as seen in his eyes, and as I saw his, in return, as he blessed me then. We who sense the reality of immortality, have a courage to act for good, a kind of courage which is lacking in those who have yet to come up

to this standard of morality. How many among my readers could say much the same of themselves? Is that not a key to the real moral crisis of the U.S.A. today? The parts of the work released by Cardinal Martino of which I know, express that intention for those who will receive

the message; on that account, it is, in addition to its principal virtue, also an ecumenical work, which merits the study by all, of whatever nominal profession or confession. However, to really understand it, you must find a sense of true immortality in yourself.

Vatican Moral Issues: Physical Economy, Peace

On October 25, one week before the U.S. elections, Cardinal Renato Raffaele Martino, president of the Pontifical Council for Justice and Peace, gave a press conference at the Holy See Press Office at the Vatican to present the *Compendium of the Social Doctrine of the Church*, a 500-page book published by the Libreria Editrice Vaticana, which had been commissioned by Pope John Paul II. As Cardinal Martino explained, “This document has been prepared—at the request of the Holy Father, to whom it is dedicated—by the Pontifical Council for Justice and Peace, which is fully responsible for its content. It is now made available to all—Catholics, other Christians, people of good will—who seek sure signs of truth in order to better promote the social good of persons and societies. This work began five years ago under the presidency of my venerated predecessor, Cardinal François Xavier Nguyen Van Thuan. An unavoidable delay in the work was caused by the sickness and death of Cardinal Van Thuan and by the subsequent change in presidency of the Pontifical Council for Justice and Peace.” In the introduction to the book, Cardinal Angelo Sodano, Secretary of State of the Holy See, emphasizes, “The Holy Father, while wishing that the present document helps humanity in the continuous research of the Common Good, invokes the benediction of God on those who will stop to reflect on the teachings of such a publication.”

What strikes one immediately upon reading the document, is the strong contrast between the “moral issues” raised by the Pope and his Pontifical Council, and the so-called “moral issues,” or rather *single issues*, such as gay marriages or abortion, raised by George Bush and

his senior adviser and chief political strategist, Karl Rove, during the Presidential elections, in order to attract the vote of Catholics and other Christians.

The document, commissioned by Pope John Paul II, dedicates one of its main chapters to “promoting peace,” stating clearly that any “preemptive war action, launched without any evidence that an aggression is upcoming, cannot but raise serious questions from the moral and juridical standpoint.” It emphasizes that “economic development is the new name for peace,” going back to two encyclical letters which are fundamental to the social doctrine of the Church, *Populorum Progressio* (*On the Progress of Peoples*), issued by Pope Paul VI in 1967, and *Centesimus Annus*, issued by Pope John Paul II in 1991. The other “moral issue” raised by the Vatican document, and

raised during the Presidential elections by former Democratic pre-candidate Lyndon LaRouche, and by John Kerry, himself a Catholic, is that of “morality in economics” and the urgent need for a new economic and financial system, in order to punish financial speculation and to allow the development of the physical economy and of social welfare.

Progress of Peoples

Pope John Paul II himself stated, in a speech to the Pontifical Academy of Social Sciences in April 1997: “An economy based only on financial gain deprives itself of its own roots and of its original aim, which should be that of serving the real economy and should be, ultimately, the development of people and human communities. The economic picture becomes all the more dramatic if



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one considers the asymmetry characterizing the international financial system: innovative processes and the deregulation of financial markets tend in fact to develop only in some parts of the globe. This raises serious ethical questions, because the countries which are excluded from such processes, even if they are excluded from any benefit from such financial products, are not safe from the negative consequences of financial instability on their real economic systems, particularly if they are fragile and late in developing.”

From this standpoint, the Vatican document urgently calls on “international economic and financial institutions to identify the most appropriate institutional solutions” necessary to change the present financial system and solve the question of “foreign debt” of poor countries, another “moral issue” raised by Pope John Paul II on a number of occasions, including the Jubilee Year 2000.

These moral issues were blatantly ignored by George Bush, Karl Rove, and their supporters in many U.S. churches, including a number of Catholic priests in Ohio who were ready to “excommunicate” Kerry for his position on abortion, but had no compassion for the millions of Africans starving or dying of AIDS as a result of an immoral financial system and its International Monetary Fund conditionalities, no compassion whatsoever for the 50 million Americans without health care, or for elderly people deprived of the flu vaccine. One wonders

whether Bush, who claims God voted for him, or some of the Catholic priests who invited their parishes to vote for him, ever read any of the encyclical letters mentioned in the Vatican document as the basis for the social doctrine of the Church, starting with *Rerum Novarum* of Pope Leo XIII (1892), *Quadragesimo Anno*, issued by Pope Pius XI 40 years after *Rerum Novarum*, in the midst of the economic depression of 1929, up to *Pacem in Terris (Peace on Earth)* by Pope John XXIII, and to the already mentioned encyclical letters *Populorum Progressio* by Pope Paul VI and *Centesimus Annus* and *Sollicitudo Rei Socialis* by the present Pope. One wonders actually if they ever read the Gospel, and, as LaRouche said in a number of radio interviews after the election, “what God are they actually praying to, if any.”

As a former Italian Premier of the Catholic party in Italy told *EIR* ten days before the election, “The position of the Pope on this war is very clear, it is that of Mother Teresa of Calcutta, that war is wrong under any circumstance and you do not remedy a wrongdoing with a worse one. It is not surprising that when President Bush was received by the Pope in Rome, his National Security Advisor, Condoleezza Rice, refused to come with him.”

New, Just Economic Order

One of the key aspects of the social doctrine of the Church is its invitation to intervene in defense of the Common

Good, of peace, and of social strata hit by the economic crisis. A few years ago, Pope John Paul II summoned the heads of the three main Italian trade unions to the Vatican, to invite them to “fight for a new, more just economic order.” Since the beginning of the war in Iraq, he has repeated every Sunday, in St. Peter’s Square, his call to all heads of state to put an end to violence, and to launch an urgent initiative for peace in Iraq, and peace between Israel and Palestine.

The Pope and the Vatican have been also constantly intervening on the urgent moral issue of a new economic and financial system, At a conference on “moral orientation in credit and finance” organized in Milan on Nov. 24, 2003, by the Association for Development of the Study of Banking and the Market, Cardinal Dionigi Tettamanzi, Archbishop of Milan, answered my question on whether Italy could play a role in pushing for a new financial and economic system, a New Bretton Woods, saying, “Not only could Italy do it, but it should do it.” One can only hope that true Christians and “people of good will,” as Cardinal Martino said in his press conference, reading the summary of the Social Doctrine of the Church, will learn what the true moral issues are facing the world, and the present U.S. Administration, and act accordingly, finally accepting the idea that this financial system and this war are truly immoral.

—Liliana Gorini

from the *Compendium of the Social Doctrine of the Church*

The Economic Life

from Chapter Seven:

II. Morality and Economics

330. The social doctrine of the Church insists on the moral connotation of economics. . . .

332. The moral dimension of economics considers as inseparable aims, not as opposed and alternative aims, economic efficiency and the promo-

tion of a development of humanity inspired by solidarity. Morality does not conflict with economics, nor is it neutral: If it is inspired by justice and solidarity, it constitutes a factor of social efficiency of economics itself . . . in order to fight, in the spirit of justice and charity, wherever they exist, those “structures of sin” (John Paul II: *Sollicitudo Rei Socialis*), which generate and maintain poverty,

underdevelopment, and degradation. Such structures are built and consolidated on many concrete acts of human egoism.

IV: Economic institutions at the service of Man

349. The idea that one can assign to the market the supply of all categories of goods cannot be shared, since it is based on a reduced vision of

the person and of society. In front of a concrete risk of “idolatry” of the market, the social doctrine of the Church emphasizes the limit, which can easily be seen in its inability to satisfy important human needs, for which goods are needed “which, by their nature, are not, nor can they be just commodities” (John Paul II, *Centesimus Annus*).

V: *Res Novae in economics*

a) **Globalization: opportunities and risks**

364. The social doctrine emphasized more than once the imbalances of an international trade system which, as a result of protectionist policies, discriminates products coming from poor countries and hinders the growth of industrial activities and the transfer of technology to such countries. The continued deterioration in terms of exchange of raw materials and the worsening gap between rich and poor countries induced the Teaching of the Church to keep in mind the importance of ethical criteria which should orient economic relations: to promote the Common Good and the universal distribution of wealth. . . . Otherwise, “the poor remain all the time poor, while the rich become richer” (Pope Paul VI: *Populorum Progressio*).

b) **The international financial system**

368. The development of financial markets, whose transactions in volume go way beyond real ones, risks to follow a self-feeding logic, without any connection with the real economic base.

369. An economy based only on financial gain deprives itself from its own roots and from its original aim, which should be that of serving the real economy and should be, ultimately, the development of people and human communities. The economic picture becomes all the more dramatic if one considers the asymmetry characterizing the international

financial system: innovative processes and the deregulation of financial markets tend to develop only in some parts of the globe. This raises serious ethical questions, because the countries which are excluded from such processes, even if they are excluded from any benefit from such financial products, are not safe from the negative consequences of financial instability on their real economic systems, particularly if they are fragile and late in developing (Pope John Paul II, speech at the Pontifical Academy of Social Sciences, April 25, 1997).

371. The more the world economic and financial system reaches elevated levels of organizing and functional complexity, the more it faces the priority task of regulating such processes, aiming them at achieving the Common Good of the human family. Concretely this implies the urgency that, in addition to nation states, also the international community assumes this delicate function, adopting suitable political and juridical instruments. It is therefore indispensable that the international economic and financial institutions identify the most appropriate institutional solutions and work out the best action strategies in order to achieve a change, since otherwise, if things were left to themselves, this would provoke dramatic results hitting in particular the weakest and most defenseless layers of the world population.

c) **Foreign debt**

450. The right to development must be kept in mind in dealing with the debt crisis of many poor countries. This crisis has many and complex causes, both international—flexible exchange rates, financial speculation, economic neocolonialism—and inside the indebted countries themselves—corruption, bad management of public money, and distorted use of loans. The biggest suffering, provoked by structural questions but also by personal behaviors, hits the population of indebted and poor countries, who

have no responsibility for these conditions. The international community cannot overlook such a situation: even if it states the principle that debts must be honored, it must find a way not to compromise “the fundamental right of peoples to a decent standard of living and progress” (Pope John Paul II, *Centesimus Annus*).

Promoting Peace from Chapter Eleven

III. *The Failure of Peace: War*

497. The Teaching of the Church condemns “the incredible nature of war” and demands that it be considered with a totally new approach: in fact “it is almost impossible to think that in the atomic era war can be used as an instrument of justice” (Pope John XXIII, *Pacem in Terris*). War is a “calamity” and it never represents the right way to solve problems arising among Nations. “It never was and it never will be,” because it generates more and more complex conflicts. When it explodes, war becomes a “useless massacre” and an “adventure with no return” which compromises the present and jeopardizes the future of humanity.

498. The search for alternative solutions to war in order to solve international conflicts assumes today a character of dramatic urgency, because of “the terrifying power of means of destruction.” It is therefore essential to look for the causes starting a war, first of all those connected to situations of injustice, poverty, and exploitation, which have to be removed in the first place. “This is why development is the new name for peace. As there is a collective responsibility to avoid war, there is also a collective responsibility to promote development” (Pope John Paul II, *Centesimus Annus*).

501. . . . As to pre-emptive war, launched without any evidence that an aggression is upcoming, it cannot but raise serious questions from the moral and juridical standpoint.

Part 1

Bernhard Riemann's 'Dirichlet's Principle'

In his revolutionary essay of 1857, *Theory of Abelian Functions*, Bernhard Riemann brought to light the deeper epistemological significance of the complex domain, through a new and bold application of a principle of physical action which he called "Dirichlet's Principle." Riemann's approach, combined with what he enunciated in his habilitation dissertation of 1854, not only ushered in a revolution in scientific thinking: it ignited a counter-reaction as fierce as the one launched, for the same reasons, against Nicolaus Cusa, Kepler, Fermat, and Leibniz by the Venetian-British-controlled empiricist school of Galileo, Newton, Euler, and Lagrange, a counter-reaction that continues to rage to this day, with implications that reach far beyond the specific setting of Riemann's 1857 paper. Despite the volumes that have been written on this subject, from Riemann's time to ours, an honest examination of the history of the matter reveals that, just as Gauss demonstrated the fraud of Euler, Lagrange, and d'Alembert in his 1799 proof of the Fundamental Theorem of algebra, Riemann was right, and

his critics, like today's Straussian controllers of Bush and Cheney, were malevolent frauds.

We cannot know for sure whether, when Riemann chose to call this method an application of "Dirichlet's Principle," he expected to provoke the reaction he received, or if he was merely stating what would have been obvious to anyone within the extended network of Abraham Kästner's students. Nevertheless, it is fortunate for us that he used that name, as it enables us to fairly accurately reconstruct, not only the scientific origins of Riemann's thought, but the historical-political process from which it arose.

Enter Lejeune Dirichlet

Johann Peter Gustav Lejeune Dirichlet was a pivotal figure in early Nineteenth-century science. Born in 1805 to a family of Belgian origin living near Aachen, his early education took place in Bonn. At the age of 16, with a copy of Gauss's *Disquisitiones Arithmeticae* under his arm, he went to Paris to audit lectures at the College de France and the Faculté des Sciences. After a year, Dirichlet became employed as a tutor by General Maximilien Sebastien Foy, a republican member of the Chamber of Deputies, who introduced him to Alexander von Humboldt. After Foy's death in 1825, von Humboldt recruited Dirichlet to return to Germany, arranged for him to get a degree (even though Dirichlet refused to speak Latin), and eventually succeeded in obtaining for him a professorship at the University of Berlin. There, in addition to meeting, and marrying, Moses Mendelssohn's granddaughter Rebecca (a sister of the composer Felix Mendelssohn—see Part 2), Dirichlet developed a fruitful collaboration with Karl Jacobi and Jakob Steiner, including touring Italy with both in 1843 under Alexander von



Lejeune Dirichlet

Humboldt's sponsorship.

