EIRFeature

The coming disintegration of financial markets

by Lyndon H. LaRouche, Jr.

It comes as no surprise that the name of the Bank of England's Eddie George is added to the list of which it must be said that "whom the gods would destroy, they first make mad." During the course of the current London meeting of the International Monetary Conference, Eddie joined the ranks of those greed-maddened public fools of finance who insist that the danger from the now metastatically cancerous financial bubble in derivatives speculation is being exaggerated by some critics.

It is a matter of some urgency that responsible governments subject all incumbent and prospective economics and central banking officials to the sanity test which Eddie George would have flunked gloriously. Among the probable benefits of this, the least would be creating suddenly many encouraging vacancies for the sane unemployed. The test consists of but one crucial question: *Prove conclusively that the near-term disintegration of the presently bloating global financial and monetary bubble is unstoppable by any means alternative to governments acting to place the relevant institutions into bankruptcy reorganization.*

Those officials about to be examined so could look up the answer in the back of the book, so to speak. We supply it here and now. Would that be cheating on their part? Not at all; it would be becoming sane.

LaRouche as a forecaster

About my qualifications: I have introduced relatively few forecasts of critical events during my 40-odd years as an economist (not counting my repetitions of some of those warnings). To date, every forecast which I have made on the basis of my LaRouche-Riemann method has been confirmed by timely developments. I now present a summary listing of those forecasts, for the purpose of identifying my authority for designing the indicated test of economic sanity.

1) During late autumn 1956, in connection with a marketing study, I forecast the imminence of a major U.S. economic recession, triggered by the over-stretch-
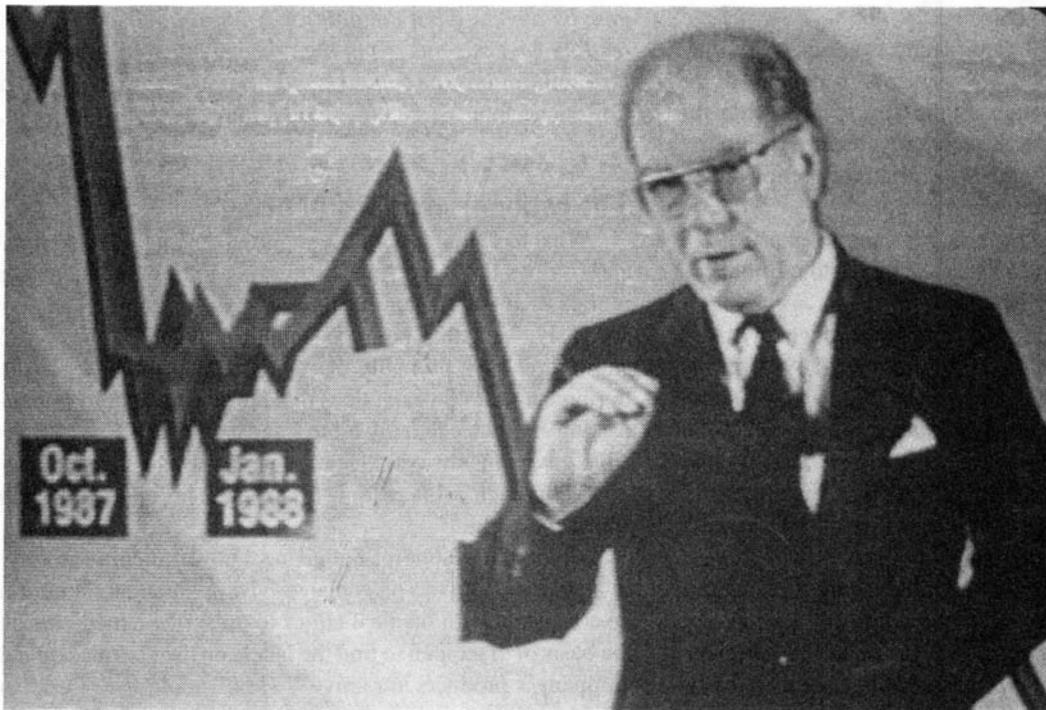
Lyndon LaRouche, during a nationally televised presidential campaign broadcast in April 1988, compares the collapse of the U.S. economy to a bouncing ball, whose rebound gets lower and lower with each successive bounce.

ing of a post-1954 credit-bubble centered in financing of automobiles, housing, and analogous consumer goods. This recession broke out in February 1957 statistics, and was generally, if reluctantly acknowledged to have occurred several months later. The recession-spiral lasted into mid-1958, and was followed by a prolonged stagnation until an upturn appeared under the Kennedy administration.