In 1847, Riemann arrived in Berlin to study with Dirichlet, Jacobi, and Steiner, having spent the previous two years studying with Gauss. In 1849 he returned to Göttingen to complete his studies, and in 1851, under Gauss's direction, published his doctoral dissertation, "The Foundations for a General Theory of Functions of a Complex Variable Magnitude," in which he for the first time applied his principle, without mention of Dirichlet. When Gauss died in 1855, Dirichlet was appointed his successor, bringing himself back into contact with Riemann, who had received permission to teach just seven months earlier, after delivering his habilitation lecture, "On the Hypotheses Which Lie at the Foundations of Geometry." In 1857, Riemann published the *Theory of Abelian Functions*, in which, for the first time, he identified as "Dirichlet's Principle," the principle on which his new theories were based. Dirichlet died two years later, and Riemann, now 33 years old, was

Part 1 of this Pedagogical Exercise first appeared in December 1998.



Bernhard Riemann

Prints and Photographs Division, Library of Congress

appointed to Dirichlet's chair, a position he held until his own premature death only seven years later.

The Potential

What Riemann called "Dirichlet's Principle," arose out of Gauss's application of the complex domain to his investigations in geodesy and terrestrial magnetism, the former organized in collaboration with Heinrich Schumacher beginning in 1818, and the latter initiated by Alexander von Humboldt in 1832. Both projects had enormous practical benefits. Each produced detailed maps of their respective physical effects, which were vital for infrastructure development, and Humboldt's project organized, for the first time, an international collaborative network of scientists that would have an impact on the development of the physical economy from the Americas to Eurasia for generations. But, Gauss recognized that both projects posed deeper epistemological questions for science. Writing in his *General Theory of Earth Magnetism* in 1839, Gauss said that a complete and accurate map of the observations was not, in itself, a proper goal for science, since "one has only the cornerstone, not the building, as long as one has not subjugated the appearances to an underlying principle." Citing the case of astronomy as an example, Gauss said that mapping the observations of the apparent motions of the heavenly bodies onto the celestial sphere, was just a beginning: Only once the underlying principle of gravitation was discovered, could the actual orbits of the planets be determined.

Gauss recognized that the first step in both geodesy and geomagnetism was the measurement of changes in the effects both phenomena had on the measuring instruments. In the case of geodesy, this meant changes in the direction of a plumb bob, or plane level, as those changes were mapped onto the celestial sphere. The case of geomagnetism is more complicated. Here, changes in the direction of a compass needle were being measured, with respect to three directions and time. The general question was: What is the characteristic nature of the principle of gravitation, or geomagnetism, that would produce

these apparent effects? The specific task was: How, from these infinitesimally small, measured changes in the apparent effects, can that general characteristic be determined?

It is the second question which brings us more directly into contact with what Riemann called "Dirichlet's Principle." However, the task of understanding "Dirichlet's Principle" will be made much easier, if we first look at the elementary, but congruent case of the catenary.

The relevant focus for this discussion is the devastating rebuke which Leibniz and Bernoulli delivered to Galileo and Newton over the case of the catenary. Galileo had insisted that all that needed, or could, be known about the catenary, was a description of its visible shape. On the other hand, Leibniz and Bernoulli insisted that the shape of the catenary was merely the visible effect of an underlying physical principle, and that the correct shape could not be determined until the underlying principle was known. As has been developed in previous Pedagogical Exercises,¹ Leibniz and Bernoulli determined the characteristic nature of that principle, by first determining the changing physical effect of that principle in the infinitesimally small, and then, by inversion, the overall characteristic of the principle. The result was Leibniz's discovery that

the shape of the hanging chain reflected the least-action effect of the principle of universal gravitation, and that this effect could be expressed geometrically as the arithmetic mean between two contrariwise exponential functions.²

It is of extreme importance to emphasize that we are speaking here of the physical hanging chain, and not a formal mathematical expression. In a formal mathematical expression, the exponential curves have no boundary. But the physical hanging chain does—the positions of the hanging points; consequently, the specific shape of the chain is determined by the positions of the hanging points relative to the weight and length of the chain. If the positions of the hanging points change, the position of every link in the chain also changes, albeit always in accordance with the relationship cited above. In other words, as the boundary conditions of the physical chain change, so does the specific path of the chain, *but that path's general form, required by the principle of least-action, is always a catenary*. It will never become a parabola or any other curve [SEE Figure 1].

This example illustrates an aspect of the method that Leibniz originally called "*analysis situs*"—or what Gauss and Carnot later called "geometry of position"—that is relevant to an understanding of Riemann's "Dirichlet's Principle." The positions of the individual

links in the chain are a function of the relationship of the boundary conditions (positions of the hanging points, relative to the length of the chain) to the characteristic curvature of the principle of gravitation, and not by pair-wise relationships among the links themselves. In other words, the position of any individual link is not determined by a distance to the right or left, and a distance up or down, from its neighbors, as the Cartesians and Newtonians would insist. Rather, the position of each link is a function of the characteristic of change of the physical action as a whole. Any

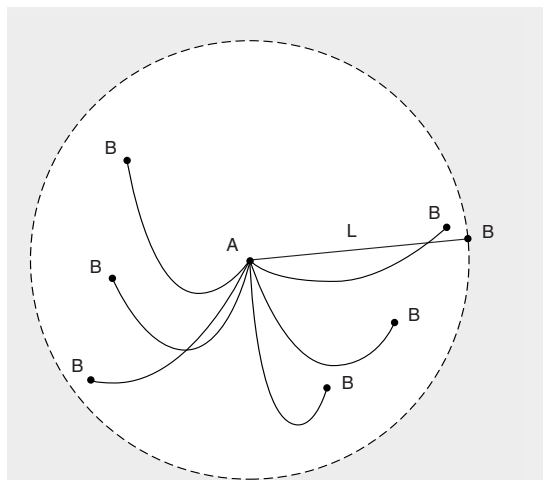


FIGURE 1. Various catenaries generated by changing the position of hanging point B.



EIRNS/Stuart Lewis

FIGURE 2. A catenoid formed by a soap film suspended between two circles.

change in the boundary conditions, changes the position of every link, as a whole in conformity with the least-action principle of the catenary. Thus, the effect in the visible domain of the unseen physical principle, is expressed by the characteristic of change demanded by the principle of least-action. This is what determines the specific positions of the links. In other words, *position* is a function of *change*.

Gauss recognized that the principles underlying geodesy and geomagnetism could be understood by an extension of Leibniz's method. He rejected the popularly accepted, but provably false

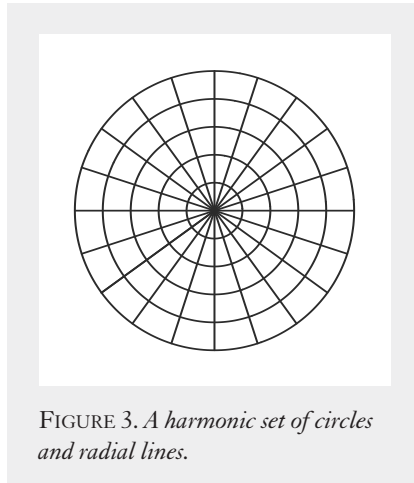


FIGURE 3. A harmonic set of circles and radial lines.

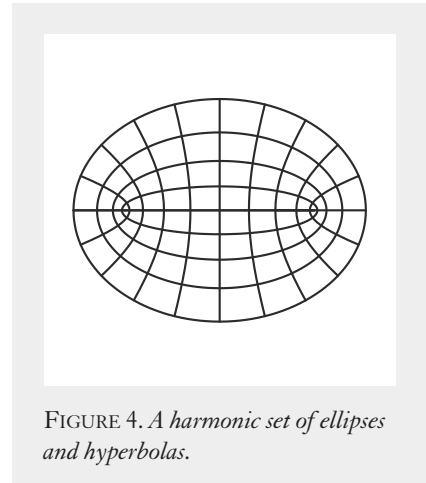


FIGURE 4. A harmonic set of ellipses and hyperbolas.

method of Newton, which attempted to explain these phenomena as resulting from the pair-wise interaction of material bodies, according to the algebraic formula of the inverse square.³ Instead, Gauss insisted that these phenomena, as in the case of the catenary, must be understood as a unified process, in which the local variations in the position of the plumb bob or compass needle were a function of the characteristic of the principle governing the phenomenon as a whole. That whole, Gauss called "the potential," which is the Latin equivalent of the Greek "*dynamis*," or Leibniz's "*kraft*" (or Latin "*vis viva*"). Gauss invented the idea of a "potential function," to express the least-action effect of the physical principle over an area or volume, in a similar, but extended manner to that used by Leibniz to express the effect of gravity in producing the curvature of the hanging chain.

To accomplish this, Gauss extended Leibniz's idea of a function, into the complex domain.

This transformed Leibniz's functions—which characterized a single minimal pathway—into Gauss's "potential function," which characterized a whole class of minimal pathways: in effect, a function of functions. In other words, if Leibniz's catenary is understood to be a minimal pathway determined by one set of two functions, Gauss's potential function takes the next step, to a function that unifies two (or more) sets of functions. Riemann would later show that these sets of minimal pathways implicitly define minimal surfaces, as, for example, the catenoid formed by a soap film suspended between two circular rings [SEE Figure 2].

These sets of functions are not arbitrary. They are related by a special type

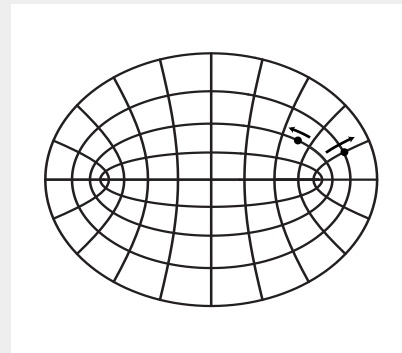
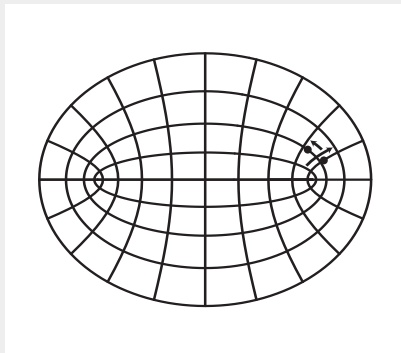
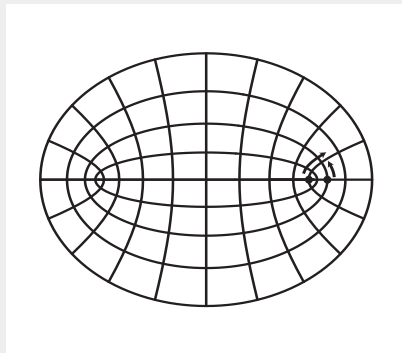


FIGURE 5. The rate of change of the curvature of corresponding orthogonal ellipses and hyperbolas is always equal.

of relationship, called by the descriptive names “spherical” or “harmonic” functions. A spherical or harmonic function is a set of orthogonal functions, all of whose curvatures are changing at the same rate.

This can most easily be illustrated pedagogically with some geometric examples. A set of concentric circles and radial lines composes an harmonic function, because both the circles and the radial lines intersect orthogonally, and both have constant curvature [SEE Figure 3]. A more illustrative example is a set of orthogonal ellipses and hyperbolas [SEE Figure 4]. To get an intuitive grasp of their harmonic relationship, think through the following. Each ellipse is associated with a confocal orthogonal hyperbola. Beginning at the point where both curves meet the axis, create in your mind a connected action that moves simultaneously on both curves [SEE Figure 5]. Note that, as the curvature on the hyperbola becomes less curved, so does the curvature on the corresponding ellipse, and at the same rate.

Thus, harmonic functions relate two sets of different curves, such that the rate of change of their respective curvatures is always equal. (We could calculate this relationship precisely using Leibniz’s calculus, but an intuitive understanding is sufficient for present purposes.)

Furthermore, a set of harmonic functions need not be of familiar curves, such as circles, lines, ellipses, or hyperbolas. In fact, very complicated sets of functions can be harmonic [SEE Figure 6].

By contrast, a set of circles and hyperbolas is not harmonic, because the curvature of the circle is constant, while the curvature of the hyperbola is changing. Consequently, the two sets of these curves are not orthogonal [SEE Figure 7].

Gauss recognized that Leibniz’s principle of least-action with respect to the surfaces and volumes encountered in phenomena like terrestrial gravitation and magnetism, could be expressed by harmonic functions. One set of curves of the harmonic function expressed the pathways of minimal change in the potential for action, while the other, orthogonal curves expressed the pathways of maximum change in the poten-

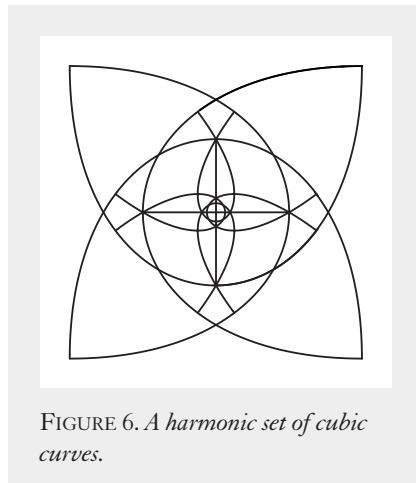


FIGURE 6. A harmonic set of cubic curves.

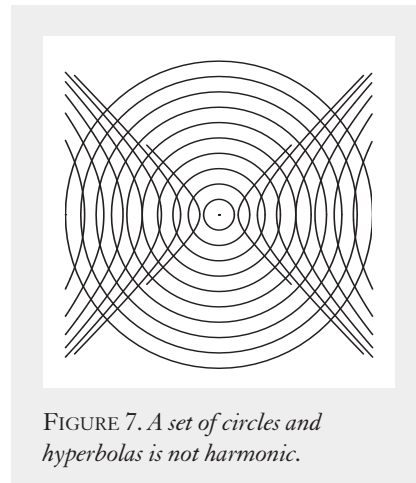


FIGURE 7. A set of circles and hyperbolas is not harmonic.

tial for action. For example, if the Earth were perfectly spherical, its minimum and maximum of potential action could be expressed by a series of concentric spherical shells and orthogonal planes. A cross-section of such a configuration would be harmonically related circles and radial lines. If the Earth were perfectly ellipsoidal, its potential would be expressed by a set of triply orthogonal ellipsoids and hyperboloids whose cross section would be the harmonically related set of ellipses and hyperbolas illustrated in Figure 4.

But, as Gauss emphasized, the shape of the Earth is much more complicated than a sphere or an ellipsoid, with respect to both gravity and magnetism, and the pathways of minimal and maximal potential for action are not such simple and well-known curves as circles, lines, ellipses, or hyperbolas. Thus, a more complex harmonic function must be found, to express these principles. Such a function could not be determined *a priori*, but only from the measured changes in the effect of the Earth’s gravity or magnetism.

The question for Gauss was: How to determine the true physical shape of the Earth, or the characteristic of the Earth’s magnetism, from the measured, infinitesimally small changes in its potential obtained by his geodetic and magnetic measurements?

This begins to get us closer to a first approximation of what Riemann called “Dirichlet’s Principle.”

To make a precise determination of

the Earth’s surface, or magnetic effect, as Gauss did, is quite complicated, but the principle on which his method was based is within the scope of this Pedagogy. If one recognizes, as Gauss did, that changes in the direction of the plumb bob are measuring changes in direction of the potential function, then the physical shape of the Earth has the same relationship to this potential, as the hanging points have to the catenary. In other words, the surface of the Earth must be understood as merely the boundary of the potential, or, as Gauss put it, “the physical surface of the Earth is, in a geometric sense, the surface that is everywhere perpendicular to the pull of gravity.”

A reference to the ancient Pythagorean problem of doubling the line, square, or cube, can shed some light on this idea. The line is bounded by points, the square by lines, and the cube by squares. The size and position of these boundaries is determined by the length, area, or volume they enclose. For example, it is the square that determines the size and position of its sides, even though it is the latter that you see, and the former that you don’t. The sides of the square are lines, but they are produced by a different power (potential), than the lines produced from other lines. Similarly, the size and position of the squares that form the boundaries of a cube are produced by a different power (potential), than the squares formed by the diagonal of another square. Thus, even though the power can not be seen, it can be measured by its unique, characteristic

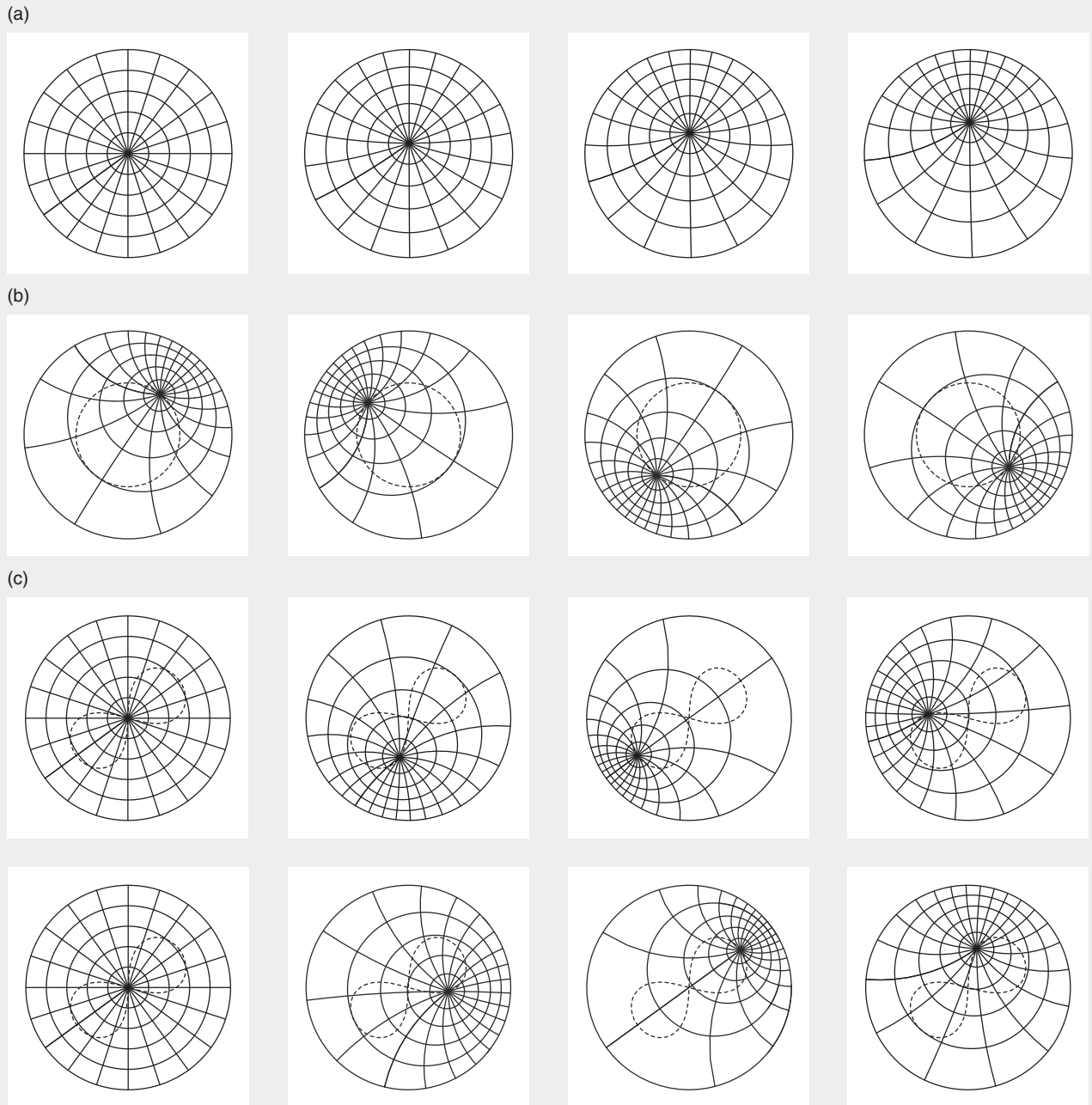


FIGURE 8. Transformation of harmonic sets of circles and radial lines. (a) The point of intersection of the radial lines moves in a straight line upward. (b) The point of intersection of the radial lines moves in a circle. (c) The point of intersection of the radial lines moves along the path of a lemniscate.

effect on the boundaries of its action.

Now, apply this same method of thought to the physical principles discussed above. The catenary is a curve whose boundaries are points. A catenoid is a surface whose boundaries are curves. The surface of the Earth is the boundary of a gravitational volume. The magnetic

effect of the Earth is still more complicated, and will be taken up in more detail in a future Pedagogical.

This connected relationship between the boundary conditions of a physical process, and the expression of the principle of least-action with respect to that physical process, is the relationship to

which Riemann is referring when he speaks of “Dirichlet’s Principle.”

From Gauss, to Dirichlet, to Riemann

After succeeding Gauss in 1855, Dirichlet began lecturing on Gauss’s potential theory at Göttingen, while Riemann was preparing his *Theory of Abelian Functions*.

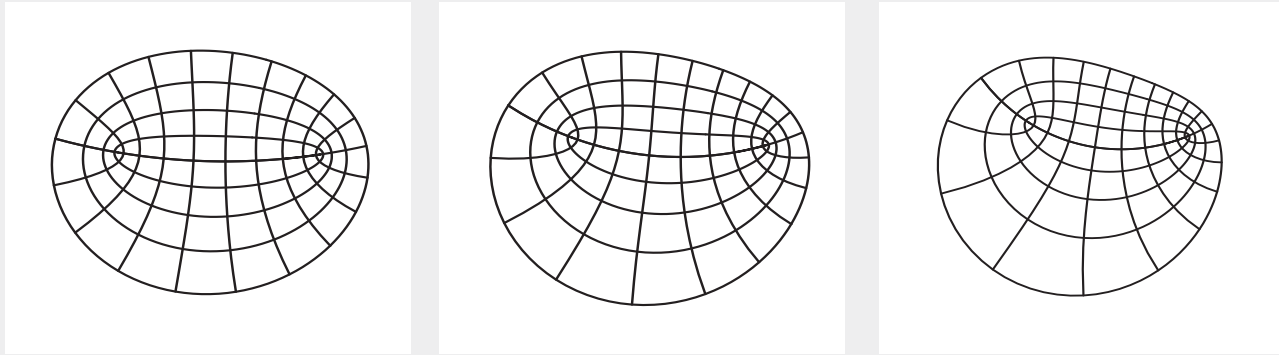


FIGURE 9. *The focal points of harmonically related ellipses and hyperbolas move along the path of a circle.*

What Gauss, Dirichlet, and Riemann all recognized was, that complex functions, as the extension of Leibniz's concept of the catenary and natural logarithms, were uniquely suited to express the least-action pathways of potential functions.

Gauss had already demonstrated this in his 1799 proof of the Fundamental Theorem of algebra, where he showed that a complex algebraic expression produces two surfaces whose curvatures are harmonically related. What Riemann attributed to Dirichlet, was the principle that, given a certain boundary condition, the function that minimizes the action within it is a complex harmonic function.

Warm up to this idea on the familiar territory of the catenary. The boundary conditions here are the positions of the hanging points. The "interior" of this boundary is the curve itself. Within the curve there is a singular point—the lowest point. If the boundary conditions change, by changing the positions of the hanging points, so does the position of the lowest point. To state Dirichlet's principle in this simplified context, the catenary is the least-action pathway of a hanging chain with these specified boundary conditions and singularity. If the boundary conditions change, the shape of the curve changes correspondingly, in accordance with the preservation of the principle of least-action.

Riemann inverted Dirichlet's principle: *Since the physical principle of least-action is primary, the positions of the hanging points and the lowest point completely determine the shape of the chain!*

Now, make this same investigation

with respect to a catenoid formed by a soap film between two circular rings. This catenoid is a physical least-action, or minimal surface. Embedded in this surface is an orthogonal set of curves of minimal and maximal action. (Riemann later showed that these curves are harmonically related.) Experiment by changing the shape of these boundaries from circles, to ellipses, to irregular smooth shapes, to polygons. When you change the position or shape of the boundaries of this surface, the shape of the surface and the embedded curves change accordingly, but the least-action principle is preserved.

Now, generalize this idea with some other pedagogical examples, illustrated in the following figures derived from computer animations. In Figure 8 we see a set of harmonically related circles and radial lines that intersect at the center of the circles, being transformed while maintaining their harmonic relationship. If the position of that intersection point changes, the radial lines must be transformed into circular arcs, and their end-points move along the boundary in order to maintain their harmonic relationship. This effect is shown as the point of intersection moves, first away from the center [Figure 8(a)], then in a circular path around the center [Figure 8(b)], and then on the path of a lemniscate [Figure 8(c)]. This motion causes all positions inside the boundary to change *as a whole*. What doesn't change is the harmonic, i.e., least-action, relationship.

This could also be thought of inversely: That the changes in position of the intersection of the radial lines at

the boundary, cause their point of intersection to move in a circular arc, and their form to change from lines to circular arcs.

Or, infinitesimally small changes in the curvature of the pathways are determined by the conditions at the boundary with respect to the position of the singularity.

Compare this action with the change in the position of the lowest point of the catenary as the positions of the hanging points change, as illustrated in Figure 1.

There, a change in the boundary points produced a change along a single curve. Here, a change in the boundary curve produces a change in a set of harmonically related curves within a surface.

Compare this with the problem Gauss confronted in, for example, determining the location of the Earth's magnetic poles from infinitesimally small changes in the Earth's magnetic effect. Gauss understood that those small changes were connected to the position of the singularities, i.e., magnetic poles, of the Earth's magnetic effect. However, the exact location, or even the number of those poles, was still unknown in Gauss's time. On the basis of the measurements obtained by von Humboldt's network, Gauss determined where those poles must be located. The famous American Wilkes Expedition of 1837 was launched, in part, to confirm Gauss's findings, which it did.

In Figure 9, this same effect is illustrated by moving the focal points along the path of a circle. Notice again how this change in the position of the singularity, changes the condition at the

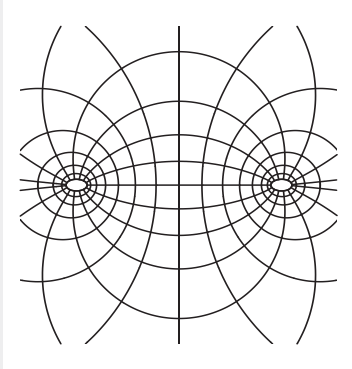


FIGURE 10. A set of doubly periodic harmonic curves typical of harmonic functions. Here, the curves are harmonic with respect to two boundary principles.

boundary, so that all the resulting relationships remain harmonic.

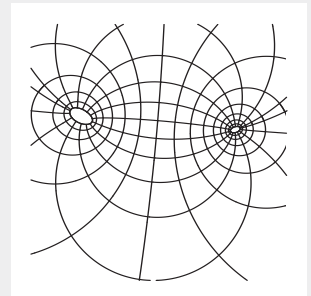
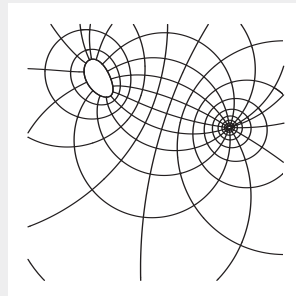
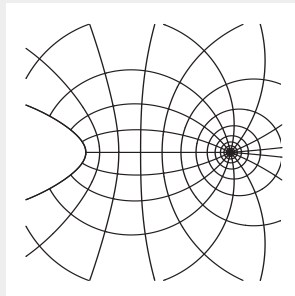
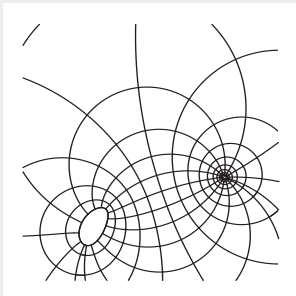
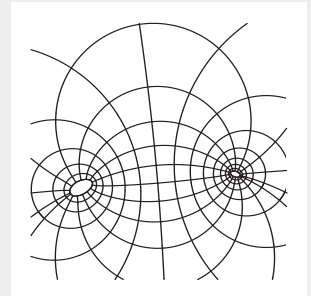
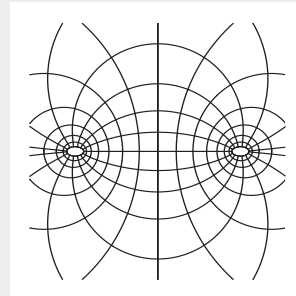
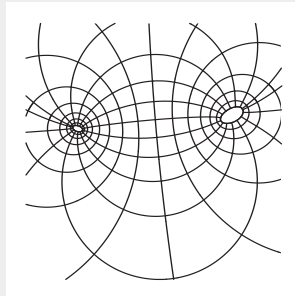
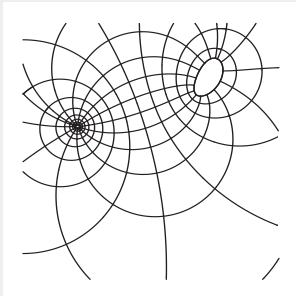
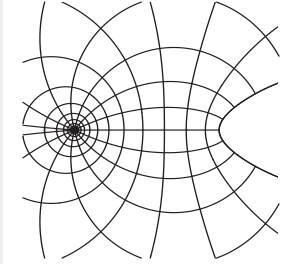
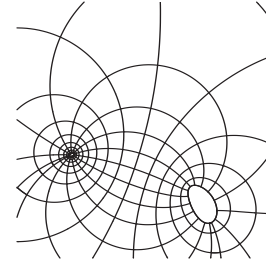
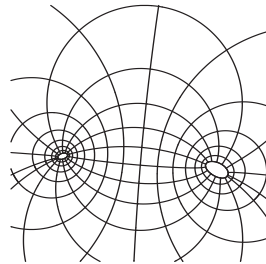
Figure 10 shows the same process, but the shape of the boundary has been changed to an ellipse, which correspondingly changes the shape of the orthogonal curves into hyperbolas, and the intersection point into two foci. Of course, it could also be said that the radial lines are changed into hyperbolas, which changes the circles into ellipses, and the intersection point into two foci. Or, that the intersection point is changed into two foci, which changes the the boundary into an ellipse, and the radial lines into hyperbolas.