2) During 1959-60, I made my first long-range forecast: that near or shortly after the middle of the 1960s, we would see the first of a series of major monetary disturbances, leading toward a collapse of the existing Bretton Woods agreements. I forecast that this collapse would see increased looting of what were then termed developing sector nations, and that the breakup of the Bretton Woods agreements would lead rapidly to austerity measures modelled upon those of fascist regimes, in international economic relations and in the U.S. domestic economy.

All of my economics forecasting and related activities of the 1960s, through spring 1971, were premised upon that same judgment. The first of the series of major monetary disturbances of the period occurred with the collapse of the British pound during November 1967, followed by the dollar crisis of January-March 1968. The break-up of the Bretton Woods agreements occurred beginning Aug. 15, 1971, and was consolidated by the Azores monetary conference of 1972. In immediate response to the August 1971 development, the U.S. government instituted the radical austerity measures known as Phase I and Phase II.

3) In November 1979, during my campaign for the Democratic Party's presidential nomination, I warned that the measures which the Carter administration and Federal Reserve had just taken, at the urging of newly appointed Federal Reserve Chairman Paul A. Volcker, would lead to the outbreak of a devastating recession, beginning early 1980. Every detailing of that forecast by *EIR* magazine's quarterly projections through 1983 was the most accurate forecast issued publicly by any agency; in fact, most, including Chase, Wharton, Evans, and Data Resources, were absurd in their sensing of the direction of the trends.

4) In February 1983, in the course of an exploratory back-channel discussion I was conducting with Moscow in coordination with the Reagan administration, I informed the Soviet government, that if it were to reject what later became known as the Strategic Defense Initiative of March 23, 1983, the strains on the Comecon economy would lead to a collapse of that economic system in about five years. This forecast was repeated in an *EIR* Special Report, *Global Showdown*, issued July 1985. The collapse occurred during the second half of 1989.

5) In spring 1984, in my renewed campaign for the Democratic Party's presidential nomination, I warned, in a nationwide half-hour TV address, and elsewhere, of the outbreak of a collapse in a large section of the U.S. banking system: the savings and loan and related sectors.

6) In May 1987, I forecast, as published in *EIR* magazine and elsewhere, the outbreak of a major collapse in the stock

market beginning approximately Oct. 10, 1987. This was my first and only stock-market forecast.

7) During my renewed Democratic candidacy of 1988, in a nationwide half-hour TV address, I described the "bouncing ball" phenomenon as the key to following the continuing collapse of the U.S. economy through the course of apparent, short-term fluctuations relatively up or down. That has continued to the present day.

8) During my renewed Democratic candidacy of 1992, I warned that we were already gripped by a global financial mudslide, "down, down, down."

This is a record of nearly 40 years, a record which cannot be even approached on the public record by any currently living economist, even by France's (and *Le Figaro*'s) eminently sane Nobel Prize-winning Maurice Allais.

Out of that same unequalled competence, I say to you now, as I informed various relevant scientific institutions of Russia during the last week of this April past: *The presently existing global financial and monetary system will disintegrate during the near term. The collapse might occur this spring, or summer, or next autumn; it could come next year; it will almost certainly occur during President William Clinton's first term in office; it will occur soon. That collapse into disintegration is inevitable, because it could not be stopped now by anything but the politically improbable decision by leading governments to put the relevant financial and monetary institutions into bankruptcy reorganization.* That is LaRouche forecast No. 9—the addition to the list of eight, above.

The rational standard of belief

What has been summarily reported on the first eight forecasts shows that something is missing in the intelligence or morals of anyone who refuses to take the ninth forecast very seriously. Yet, that being said, although the public record shows that I am probably the world's best forecaster living during the past 40 years, does that unmatched record in forecasting guarantee that my ninth forecast is right? Any responsible government says, "He may be the world's best economist, but, even in his case, I still need the proof that his ninth forecast is right."