In short: *A physical process of least action is a connected action. Changing any aspect of the process, changes everything else in the process correspondingly, so as to preserve the least-action characteristic of*

the process. It is the physical principle of least-action that is primary.

It was Riemann's genius to recognize, through this application of "Dirichlet's Principle," that the principle of least-action of a physical process could be understood completely by the relationship between the boundary conditions and the singularities, and that this relationship could be expressed uniquely by Riemann's geometric concept of complex functions. Moreover, Riemann showed that the characteristic of least-action of a physical process could be changed, in a fundamental way, only by the addition of a new principle. That change in principle is expressed in a complex function, as a corresponding increase in the number of singularities. In his *Theory of Abelian Functions*, Riemann demonstrated this by applying "Dirichlet's Principle" to the

FIGURE 11. Both boundary conditions of a set of doubly periodic harmonic curves undergo a transformation.



higher, transcendental functions of Abel.

The deeper significance of this discovery can only be hinted at in this installment, and will be taken up in more depth later, but it can be illustrated by the animation illustrated in Figure 11, which expresses the principle of least-action with respect to an elliptical function. Riemann demonstrated that all elliptical functions, being functions formed by the interaction of two connected principles, are expressed in the complex domain as surfaces with two boundaries (these boundaries are marked in green) [SEE inside front cover]. Each boundary changes differently, but connectedly, with the other, causing corresponding changes in the minimal pathways, while at all times maintaining the overall harmonic relationship of the function. In other words, the characteristic curvature of these least-action pathways is determined, in this case, by the connected interaction of two distinct principles.

A comparison of this to the previous examples indicates what Riemann emphasized: That the only way to fundamentally change the characteristic of action of a physical process, is by the addition of the action of a new principle. This more advanced question will be investigated more thoroughly in future Pedagogicals.

A suggestive example from econom-

ics can help illustrate this principle. What is the relationship between all physical-economic relationships, and the economic boundary conditions of physical infrastructure and cultural development? What is the relationship between these boundary conditions, and the singularities represented by the introduction of new technologies? What is the effect on all economic relationships, of a change, positive or negative, in these physical-economic boundary conditions?

Four years after Riemann's death, Karl Weierstrass criticized Riemann's application of "Dirichlet's Principle" on formal mathematical grounds. Weierstrass contended that it was inappropriate to speak mathematically of least-action, unless a formal mathematical proof could be presented proving that a mathematical minimum, or maximum, existed. While it is possible to produce a formal mathematical example which has no minimum, all *physical* processes are characterized by bounded least-action. For example, as Nicolaus of Cusa showed, there is no absolute maximum or absolute minimum polygon, because the polygon is bounded maximally by a circle (which is not a polygon) and minimally by a line (which is also not a polygon). Or, while a mathematical catenary can be extended

into infinity, the physical catenary is always bounded by the hanging points. For Riemann, as for Gauss and Dirichlet, Weierstrass's demand for a formal mathematical proof of a minimum, was less than unnecessary: It was a sophistry. The universal physical principle of least-action was sufficient to supply the proof.

Weierstrass's critique was seized upon by the formalists, who were desperate to roll back the achievements of Kästner, Gauss, Dirichlet, Jacobi, Abel, Riemann, *et al.*, and return science to the slavish days of Euler, Lagrange, and d'Alembert. Consequently, while the form of Riemann's discoveries has been widely discussed, the substance of his thinking has by and large been suppressed, until it found new life in the more advanced discoveries of Lyndon LaRouche.

—Bruce Director

1. See, e.g., Bruce Director, "The Long Life of the Catenary: From Brunelleschi to LaRouche," *Fidelio*, Spring 2003 (Vol. XII, No. 1).
2. See G.W. Leibniz, "Two Papers on the Catenary Curve and Logarithmic Curve (*Acta Eruditorum*, 1691)," trans. by Pierre Beaudry, *Fidelio*, Spring 2001 (Vol. X, No. 1).
3. See Bruce Director, *Riemann for Anti-Dummies*, Part 53: "Look to the Potential," Dec. 21, 2003 (unpublished).

Part 2

Lejeune Dirichlet and the Mendelssohn Youth Movement

When Lejeune Dirichlet, at 23 years of age, worked with Alexander von Humboldt to make microscopic measurements of the motions of a suspended bar magnet in a specially-built hut in Abraham Mendelssohn's garden, he could hear, in the nearby summer house, the Mendelssohn youth movement work through the voicing of J.S. Bach's *St. Matthew Passion*. Felix and Fanny Mendelssohn, brother and sister aged 19 and 23, respectively, were the

leaders of a group of 16 friends who would meet every Saturday night in 1828 to explore this "dead" work, unperformed since its debut a century earlier by Bach.¹

The two simultaneous projects in the Mendelssohn garden at Berlin's 3 Leipziger Strasse are a beautiful example of Plato's Classical education necessary for the leaders of a republic: The astronomer's eyes and the musician's ears worked in counterpoint, for the

higher purpose of uniquely posing to the human mind, *how the mind itself worked*. As described in the *Republic*, Book 7, the paradoxes of each "field"—paradoxes (such as the "diabolus") that, considered separately, tied up in knots the "professionals" of each—taken together would triangulate, as it were, for the future statesman, the type of problems uniquely designed to properly exercise the human mind. After all, such a mind would have to master more than astron-

omy and music, simply to bring before it a series of paradoxes, so as to be made capable of dealing with the much more complicated affairs of a human society. To oversimplify: Since the mind does not come equipped with a training manual, the Composer of the universe created the harmonies of the heavens and of music, as, for example, a mobile above a baby's crib.

In that hut, Dirichlet would be taking measurements as part of making a geomagnetic map of the Earth. The audacity in thinking that these miniscule motions of the suspended bar magnet could capture such unseen properties, posed certain appropriate questions to Dirichlet. (Gauss's geodetic surveying a decade earlier was paradigmatic of the sort of project that mined such riches out of the ostensibly simple affair of determining where one actually was! But this also applies to locating oneself in the process of a proper daily political-intelligence briefing.) Similarly, the 16 youths working to solve amongst themselves the complicated inter-relationships of Bach's setting of the Passion story as related by St. Matthew, would have been forced to grapple with the scientific problem of ascertaining what our Maker would have in store for us, in their attempt to map their own souls. (Just for starters in their "performance" questions: How does Jesus intone what he says? How does the chorus/audience respond to Jesus, and sometimes to each other? etc.) The following historical sketch is offered as a few measurements, but instead of using a suspended magnetic bar, we will use a few years of Dirichlet's life, and thereby try to triangulate some of the important characteristics for a map of the culture that created the world which we are challenged to master today.

Humboldts and Mendelssohns

Dirichlet's patron, Alexander von Humboldt, along with his brother Wilhelm, had studied in the 1780's with a host of pro-American Revolution leaders in Europe, notably including the Mendelssohns' famous grandfather, Moses. (Those studies can be investigated by reading Moses Mendelssohn's Leibnizian work, *Morgenstunden*, or



Fanny Mendelssohn

Morning-Studies, which describe the lessons that he gave to his son Joseph, and to the young Humboldt brothers.) Later, two of Moses's sons, Joseph and Abraham, ran the Mendelssohn Bank, which financed many of Alexander von Humboldt's scientific expeditions and projects. Abraham Mendelssohn, the father of Fanny, Felix, Rebecca, and Paul, had constructed, in his garden at 3 Leipziger Strasse, a special magnetically neutral observation hut for Humboldt to measure minute magnetic fluctuations. Humboldt brought Dirichlet to Berlin in 1828, where he was one of a five- or six-man team that shared observational duties with Humboldt, in their mapping of the actual geomagnetic shape and potential of the Earth.

In 1827-28, Humboldt gave public lectures at the Singakademie Hall on physical geography—unusually, open to both men and women. Fanny Mendelssohn described in a letter to her friend Klingemann: "[T]he course is infinitely interesting. Gentlemen may laugh at us as much as they will; it is wonderful in this day and age for us to have an opportunity to hear something sensible, for once. I must further inform you that we are attending a second lecture series, given by a foreigner on experimental physics. This course, too, is being attended mainly by women."²

Humboldt's public lectures were an extension of his instruction at Berlin's famous Friedrich Wilhelm University,



Felix Mendelssohn

which had been established in the previous decade by his brother Wilhelm. While Felix Mendelssohn attended the University that year, a collaborator of Humboldt at the University, Philip August Boeckh, the great philologist, was living as a tenant in the Mendelssohn home. (Years later, Felix would compose music for the staging of Boeckh's German translation of Sophocles' play, *Antigone*.) Humboldt also organized the Berlin scientific congress of August 1828—a conference that Metternich would find most dangerous. For the several weeks that Gauss stayed at Humboldt's home for the conference, they could discuss the implications of the geodetic and geomagnetic projects. Finally, the representative from England, Charles Babbage, the noted promoter of Leibniz's analytic methods, against those of Newton and the Newtonians, expressed his delighted amazement at the culturally optimistic Mendelssohn household. It was in such circumstances that Dirichlet entered into the Mendelssohn youth movement.

The Mendelssohn Youth Movement

Fanny reports on the scene in a Dec. 27, 1828 letter to Klingemann: "Christmas-eve was most animated and pleasant. You know that in our house there must always be a sort of 'jeune garde' ['young guard'], and the presence of my brothers and the constant flow of young life exercise an ever attractive influence. I must mention

Dirichlet, professor of mathematics, a very handsome and amiable man, as full of fun and spirits as a student, and very learned." Fanny's sister, and Dirichlet's future wife, Rebecca, was also at that Christmas party. We may assume that some or all of the 16-member "Saturday-night chorus" were there, too.

Fanny's long-time love, Wilhelm Hensel, back in Berlin for two months now, was there. He had just returned from five years of study of Renaissance art in Italy. Wilhelm, now 33, and a talented artist, had fought as a young man in the German Liberation Wars against Napoleon. Now, he had returned to Berlin to win Fanny as his wife (which involved conquering Fanny's mother, Leah). A month later, the engagement was announced.

Fanny also mentions three of the suitors of Rebecca (who would all lose out to Dirichlet):

- Professor Eduard Gans: "We see him very often, and he has a great friendship for Rebecca, upon whom he has even forced a Greek lesson, in which these two learned persons read Plato. It stands to reason that gossip will translate this Platonic union into a real one . . ." Gans had been active in Jewish causes early on, but he converted in 1825, so that he could become a professor.³

- Johann Gustav Droysen, historian and philologist: Although he was only 19 years old, Fanny recognized in him

"a pure, poetic spirit and a healthy amiable mind." Droysen published a translation of Aeschylus, and a famous work on Alexander the Great, both before he was 25.

- Heinrich Heine, poet: "Heine is here. . . . [H]is *Reisebilder* contain[s] delightful things; and though for ten times you may be inclined to despise him, the eleventh time you cannot help confessing that he is a poet, a true poet!" Once, he sent, via his close friend Droysen, his greetings to the 18-year-old Rebecca: "As for chubby Rebecka, yes, please greet her for me too, the dear child she is, so charming and kind, and every pound of her an angel." It seems that Heinrich Heine's brand of courtship of Rebecca was no different from his treatment of everything else in life.

The 'St. Matthew Passion'

Now picture Dirichlet in the observation hut in the garden at 3 Leipziger Strasse. Close by is the summer house, where Felix and Fanny worked out, with four hands at the piano, the voicing and composition of Bach's *St. Matthew Passion*—not performed since Bach premiered it in 1729. In January 1829, soon after Dirichlet had arrived on the scene of the Mendelssohn youth movement, Eduard Devrient and Felix Mendelssohn decided upon an historic March public performance, despite the discouragement of the musical authori-

ties. As described years later by Fanny's son, the appropriately named Sebastian Hensel: "Only just then the most intelligent musical people began to comprehend that something must be done to bring this treasure to daylight, and that this was from a musical point of view the greatest task of the period."

After hiring a hall, with a performance only six weeks away, the chorus swelled from 16 to 400, and the initial group had the "Monge brigade" project of rapidly educating all the newcomers. Fanny described this rare and sublime process: "People were speechless with admiration, and faces grew long with astonishment at the idea that such a work could have existed unbeknownst to them. . . . Once they grasped that fact, they began studying the work with warm and veritable interest. The enthusiasm of the singers, from the first rehearsal on; how they poured their heart and soul into the work; how everyone's love of this music and pleasure in performing it grew with each rehearsal . . . [all this] kept renewing the general wonder and astonishment." This process created "so lively and detailed an interest that all the tickets were sold the day after the announcement of the concert, and they had to refuse entrance to more than a thousand people. . . . [At the concert itself,] I was sitting in the corner [of the massive chorus] so as to see Felix well, and I had arranged the strongest alto voices near me. The choruses were impassioned with extraordinary strength tempered with a touching tenderness, as I had never heard them before. . . . [A] peculiar spirit and general higher interest pervaded the concert, that everybody did his duty to the utmost of his powers, and many did more . . ."

And, after the sublime, the ridiculous: At least one Berliner seemed to remain untouched. After the concert, at a celebratory dinner, Devrient's wife, Therese, sat between Felix and an obnoxious professor, who kept trying to get her drunk: "He clutched my wide lace sleeve in an unrelenting grip . . . to protect it, he said! And would every so often turn toward me; in short, he so



Rebecca Mendelssohn,
drawing by Wilhelm Hensel.

The Granger Collection



Heinrich Heine, 1826/28.

The Granger Collection

plagued me with his gallantries that I leaned over to Felix and asked: 'Tell me, who is this idiot beside me?' Felix held his handkerchief over his mouth for a moment—then he whispered: 'The idiot beside you is the celebrated philosopher Hegel!' ”⁴

Such were the circumstances of Dirichlet's first year in Berlin. Dirichlet and Rebecca Mendelssohn were engaged in 1831, and married in 1832. In Mendelssohn family discussions and debates, they were taken as the most revolutionary of the group. The couple had four children. Rebecca died late in 1858, age 47—evidently of a type of stroke similar to what had felled her older sister Fanny at 43, and brother Felix at 39, a decade earlier. Dirichlet's compromised health declined further, and he followed her to the grave five months later, on May 5, 1859.

A Parallel Story from Paris

When he was 17, Dirichlet was sent to study in Paris, at which time he was studying Gauss's *Disquisitiones Arithmeticae*. According to Sebastian Hensel, Dirichlet was introduced there to General Foy by a republican associate of Dirichlet's parents, one Larchet de Charmont.⁵ Foy employed Dirichlet as a tutor in his household from the summer of 1823 until Foy's death in November 1825. Foy was in France's chamber of deputies, and was the leader of the opposition to the royalist restoration wrought by the 1815 Congress of Vienna. Dirichlet thrived in this environment: "[I]t was very important for his whole life that General Foy's house—frequented by the first notabilities in art and science as well as by the most illustrious members of the chambers—gave him an opportunity of looking on life in a larger field, and of hearing the great political questions discussed that led to the July Revolution of 1830, and created in him such a vivid interest."⁶

The July Revolution of 1830 was led by Lafayette, and was at best a mixed affair. It overthrew the reactionary arrangements of the Congress of Vienna, and set up a tenuous arrangement whereby Louis Philippe, the "Citizen

King," would be a constitutional monarch. Lafayette gambled that this might work, as the "Citizen King" had pledged to be subservient to the written constitution. Two items of note reflect Foy's connections to the 1830 Revolution: In October 1825, a few weeks before his death, Foy had troubled himself to write to Lafayette; and in 1823, Foy had sent from his care Alexandre Dumas to be Foy's agent in the household of Louis Philippe. (The future author was then 21, Dirichlet's senior by three years.) Later, in 1830, Dumas would serve as a captain in Lafayette's National Guard.

Dumas had sought Foy's guidance, as Foy himself had earlier, in the 1790's, looked to Dumas' father, General Alexander Davy Dumas, as his military and political leader. General Dumas was a hero of the French army, who became an early opponent of Napoleon's imperial ambitions. He was part of the 1798 invasion of Egypt, but was imprisoned by Napoleon from 1799 to 1801 for publicly opposing Bonaparte's imperial turn. (Similarly, Beethoven at this time had hopes for Napoleon that he quickly recognized were greatly mistaken.) Afterwards, Napoleon's harsh treatment of General Dumas led to his early death in 1806, at age 44 (when his son was only 4 years old).

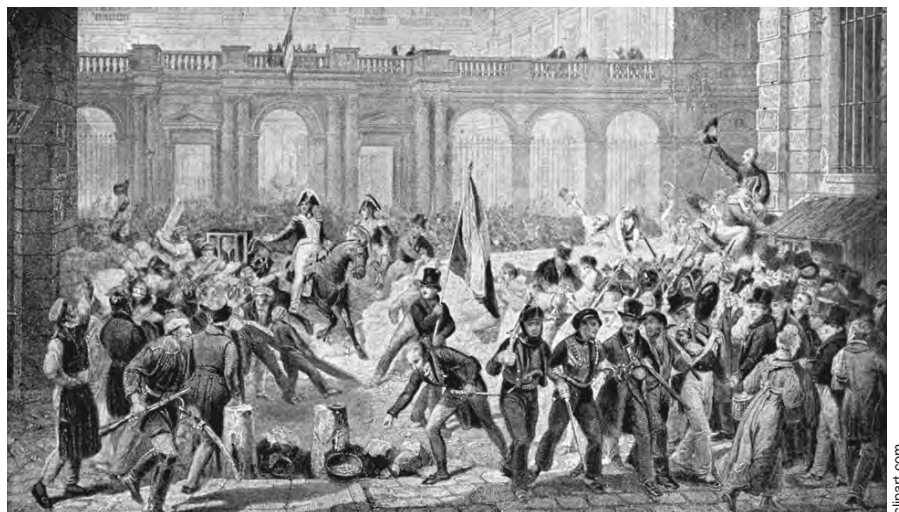
After Foy died in November 1825, there was a competition between

Alexander Humboldt and Joseph Fourier for Dirichlet's services. Fourier, according to Hensel, "tried to avail himself of Larchet de Charmont's influence, to induce him [Dirichlet] to return to Paris, where he felt sure it was his vocation to occupy a high position at the Academy."⁷ Humboldt arranged for Dirichlet, then 21, to teach at Breslau, 1826-28, and then brought him to Berlin in 1828, where he was the professor of Mathematics at the Berlin Military Academy, and where he joined the Mendelssohn youth movement.

Lafayette, Dumas, Galois, Poe, Heine

Alexander von Humboldt returned to Paris in 1830 because of the ripened political situation. Augustin-Louis Cauchy—the Emperor of mathematics—had to flee Paris in July 1830, when his King was deposed. For a short period, Lafayette thought that they could control the new "Citizen King," Louis Philippe. However, within a few months, the financiers moved in to gain the upper hand in running the King. In December 1830, they succeeded in arresting the 19 leaders of Lafayette's republican National Guard, the key defenders of the constitution. Lafayette testified at the March 1831 trial, and the jury found them all not guilty.

At the celebratory dinner for



Paris, the July Revolution of 1830. Lafayette's attempt to establish a constitutional monarchy under Louis Philippe (shown on horseback) proved a failure.

the released “19” were, among others, Lafayette, Dumas, and another brilliant student of Gauss’s work, Evariste Galois. (The latter had been, along with Neils Abel, a victim of Cauchy’s ham-handed skulduggery as head of the French Academy of Science.) At the dinner, Galois evidently made a notorious toast to Louis Philippe’s health, while



Mathematician Evariste Galois

putting his other hand on his sword, and adding that the King had better not fail in his duty to the constitution. Dumas reports that, at that point, several of the attendees, including himself, jumped from the windows of the hall, fearing, accurately, that the spies at the event would bring the police.⁸ Galois was arrested, tried, but, when the jury refused to convict him, released.

He was re-arrested that summer, 1831, by the police prefect, Gisquet, for wearing a republican guard uniform in public. Gisquet avoided the pathway of the unsuccessful trials, and instead kept him in jail until the next spring—when his release, and the set-up of a fatal “duel,” fell hard one upon the other. When Galois’ suspicious death roused a crowd to come to his funeral, and a public accounting was threatened, Gisquet carried out, the night before the funeral, pre-emptive arrests of Galois’ friends.

Which of these events in Galois’ last year, 1831-32, were attended by Edgar Allan Poe, then visiting Paris, is unclear,

but clearly Poe’s “The Purloined Letter” skewers Gisquet (the “prefect G—”), and, by inference, celebrates the “poet-mathematician” Galois. While Poe *does* explicitly refer to the mathematician Charles Auguste Dupin (the historical figure who, literally, was a member of the Monge brigade, having been taught directly by Monge),



Edgar Allan Poe

Poe’s “poet-mathematician” image does not need to be reduced to one individual. However, the politically sensitive case of Galois at the time of Poe’s presence in Paris, and the reference to the “prefect G—,” make it clear that the Galois case would have been understood by astute readers of Poe’s time. Regardless, Poe’s “poet-mathematician” image

would appropriately apply to any of the leading (1820’s) students of Gauss: Galois, Abel, or Dirichlet. So, once again, as in the garden of 3 Leipziger Strasse, we find that unity of the arts and physical sciences characteristic of the republican geniuses of the day.

Finally, Heine, upon the news of the July Revolution, decided to leave Berlin for Paris. He would have been there, with Alexander von Humboldt, during these events. His early work in Paris during this period is reflected in his *The Romantic School*, where he diagnosed for the French and the Germans, the evil medievalism of the cultural string-pullers who had deliberately set out to murder the Germany of Moses Mendelssohn, Lessing, and Schiller. No successful European revolution could proceed without dealing with these skeletons; and none did.

—David Shavin

This quick sketch is only a beginning suggestion as to the interplay of: Gauss’s “Disquisitiones Arithmeticae”; the healthy benefits of opposing evil (e.g., the imperial Beast-Man, Napoleon); the children and grandchildren both of Moses Mendelssohn and of the American Revolution in Europe; and the passion of magnetic measurements and the revival of Bach’s “St. Matthew Passion.” Much more can, and should be covered in this specific period, regarding the activities of J.F. Cooper, J.Q. Adams, Lafayette, Friedrich List, E.A. Poe, et al. But this abbreviated historic sketch, centered around Dirichlet, should return us, somewhat refreshed, to the Gauss/Dirichlet/Riemann dialogue presented in Part 1 of this Pedagogical Exercise. —DS

1. J.S. Bach had composed and performed this work in Leipzig, in 1729. The manuscript was given to Felix by his aunt Sarah Itzig Levy, a proponent of Bach. Otherwise, one could say that it was fortunate Felix Mendelssohn had exactly 16 friends to cover the four quartets of soprano/alto/tenor/bass, but it were more likely that the orbit defined the planet; that is, that the Bach project cemented the potential friendships.
2. Quotations from Fanny Mendelssohn as reported in François Tillard, *Fanny Mendelssohn*, trans. by Camille Naish

(Portland: Amadeus Press, 1996).
3. Gans was a Jewish student of Hegel. See, Steven P. Meyer, “Moses Mendelssohn and the Bach Tradition,” *Fidelio*, Summer 1999 (Vol. VIII, No. 2).
4. Quoted in Heinrich Eduard Jacob, *Felix Mendelssohn and His Times* (Englewood Cliffs, N.J.: Prentice-Hall, 1963), p. 89.
5. Larchet is unknown to this author. Since it is thought that Dirichlet’s parents were active republicans who had to leave Napoleonic France years before, and since Larchet de Charmont was a friend both of Foy and of Dirichlet’s parents, it were

likely that they were all, indeed, anti-Napoleon republicans.
6. Sebastian Hensel, *The Mendelssohn Family*, trans. by Carl Klingemann (New York: Harper & Brothers, 1881), 2nd rev. edition, Vol. I, p. 312.
7. *Ibid.*
8. Recall that it was Dumas who made the knowing allusion, as part of Dumas’ typically “factitious” fiction, to Poe’s stay in Paris. This is the reference that Allen Salisbury reported on years ago in his “Edgar Allan Poe, The Lost Soul of America,” *The Campaigner*, June 1981 (Vol. 14, No. 3).

Verdi's 'Il Trovatore': Sublime Love vs. Revenge

Giuseppe Verdi's *Il Trovatore* was performed at the Kennedy Center by the Washington National Opera on Nov. 11, 2004, more than 151 years after its first performance in Rome on Jan. 19, 1853. *Il Trovatore* is part of a trilogy of operas composed by Verdi in his "middle" period, which includes *Rigoletto* (1851) and *La Traviata* (1853). Like *Rigoletto*, *Il Trovatore* demonstrates the tragic consequences of a mentality based on revenge, and like *La Traviata* it emphasizes the alternative sublime quality of selfless love, as developed by the German dramatist Friedrich Schiller.

The opera is based on an 1836 drama about the Spanish civil war of 1412, by the Spanish playwright Antonio Garcia Gutierrez. It is clear that Verdi is polemicizing in *Il Trovatore* against the bestial mentality of the Spanish Inquisition, even though the action of the opera is dated prior to the establishment of the Spanish Inquisition in the later Fifteenth century.

The death without an heir of King Martin I of Aragon on May 31, 1409 created the conditions for civil war. Among the claimants to the throne were the King's nephew Fernando de Antequera, King of Castile, and Jaime de Aragon, Count of Urgel, son of Martin's first cousin and also husband of his half-sister. Fernando was chosen King by the Aragonese parliament, and the Count of Urgel launched an unsuccessful rebellion to press his claims to the throne. In the opera, the leader of the royal forces is Count di Luna, and Manrico, a gypsy troubadour from the mountains of Biscay, is among the commanders of Urgel's rebellion.

Desire for Revenge

In this historical context, the plot of the opera is defined by a desire for revenge on the part of two characters, Count di Luna



Driven by the desire for revenge: Roberto Servile as Count di Luna, Elena Manistina as Azucena.

and the gypsy, Azucena, which ultimately overwhelms all of leading characters.

Many years earlier, Azucena's mother was burned at the stake for allegedly bewitching the Count's younger brother Garzia. Charged by her mother to avenge her death, Azucena abducted Garzia, but, in confusion, she murdered her own son by mistake. Thus Manrico, whom Azucena has raised as her son, is in fact Garzia, Count di Luna's brother, whose death he, in turn, is pledged to avenge.

The unknowing brothers Manrico and di Luna become rivals for the love of Leonora, the Queen's lady-in-waiting. But Leonora loves Manrico alone.

At the end of the play, Azucena is captured and identified as the gypsy who had abducted Garzia. She in turn reveals that she is the mother of the rebel leader, Manrico.

Manrico learns that di Luna is about to burn Azucena alive, rushes to her defense, and is captured. His betrothed Leonora decides to free him, by offering herself to di Luna, and then committing suicide once Manrico has escaped. But

Manrico refuses to flee, because he believes Leonora has betrayed him by "selling" her love for his freedom. As she dies from the self-inflicted poison, Manrico realizes the extent of her love for him. The Count arrives, realizes that Leonora has deceived him, and orders Manrico's beheading. Azucena, forced to watch, reveals the truth to him: "You have killed your brother."

Role of Leonora

When the original librettist Salvatore Cammarano died before completing the libretto, he was replaced by Leone Emanuele Bardare, among whose tasks was an expansion of the role of Leonora. Under Verdi's supervision, her cantabile "Tacea la notte" and

the cavatina, "Di tale amor," originally cut, were restored, and additional lines were written for her in the *Miserere*.

Verdi's Leonora is reminiscent of Beethoven's Leonore in the opera *Fidelio* (1805). While Beethoven's Leonore succeeds in freeing her husband, Florestan, from the evil Pizarro, Verdi's Leonora is not successful, but she shares the same quality of sublime love as Beethoven's character. In Act III, Scene 2, Manrico says to her "Nothing but love, sublime love ["Amor, sublime amore"], must speak to your heart."

Leonora's aria, "D'amor sull'ali rosee," in Act IV, is also reminiscent of "Abscheulicher! Wo eilst du hin?" sung by Beethoven's Leonore in Act I, Scene 5, in which she sings; "Come, Hope . . . O come . . . I follow the inner drive, I falter not, the duty of true married love strengthens me." In *Il Trovatore*, Leonora sings: "On the rosy wings of love fly, my anguished sigh, and comfort the wary mind of the unhappy prisoner. Like a breath of hope fly to his cell, awaken him to the memories, to the dreams of love."

Washington National Opera/Karin Cooper

In the Washington National Opera performance, Leonora, sung by the Bulgarian soprano Krassimira Stoyanova, really came alive with this aria.

As Friedrich Schiller writes, the feeling of the sublime is a combination of woefulness and joyfulness, which results from the decision to embrace a moral principle even in the face of great misfortune, including death. The capacity to make such a decision establishes that man has within him a moral capacity independent of all sensuous emotions, and that this moral capacity defines his true nature as a human being.

In this opera, where the dynamic of revenge leading ineluctably to death otherwise dominates the action, the sublime love of Leonora for Manrico, and his for her, proves that man's free will is not destroyed even in the face of death. Both Leonora and Manrico say at various moments that they are willing to die for their love. In Act I, in "Di tale amor che dirsi," Leonora sings: "Either I shall live for him, or for him I shall die!" And in Act IV, she sings: "Rather than live as another's, I chose to die as your love!"

Manrico (played by the American tenor, Carl Tanner), after referencing "sublime love," sings in Act III, Scene 2,

"Ah, si, ben mio": "Ah, yes, my love, in being yours, in knowing that you are mine, my soul will now be braver, my arm stronger. But if on my page of fate it be written that I must die on the enemy's sword, with my last breath my thoughts will be of you; for me, death will only mean that I await you in heaven."

The Beast-Man

Were it not for this quality of sublime love as portrayed through the development of the role of Leonora, the action of the opera would merely culminate in death. The civil war is not waged by Urgel and the forces led by Manrico on the basis of an explicitly republican conception. Neither Manrico nor Leonora dies fighting for political freedom. The main dynamic of the opera is triggered by the superstitious belief that the old gypsy mother of Azucena bewitched Garzia. Even though Azucena has told him that he is the Count's brother, Manrico does not use this knowledge to thwart what is otherwise inevitable.

Azucena, played beautifully by the Russian mezzo-soprano Elena Manistina, driven by her mother's desire for revenge and love for her adopted son, Manrico, achieves the former only

through the sacrifice of the latter. She too could have told Count di Luna that Manrico was his brother, and thus eliminated the Count's prime reason for seeking revenge.

The Count himself, played by the Italian baritone Roberto Servile, is a true ego-driven Beast-man, consumed by "jealous love," "injured pride," and "seething rage." In Act II, Scene 2, when the Count plots to abduct Leonora before she enters a convent, he sings: "Not even a rival God would oppose my love. Not even a God, my lady, can take you from me now!" When, in Act IV, Leonora asks him to show mercy for Manrico, he sings: "My only God is vengeance." And when he contemplates the execution of Manrico, like the Grand Inquisitor he sings: "Ah, if only I might find some crueler death for the rogue! In a thousand fearful agonies, make hundredfold his death."

But at the end of the opera, it is the Count himself who suffers the "cruellest death" of all. As Schiller writes in his *Philosophical Letters*: "Love is the co-governing citizen of a blossoming free state, egoism a despot in a ravaged creation."

—William F. Wertz, Jr.

'Rigoletto': Verdi's Education of the Emotions

On March 11, 1851, the composer Giuseppe Verdi presented his new opera *Rigoletto* to an astonished audience in Venice, Italy. This musical masterpiece, which the composer himself described as "revolutionary," continues to be one of the most often performed operas in the world, and rightly so.

In *Rigoletto*, Verdi created a new conception of operatic construction, in which his masterful use of poetic and musical irony succeeded in achieving what Friedrich Schiller called for in his essay on "Theater as a Moral Institution"—the transformation of the audience, who leave the theater in an elevated state of mind, reflecting on the off-stage implications of the action presented on-stage.

In October 2004, Detroit's Michigan Opera Theater (MOT) attempted a credible performance of this Verdi master-



Disguised as a student, the Duke (Scott Piper) approaches Gilda (Rosana Lamosa).

Michigan Opera Theater/Photos by Christopher Barbeau

piece, with two different casts, drawn from many nations, both directed by Italian stage director Mario Corradi. The setting and costumes accurately portrayed the Sixteenth-century Court of Mantua, and the voices, including those of the younger singers, succeeded in adequately conveying the emotional conflicts in the various characters. In fact, some of the singers excelled in making transparent the dramatic shifts in character, as when the Duke appears to be genuinely moved by Gilda, or when Rigoletto, in first singing of his treasured daughter, expresses true fatherly love.

Despite such positive features, however, the performance's flaws ultimately rendered it a disappointment. The problem lies, overall, in the director's inability to distinguish between the original, Classical intent of the composer Verdi, and the modernist, Romantic gimmicks inserted into the work under the delusion that they will make the production more accessible to an audience today.

Republican vs. Oligarchy

Verdi was inspired by Victor Hugo's 1832 play *Le Roi S'amuse* (*The King Amuses Himself*), which portrayed a real king, Francis I of France (1494-1547) as a libertine, whose amusement was raping every wife and daughter he could get his hands on, including those of his political opponents. As in the play, the opera centers around a "father's curse" pronounced against the libertine and his accomplice, a vicious court jester (Rigoletto), by the father of one of their young victims.

Verdi's desire to set this play to music dates back to his first reading of it in 1844, and when the opportunity arose in the year 1850, he seized it. He wrote to his librettist, Francesco Maria Piave, "Oh, *Le Roi S'amuse* is the greatest plot, and perhaps the greatest drama of modern times. [The jester] Tribolet is a creation worthy of Shakespeare!! . . . It is a subject that cannot fail! . . . Now, reviewing several subjects again, when—like a bolt of lightning, like an inspiration—I thought of *Le Roi S'amuse*, I said the same thing, Yes, by God, that's the right one!"

Verdi knew that the play had been banned after its premiere, so he instructed Piave: "Turn Venice upside down to make the censors permit this subject."

After months of battles with the Hapsburg censors, who refused to permit the stage depiction of a degenerate oligarch, and also tried to emasculate the opera by eliminating most of its dramatic ironies, Verdi, who was already famous as Italy's national composer, threatened to withdraw the work entirely. The censors negotiated, but it was Verdi who won the day. The names and location were changed, but the original idea, with all its passion, was to be performed as he wrote it.

The opera premiered only two years after the orchestrated 1848-49 revolutions in Europe, in which Lord Palmerston's agent Giuseppe Mazzini deployed his gangs to invade, sack, and then rule sections of Rome and the Papal States, terrorizing the population in the name of "liberty."¹ Most Italian intellectuals and patriots, who had been hopeful about Mazzini, broke with him when they saw his agenda and method of Jacobin fascism. But the problem remained: How would Italy, then a conglomerate of feudal kingdoms and Papal States, be transformed into a unified, nation-state republic?

Verdi took leadership, addressing that question directly with the production of *Rigoletto*, by portraying the paradoxes implicit in the education of the emotions to create a population capable of self-government. Such education—as opposed to Romantic moralizing—occurs in what Lyndon LaRouche identifies as the "complex domain," and not in the realm of the senses.

Story of the Opera

Rigoletto (sung by Chen-Ye Yuan, baritone) is the serpent-tongued, hunchbacked jester in the court of the lecherous young Duke of Mantua (Scott Piper, tenor), who assists the Duke to pursue his sexual exploits, but is seized by terror when Count Monterone (Donald Hartmann, bass-baritone), the father of one of the Duke's victims, pronounces a curse on the pair for their crimes.

Rigoletto fears the curse because he is, in secret, himself a loving father, who is desperately attempting to protect his daughter Gilda (Rosana Lamosa, soprano) from the Duke's licentiousness. He permits Gilda to leave the house only to go to church, but she is seen and

approached by the Duke. Gilda falls in love, believing the disguised Duke to be a poor student.

When the Duke's courtiers discover a young woman living at Rigoletto's house, they assume her to be the jester's mistress. In an act of revenge to repay Rigoletto's many insults, they trick him into assisting them in kidnapping Gilda for the Duke. She is seduced, and Rigoletto plans revenge.

Gilda continues to believe in the Duke's love, but Rigoletto is determined to prove otherwise. He arranges for her to leave the city disguised as a boy, but not before he has exposed the Duke for what he truly is. Thus, Rigoletto brings Gilda to the tavern of the assassin Sparafucile (Buruk Bigili, bass), whom he has hired to avenge Gilda's seduction by killing the Duke. Inside, they witness Sparafucile's sister Maddalena (Tracie Luck, mezzo-soprano) offering the Duke her favors, as he sings to her of love.

Later, under pressure from Maddalena, Sparafucile agrees to spare the Duke, but only if he can substitute another dead body to deliver to Rigoletto. When the disguised Gilda overhears this, she decides to sacrifice herself for love. She is stabbed, stuffed into a sack, and delivered to her unsuspecting father.

In the end, as Rigoletto gloats over his revenge, he discovers to his horror that it is his wounded daughter in the sack. Gilda sings of her love for the Duke, and of meeting her mother in heaven. She dies, and the curse is fulfilled.

Breakthrough in Musical Composition

Verdi employed new musical discoveries in this opera, which contribute to the power of the drama. He discarded the "set piece" form of structured recitative, aria, duet, trio, and opera finale, in favor of real dramatic action, which moved primarily through what Verdi called "an endless series of duets." These duets and ensembles heighten the conflicts among the characters, each of whom is increasingly differentiated by distinct orchestral colors and musical ideas. The density of poetic and musical paradoxes intensifies as the various combinations of *bel canto* voices sing against one another their contrasting passions and plans.

The remarkable duet between Rigo-

letto and Sparafucile, where the assassin is introduced, is just one example of Verdi's creative interweaving of voice and orchestra. Most of the melody line is sung by the orchestra, as the duet, which is really a dialogue between two low men's voices, plants the seeds for the action to come, while directly leading into Rigoletto's reflection on his own awful fate.

Verdi used an all-male chorus, which in this production was quite good, led by its three soloists, Marullo (Michael Mayes, baritone), Matteo Borsa (Torrance Blaisdell, tenor), and Count Ceprano (James Patterson, bass). There were particularly effective moments—for example, when they discover that Gilda is not Rigoletto's mistress, but his daughter, in an ensemble with the horrified jester. The male chorus also has a “non-vocal” part in this opera, which Verdi developed as a feature of his expanded use of differentiated orchestration: the chorus, with orchestra, together portray the terrible storm in the last act.

Verdi's musical continuity from overture to concluding note, his varied orchestral coloration, and his less-formal scene structure, weaving seamlessly through the thread of the tragic action, evoke profound emotions in the listener, as the mind digests the paradoxes posed of revenge, honor, hypocrisy, love, the “curse,” and, more generally implied, the issues of leadership in social relations and society in general.

Music Is Heard in the Mind

Verdi understood that the communication of ideas occurs only in the domain of cognition. If this fundamental idea is not understood, then sensual effects will be substituted in place of true poetic ironies, and the unfortunate result will be to change the intent of the composition itself.

In the MOT production, this flaw was evident right from the outset. As the overture began, the curtain rose to reveal the acting-out of scenes on both sides of the stage, designed to show the audience what had happened *before* the opera's actual opening! There was no singing, of course, during this instrumental introduction, but obviously, if Verdi had thought such scenes were necessary, then he surely would have called for them in the score.



Michigan Opera Theater/Photos by Christopher Barbeau

The jester Rigoletto (Chen-Ye Yuan, right) plots with the assassin Sparafucile (Buruk Bigili).

Although including pantomime like this during the overture is an increasingly popular practice among some opera companies, it is an unwarranted addition that reflects more than just “poetic license” on the part of the director. The underlying axiomatic assumption guiding such an addition (assuming that no malicious perversion is intended) is, that the audience must be constantly bombarded with visual and other effects, to be able to understand the action of the performance.

One could raise many details of this performance for criticism, including the balance between the orchestra and the singers, or the preference to change Rigoletto from a deformed hunchback with two conflicting sides to his soul, into a jester whose deformity is not real, but only an affectation of his adopted persona. But all these problems stem from a Romantic reading of what Verdi intended, rather than the Classical idea, which defines the purpose of art not as entertainment, but as that which elevates the mind to the level of the sublime.

In this performance, the most blatant denial of this power of the mind appeared in the final act quartet, where Rigoletto and Gilda peer inside the tavern, as Gilda's beloved Duke seduces the assassin's sister Maddalena. Four different voice species, soprano, mezzo-soprano (Verdi had a contralto), tenor, and baritone express their very different

emotions in completely different musical lines, which are nonetheless heard as a unity. It is one of the most phenomenal vocal quartets ever composed.

Unfortunately, the power of that music was severely blunted, as was the impact of the beautiful mezzo voice in the quartet, by the MOT's *insane* decision to have Maddalena act out performing oral sex on the Duke at the start of the piece! The “pathos” which Verdi insisted not be written out by the censors, was virtually written out here, by writing *in* such an absurd, “sensual” effect.

To sum up: What might have been an enjoyable performance was undermined by the director's unnecessary changes and additions to Verdi's carefully conceived and composed masterpiece. Verdi created *Rigoletto* from the standpoint of uplifting and transforming his audience, with the aim of creating an Italian citizenry and nation. Without that concept clearly in mind for today's performances, the music, even when well sung, is reduced to sensual experiences, not ideas—and that would have made *maestro* Verdi very angry.

—Susan W. Bowen

1. See “Lord Palmerston's Multicultural Human Zoo,” Proceedings of the Schiller Institute/I.C.L.C. Conference, Feb. 19-20, 1994, *Executive Intelligence Review*, April 15, 1994 (Vol. 21, No. 16). The Proceedings are posted on the Schiller Institute website at www.schillerinstitute.org.

The Genocidal ‘Washington Consensus’

The great European republican philosopher and scientist Gottfried Wilhelm Leibniz wrote that this is the best of all possible worlds. Those thoughts came to my mind several weeks back when a colleague, John Hoefle, while using the Internet for research, came upon an interview that author John Perkins had given to “Democracy Now’s” Amy Goodman. The interview text and audio-voice stream were shared with Lyndon LaRouche, who immediately concluded that the remarks by Perkins were of remarkable strategic significance—particularly in the wake of the events of Nov. 2-3, 2004, pointing towards the prospect of four more years of the Bush-Cheney abomination in the White House.

The subject of the Perkins-Goodman interview was the author’s latest non-fiction work, an autobiographical account of his several-decades-long stint as what he called “an economic hit man.” In that interview, and in far greater detail in his book, *Confessions of an Economic Hit Man*, Perkins presented his own bird’s-eye view of the inner workings of what professional economists call “the Washington Consensus”—the post-Bretton Woods system of top-down arrangements among the International Monetary Fund, the World Bank, the world’s leading central banks, and an interlocking combine of several thousand multinational banks and industrial and raw-materials-extraction corporations, that control upwards of 80% of the world economy, including the lion’s share of the strategic raw-materials wealth of the planet.

These forces have no allegiance to any particular nation-state. Indeed, they are above the law of nations, and seek a one-world, “globalized” empire, under their top-down, vise-like-grip control. They constitute what Perkins describes as the most sophisticated global imperial apparatus the world has ever known. Their power rests in their ability to

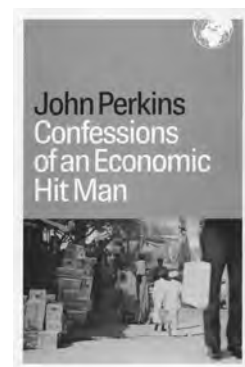
enslave entire nations through the mechanisms of the I.M.F., World Bank, private debt, and corruption.

Bringing in the ‘Jackals’

As Perkins wrote, the global debt-masters employ “economic hit men” like himself, to trap targeted nations in bankruptcy, and then force them to turn over their national patrimony of raw-materials wealth and labor power. If a particular nationalist head of state resists, then the debt-masters bring in the “jackals,” the professional assassins, to arrange an airplane crash “accident,” or some other convenient “tragedy” to eliminate the misguided leader, and serve notice to his successors that such behavior is not going to be tolerated. In the exceedingly rare case in which the jackals fail in their mission, pretexts are arranged and imperial wars of conquest and occupation—like the 1989 invasion of Panama, or the 1991 and 2003 invasions of Iraq—take place.

Perkins’ autobiographical account of how he was spotted, profiled, recruited, and trained to be an “economic hit man”—and how he found the personal courage to escape from a very lucrative, seductive, but murderous life—is a gripping tale. It is told with a flair for the details, great and small, which make it a very convincing story. Perkins speaks, in personal terms, about his own dealings with Panama’s leader Omar Torrijos and Ecuador’s President Jaime Roldos. Both men resisted the bribes and threats of the “economic hit men,” and instead fought for programs that would benefit all of their people. They were both killed in 1981, and Perkins’ account leaves no doubt that they were assassinated by the jackals because they dared to resist.

Among the “crimes” of Torrijos was his negotiating with the Japanese government to build a sea-level, second canal through Panama. Indeed, Lyndon LaRouche was working in close concert with the Mitsubishi Global Infrastructure Fund (GIF) people on that effort, as well



Confessions of an Economic Hit Man: How the U.S. Uses Globalization To Cheat Poor Countries Out of Trillions
by John Perkins
San Francisco, Berrett-Koehler, 2004
264 pages, hardcover, \$24.95

as on the proposed Kra Canal in Thailand. These were truly “Great Projects,” which would have created the preconditions for a revolutionary transformation of the world economy and the world trading system, benefitting all of mankind.

Indeed, the list of leading political and economic figures who were given the jackal treatment during the period of Perkins’ tenure as an “economic hit man” extends far beyond the tragic cases of Torrijos and Roldos. Among the most notable, after the advent of the post-Bretton Woods System in August 1971: German bankers Jürgen Ponto and Hans-Martin Schleyer, and, later, Alfred Herrhausen and Detlev Rohwedder; Italian Prime Minister Aldo Moro; Indian Prime Ministers Indira Gandhi and Rajiv Gandhi; Pakistani President Zulfikar Ali Bhutto; Mexican Presidential candidate Donaldo Colosio and Colombian Presidential candidate Luis Carlos Galan.

McNamara and Shultz

Perkins’ book is an effective blend of his own personal experiences over his several-decades career as an economic hit man, and a lively account of larger strategic events in the countries he visit-

ed. He struck a bull's-eye, when, in his analytical account, he identified George Shultz, former president of Bechtel and former Treasury Secretary (under Richard Nixon) and Secretary of State (under Ronald Reagan), as the heir to Robert Strange McNamara, as one of the top figures in the new imperial pyramid of power.

George Shultz is truly one of the most nefarious figures in political life in our time. It was Shultz who took personal responsibility for the final destruction of Franklin Roosevelt's Bretton Woods System of fixed exchange rates, first in his infamous diktat to Nixon's Treasury Secretary John Connally, whom he soon replaced; next, at the Azores international monetary conference; and finally, at the 1975 Rambouillet conference, where European nations attempted, unsuccessfully, to reconstitute a stable monetary system to include the integration of the Soviet bloc. Shultz later orchestrated the Plaza Accords of 1985 between the United States and Japan, which, in effect, ended Japan's efforts, over the prior decade, to play the role of sponsor and creditor of a series of great economic development projects. He would later, in effect, "create" the present George W. Bush Administration, through his sponsorship of the "Vulcan" team of top policy aides, who



Bundesbildstelle



Victims of the economic hit men and their "jackals" (clockwise from top left): Panamanian chief of state Gen. Omar Torrijos Herrera, German banker Alfred Herrhausen, Indian Prime Minister Indira Gandhi.

became key Cabinet officials.

But Shultz in other respects merely personifies the system of economic hit men exposed by the Perkins book. Shultz is not a "Lord of the Rings." He is, ultimately, an underling, who has made the Faustian

deal, and cares nothing about the fact that his policies have directly led to the deaths of millions, and will kill countless more millions in the future if not stopped.

It was the weight of this legacy of genocide-by-debt-trap that prompted John Perkins to break. His decision to write his confession is of monumental importance, at this moment of existen-



EIRNS/Stuart Lewis

tial world crisis, and his book provides a vital flank against the economic hit men of the new imperium.

The appearance of the Perkins book offers this flank against the global financial oligarchy at a moment when their power arrangements of the past 33 years are on the verge of disintegration. Placing the spotlight on the methods of the "I.M.F.-World Bank Washington Consensus," affords a unique opportunity that cannot be passed up. It is in this respect that the Perkins book provides much-needed ammunition to those who are dedicated to bringing a better world into being, and why its timely appearance brought Leibniz's assertion immediately to mind.

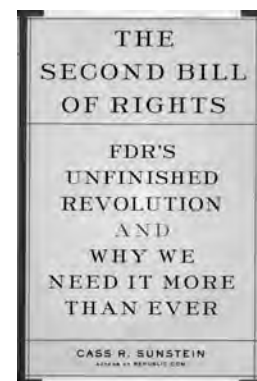
—Jeffrey Steinberg

FDR's 'General Welfare'

There are several reasons for recommending this new book by University of Chicago law professor Cass Sunstein. The first, and most important, is, that it will be the first introduction most Americans will get to a remarkable speech, and conception, by President Franklin Delano Roosevelt, called the "Second Bill of Rights." The second is the brilliant way in which Sunstein pulls the legal rug out from under the "don't tax me" zealots of *laissez faire*. The third is the historical review which Sunstein provides of the influence which FDR's "Second Bill" had, especially internationally.

For dealing with all these questions in a readable manner, Professor Sun-

stein deserves our appreciation. What is disappointing is, that he chooses to treat the "Second Bill" as a list of positive law demands, rather than acknowledging that they flow coherently from the *principled* commitment of the U.S. Constitution (in its Preamble and elsewhere) to the idea of the *General Welfare*. Thus, where he could be arguing effectively for the mandate which Congress has to implement this Constitutional commitment, he is instead trying to figure out whether and how the courts could enforce the economic rights which FDR enumerates, ending up with something less than a clarion call for providing these urgently needed rights today.



**The Second Bill of Rights:
FDR's Unfinished Revolution
and Why We Need It
More Than Ever**

by Cass R. Sunstein
New York, Basic Books, 2004
294 pages, hardcover, \$25.00

Nevertheless, the overall thesis is refreshing, and timely. President Franklin Roosevelt did carry out a revolution against the counter-revolution which had been launched against the American System in the decades after President McKinley's death, and precisely that revolution in thinking—back to the Federal government taking responsibility for the welfare of the population—is needed today. As Dr. Sunstein points out, today's free-marketeers have virtually wiped out many of the measures put into effect by FDR, and their elimination has increased the insecurity of our nation. Restoring the FDR approach ought to be at the top of our agenda today—beginning with the essential battle to prevent the destruction of the Social Security system.

The Second Bill of Rights

When FDR gave his State of the Union address on Jan. 11, 1944, he was looking forward to the end of the war, both in terms of international relations, and the situation at home. "It is our duty now to begin to lay the plans and determine the strategy for the winning of a lasting peace and the establishment of an American standard of living higher than ever before known," he said. This meant, he went on, that the guarantee of political rights, such as those enshrined in the Bill of Rights, had to be expanded into the economic sphere. "Necessitous men are not free men," he stated.

Roosevelt continued: "In our day these economic truths have become accepted as self-evident. We have accepted, so to speak, a second Bill of Rights under which a new basis of security and prosperity can be established for all—regardless of station, race, or creed." He then listed the relevant rights:

- "The right to a useful and remunerative job in the industries or shops or farms or mines of the nation;
- "The right to earn enough to provide adequate food and clothing and recreation;
- "The right of every farmer to raise and sell his products at a return that will give him and his family a decent living;
- "The right of every businessman, large and small, to trade in an atmosphere of freedom from unfair competi-



Franklin D. Roosevelt campaigns for President, Wheeling, West Virginia, October 1932.

UPI/Corbis-Bettmann

tion and domination by monopolies at home or abroad;

- "The right of every family to a decent home;
- "The right to adequate medical care and the opportunity to achieve and enjoy good health;
- "The right to adequate protection from the economic fears of old age, sickness, accident, and unemployment;
- "The right to a good education."

He then asked the Congress "to explore the means for implementing this economic bill of rights—for it is definitely the responsibility of the Congress to do so."

The General Welfare

Congress never did take action on the economic bill of rights; the closest thing to it was the GI Bill of Rights, which paved the way for home ownership and an education for the millions of GI's returning from the war.

The fundamental reason for this failure, lay with the weakening of the commitment by the nation's political leadership, and culture, to the Constitutional principle of the General Welfare that underlies FDR's Bill of Rights. Once FDR died, leadership of the Democratic Party shifted to the right-wing Harry Truman, a tool of the Synarchist bankers, and no strong standardbearer was ever able to knock the party into shape behind the FDR vision. The closest the Democrats came to achieving this

was with President John Kennedy, whose Presidency was cut short by the Synarchists' assassin's bullets. His most immediate successors, his brother Robert and the Rev. Martin Luther King, met a similar fate.

Beginning with those assassinations, the assault on everything which FDR stood for has escalated, both from the "right" and from the "left." The "right wing," epitomized by those think-tanks who are today salivating over the chance to steal Social Security trust funds for the private markets, openly denounces the idea that the Federal government should provide for the general welfare of the population. Meanwhile, the "left wing" claims to be "pro-people," but has systematically attacked the very concept of industrial and scientific progress, not to mention the government measures required to carry it out.

It should come as no surprise that the abandonment by the United States of the American System ideas of FDR, and the domination of the financial system by the international banking cabal, has led to a collapse of the world system itself. Once again, the question which faced FDR in 1933 looms: Will we have a government that stands for the general welfare, or will we submit to fascism?

To help us face up to this question, books aimed at reviving a public understanding of the FDR legacy, like Sunstein's, do make a valuable contribution.

—Nancy Spannaus

A Congress for Cultural Freedom Failure

Stephen Greenblatt, president of the Modern Language Association (MLA) in 2003, is the guru of a school of literary criticism, “The New Historicism,” which draws on the outlook of Immanuel Kant and the French post-Modernist Michel Foucault. Upon learning this, I thought of the “New Criticism” of the Nashville Agrarians, led by John Crowe Ransom and Allen Tate, which became the dominant orthodoxy of the MLA and Congress for Cultural Freedom (CCF) types after World War II.¹

The Ku Klux Klan’s “New Criticism” insisted that literature ought to be judged purely on its “literary” qualities, quite apart from any historical, psychological, sociological, or other context. Thus, the “New Critics” rationalized their bizarre, 20-year campaign on behalf of Fascist traitor Ezra Pound, which successfully used an insanity claim to extricate Pound’s neck from the noose his treason had earned him, awarded him the Nazi-loving Mellon banking family’s Boelligen Prize in poetry, turned him into a Beat and Hippie hero, and, eventually, freed him to return to Italy.

The New Historicism, by contrast, is supposed to examine art in context, and has a “leftish,” “cultural relativist” flavor. Exactly how different these orthodoxies are in intention, is indicated by the amusing, but not surprising fact that Greenblatt’s book was financed by the Mellon Foundation of the same Synarchist family which had bankrolled the New Critics and the Fascist Pound.

Also worth noting is Greenblatt’s collaboration with one-time CCF board member, Tom Stoppard, as literary advisors to Marc Norman’s

movie *Shakespeare in Love*. *Shakespeare in Love*, Stoppard’s own *Rosencrantz and Guildenstern Are Dead*, and Greenblatt’s work, are all “backstory”—made-up stories designed to portray what happened behind the scenes, to explain the visible action. Norman and Stoppard are obviously dealing in fiction; but Harvard University’s Greenblatt is promoted as the leading Shakespeare critic of our age, and he claims to be doing something else.

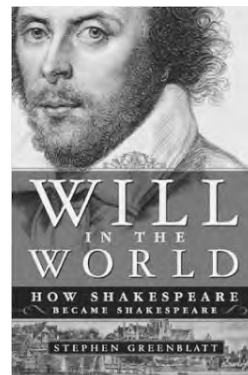
‘New Historicism’

Greenblatt writes, that he will explain how a young provincial “without independent wealth, without powerful family connections, and without a university education,” became “the greatest playwright not of his age alone but of all time.” He can do this without documentation, because, he asserts, “[o]ut of a tissue of gossip, hints, and obscure clues a shadowy picture can be glimpsed, rather as one can glimpse a figure in the stains on an old wall.”

Examination of the grease stains tells Greenblatt that Shakespeare went into the theatre because he was sexually aroused by the thought of kissing the boy actors who portrayed women. He also aspired to dress and walk as a gentleman, but this was only permitted to him on the stage. Ultimately, having lived prudently and invested his theatre

earnings in real estate, he succumbed to “the triumph of the everyday,” and retired to the company of his daughter, son-in-law, and granddaughter in his hometown of Stratford.

Greenblatt explains the content of Shakespeare’s work in the same way, notably claiming, that the ridiculous social climber Malvolio of



**Will in the World:
How Shakespeare Became
Shakespeare**
by Stephen Greenblatt
New York, W.W. Norton, 2004
336 pages, hardcover, \$26.95

Twelfth Night was Shakespeare’s portrayal of his own aspirations. It turns out that *Hamlet* is about Shakespeare’s unresolved sorrow at the death, five years earlier, of his son Hamnet, and, more immediately, of his father John, along with his *oedipal* difficulties with his own wife, Anne. *Macbeth* is an attempt to flatter the new Scottish King of England, James Stuart, with the story of his legendary ancestor, Banquo, and to thrill him with a tale on his favorite subject, witchcraft.

Otherwise, Greenblatt announces his discovery that Shakespeare invented a literary technology, used in *Hamlet* and the succeeding tragedies: the “radical excision of motive.” The idea is that Shakespeare applied Greenblatt’s theories about Shakespeare to his own characters, who, therefore, have no motivation, other than erotic impulse.

What’s He Hiding?

The secret behind Greenblatt’s babbling is this: The Promethean idea, that the very center of man’s being is the capacity he shares only with the Creator to understand an entire array of universal physical principles, and to improve upon this understanding and transmit it to his posterity, is the enemy image of Greenblatt’s crowd. Their mission has been to not only physically destroy Shakespeare and other towering Promethean figures who prove them wrong, but to destroy any comprehension of what these fig-



Shakespeare’s Globe



Above: France's Henry IV (of Navarre). **Top right:** St. Bartholomew's Day Massacre. **Right:** Christopher Marlowe, author of "The Massacre at Paris."



ures, from Homer to Benjamin Franklin, Friedrich Schiller, and Ludwig van Beethoven, were or are.

I have reported elsewhere on the actual intervention of Shakespeare and his circle, in direct and indirect alliance with France's Henry IV, against the barbaric culture of Venetian-orchestrated religious strife of his time.² Greenblatt, however, reports voluminously on gossip suggesting that Shakespeare's father John was an agent of the Spanish Inquisition. The prize piece of evidence for this is a "testament" bearing John Shakespeare's name, based on the writing of Council of Trent and Inquisition kingpin Charles Borromeo. This prize document, which is widely touted by Jesuit and other partisans of the theory that Shakespeare was a Catholic subversive, has *never* been presented to public view. The only evidence of its existence is a second-hand report that a roofer working on the Shakespeare house, a century and a half after John's death, found the document, memorized it or copied it, and then lost it.

Meanwhile, Greenblatt ignores the very well documented literary and historical evidence. Although he mentions Erasmus once, derisively, and reports

Shakespeare's involvement in writing a play on Thomas More, he does not treat Shakespeare's well-known intellectual reliance on these Renaissance Catholic collaborators, the former of whose writings were proscribed by Borromeo's Council of Trent.³

He takes pains to demonstrate, correctly, that Christopher Marlowe was the only playwright who rivalled Shakespeare's quality of work, and notes that, despite the lack of concrete evidence of their contact, the two men were in an artistic dialogue through their plays and poetry. But, he repeatedly characterizes Marlowe as an unsavory, cruel, and dangerous character, an atheist, a drunk, and a homosexual, who died in a barroom brawl. He does this, despite reporting also, that the accusations he repeats against Marlowe were obtained by the "Gitmo" methods then in use by the Queen's Privy Council. He also reports, in contradiction to his other characterizations, that he knows (as has been widely documented) that Marlowe had done service for the Queen in France, and that the "companions" who killed him were Privy Council spies, so that the brawl was quite likely an assassination.⁴

He is silent, however, on the actual context of the assassination. That is, that Marlowe had just presented his *Massacre at Paris*, on the subject of Henry IV, and

that his assassins were provocateurs who had been involved in the 1585 "Babington Plot" set-up of the Catholic Mary Stuart's execution by the Protestant Queen Elizabeth.

Greenblatt also fails to present the actual history that would puncture his "triumph of the everyday" fable about Shakespeare's retirement. Shakespeare's withdrawal from London began in about 1610, and was more or less completed in 1613. In 1610, Henry IV was assassinated by a Jesuit priest. In 1612, James Stuart's heir, Henry, who, along with his mother Queen Anne, had formed a pro-Renaissance counterweight to the deranged king, died. In 1613, the Globe Theater, in which Shakespeare was a partner, burned to the ground. Greenblatt presents a lengthy quotation from a well-known account of the blaze, but fails to mention two things: that the author is Henry Wotton, the leading agent in London, at that time, of one of Shakespeare's major targets, the world capital of usury and perfidy, Venice; and, that Wotton is delighted by the conflagration.

So much for Professor "Greaseblott." He breathes death, but Shakespeare lives still.

—Stanley Ezrol

1. For background on the Nashville Agrarians, see Stanley Ezrol, "Seduced from Victory: How the Lost Corpse Subverts the American Intellectual Tradition," *Fidelio*, Winter/Spring 2002 (Vol. XI, No. 1-2); for the Congress for Cultural Freedom, see *Children of Satan* (Washington, D.C.: Lyndon LaRouche PAC, 2004).
2. Stanley Ezrol, "Will Shakespeare's Mission Be Ours," in "A Shakespeare Symposium," *Fidelio*, Fall 2004 (Vol. XIII, No. 3). Cf. Lyndon H. LaRouche, Jr. "Toward a New Treaty of Westphalia: The Coming Eurasian World," *Executive Intelligence Review*, Dec. 17, 2004 (Vol. 31, No. 49).
3. Ezrol, *ibid*.
4. I.e., Charles Nicholl, *The Reckoning: The Murder of Christopher Marlowe* (Chicago: University of Chicago Press, 1995).

Every great recovery of a people from a self-inflicted tragedy, comes from a mobilization of a part of its young people, its young adults, who, seeing a future that is a no-future before them, kick their parents' generation in the ass, and say, 'We have a right to a future. This nation has a right to a future. Your grandchildren have a right to a future.' Therefore, you are an elite. You are the raggedy-pants elite!

—LYNDON H. LAROCHE, JR.
November 10, 2004

For a raggedy-pants elite.

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Francisco Goya: Irony, Politics, Truth



The National Museum of Fine Arts, Stockholm

Francisco Goya y Lucientes, 'Allegory of the 1812 Constitution,' 1812-1814.

The allegorical language employed here resembles that used at the time of the American Revolution. At the center stands a handsome young woman, enlightened, embodying the freedom of the Spanish nation. In her left hand she holds a small printed version of the 1812 Constitution, while her right hand holds a little scepter. Her wrist is firmly supported by an old bearded man (Time, with an hour-glass), whose giant wings protect her from the darkness. In the foreground sits a young woman, all but naked, writing on a sheaf of paper: She is History, whose business is unveiled Truth.



Erich Lessing/Art Resource, NY

Francisco Goya y Lucientes, 'Family of Carlos IV,' 1800.

Goya demonstrates in this vast canvas all the science he had learned from the great masters. From Velazquez's 'Las Meninas,' he takes the 'mirror' effect: All the figures, and especially Queen Maria-Luisa who is standing at the geometrical center of the composition (and the monarchy), are posing as if admiring themselves in front of a mirror. And, as Velazquez did in his painting, Goya also includes himself, in the left, shadowy part of the wide canvas, standing behind the royals. As in Rembrandt's 'Night Watch'—and violating every formal rule of 'classicism'—Goya dares to present a figure clothed in black (King Carlos IV) at the very front.

While their degenerate nature speaks for itself today, the royals were immensely charmed with these truthful representations. Blinded by their own vanity, they saw only the glittering garments of the Queen, and the triumph of royal decorum. Their membership in the oligarchical caste prevented them from seeing the evident moral ugliness of their appearance, or the powerful shadow creeping in from the left, announcing their coming doom.

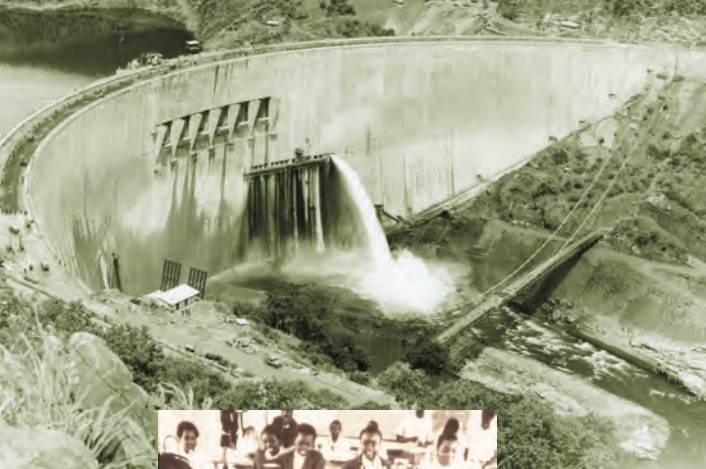


Erich Lessing/Art Resource, NY

Francisco Goya y Lucientes, 'Time and the Old Ladies,' 1808-1812.

This painting gives an extra twist to *Caprichos*, Plate 55, since the old bearded man—Time, of the 'Allegory of the 1812 Constitution'—is about to sweep the elderly oligarchs away with his broomstick. Queen Maria-Luisa is identified by the arrow-shaped hairpin seen also in the 'Family of Carlos IV.'

[SEE 'Francisco Goya, the American Revolution, and the Fight Against the Synarchist Beast-Man']



Follies of the Economic Hitmen: Re-Animating the World's Economy

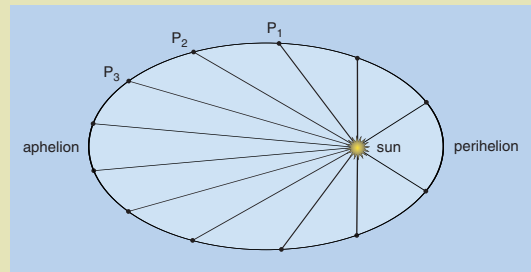
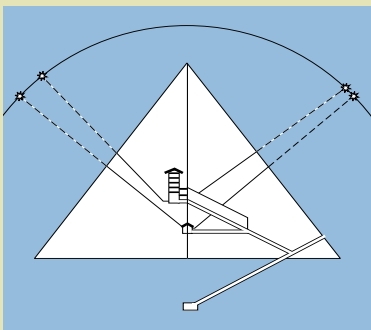
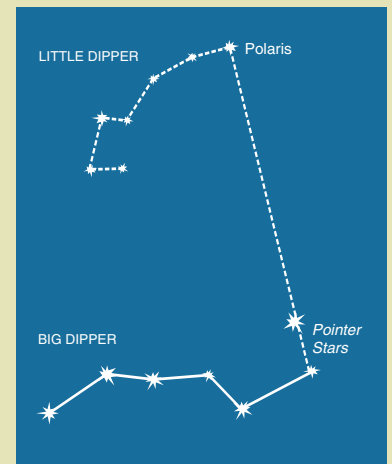
Lyndon H. LaRouche, Jr., addresses the errors in understanding real economics that must be overcome, if the U.S. is to play its role in bringing into being the new Bretton Woods System upon which the development of the former colonial nations of the Third World depends. LaRouche's

condensed analysis centers on man's God-like capacity for creative discovery, and culminates in a stirring call for the resumption of that mission for all the world's people, for which the American nation was founded in opposition to the power of Anglo-Dutch imperialism.



An Introduction to Pythagorean Sphaerics

The Los Angeles LYM Sphaerics Group wrote this 'skit intended to provoke curiosity about why we study the heavens,' and performed it under the stars at a cadre school in March 2004. Watch Silver Girl and Bronze Guy, Myra Boomer and Nerds 1 and 2, Random Guy and Stephen Hawking, freak out when confronted by the history of man's discovery of universal physical principles, in a dialogue peopled by ancient Egyptians, Greeks, and astronomers Johannes Kepler and Tycho Brahe. It's fun, and inspired by a passion for truth.



Morals and Immortality: The U.S. Crisis Now

Lyndon LaRouche and Liliana Gorini review the new Vatican *Compendium of the Social Doctrine of the Church*, in light of the U.S. Presidential election, and 'the behavior of those Ohio citizens who, like the hypocrites they were, did not blink with shame when they voted for a continuation of economic and related health-care policies which are the cause of vast increases in the deaths among our citizens.'