Think of an economist advising a government as morally in a position like the physician advising a patient. Would it be consistent with medical ethics to prescribe a medicine on the basis of "I happen to find the labels on the pharmaceutical company's products attractive"? How should the physician

Bank of England replies, defends derivatives

EIR spoke to Bank of England Governor Eddie George's press spokesman John Footman on June 13, and read to him the first couple of paragraphs of Lyndon LaRouche's article, describing George as a case study of the dictum "whom the gods would destroy, they first make mad." We asked whether George really believed what he was saying, or whether he was only mouthing such words to keep down the level of panic.

Footman replied, with his best City of London cool: "Our perception is that there is a need to monitor risks and regulators. We sympathize with some of the concerns that we see in the GAO [U.S. General Accounting Office] report on derivatives and other places. We are concerned about the derivatives transactions done by subsidiaries of securities firms. The generation of a speculative bubble would concern us if we saw that, but we see the risk being laid off in various directions, in an extremely complex way. What we need to be sure of, is that traders are not suffering undue risk, and that traders protect themselves from counter-parties, such as hedge funds. We need to watch all this very closely, and to make sure that all this is done in a professional way."

Then the Bank of England sent an "urgent fax" to *EIR*'s office in Germany, the text of a speech by Executive Director Brian Quinn before a joint meeting of the Futures and Options Association and the Futures Industry Association on May 25. The speech is entitled, "A Central Banker's View of the Growing Use of Derivatives." Here are excerpts:

"The ingenuity of the specialists who design and price derivatives products . . . seems boundless. . . . No officer charged with managing other people's money can afford to ignore the benefits that can come from a judicious use of the current range of derivative products; and business and finance courses at universities and colleges already see derivatives as a subject that must be covered in the curriculum. . . .

"Derivatives are here not only to stay, but probably also to grow, albeit perhaps at a less hectic pace. . . . Derivatives do not entail any new risks. . . . If the presence of derivatives makes prices of financial assets more volatile, does this necessarily mean the financial system is inherently less stable? The instinctive answer to this question seems to be 'yes.' However, academic work—while inconclusive—suggests that, if anything the opposite is the case. . . . More generally, the markets seem to be developing their own safeguards and sanctions, not least in the form of losses to shareholders."

—*Mark Burdman*

judge? He is morally responsible for using scientific method, and for working in concert with those other members of the profession whom he knows to be governed in their utterances by obedience to scientific method (rather than some official of an insurance company controlled by investment trusts, for example). What is the comparable ethical requirement in connection with economic prescriptions?

Contrary to what most scientific illiterates among U.S. college graduates believe today, *science is not statistics. Science is the method by which a series of successful fundamental, and other crucial discoveries have been generated. Science is not mathematics; it is the delimiting conditions which the successively successful method of physical science, over nearly 2,500 years since Plato's Academy at Athens, imposes upon mathematics today.*

Any responsible government today is asking the following three questions about the ninth forecast in that series: 1) Is the method which I employed to develop the first eight of these forecasts consistent with the method upon which the ninth depends? 2) Is the method which opponents of this forecast employ identical to the failed method which their circles used in failing to meet the standard of each and all of the first eight forecasts in my series? 3) If the answer to the preceding questions is "Yes," then show the additional, crucial proof that my method conforms to the actual principles by which physical growth in economic processes is sustained.

That is what any responsible government will demand of me, once it recognizes that it would be terribly, morally reckless to continue its disastrous former blind faith in my failed "Brand X" competitors of the post-World War II period, such as John Von Neumann, Abba Lerner, Milton Friedman, Friedrich von Hayek, Karl Popper, Arthur Burns, Paul Samuelson, George Shultz, Paul Volcker, Margaret Thatcher, Wharton, Evans, Chase, Data Resources, and, at the bottom of the barrel, that notoriously poisonous academic imp from Harvard, Jeffrey Sachs.

The future will judge the governments and the electorates of the present by the way in which they respond, or fail to respond to their obligation to pose those policy questions respecting that ninth forecast. The future will demand: 1) If you had asked those questions, you might have foreseen the mass-murderous disaster which was about to hit your nation and the rest of the world besides. Did you ask those questions? 2) If you did ask those questions, did you receive an answer? 3) What would have been the result had you accepted that answer? *This moral accountability applies to government; it may determine whether or not certain economists deserve to sit in Hell; it is also a measure of the morality of the voting-age population in general.*

The reader will find all the crucial features of the method employed in all nine of the list of past and present forecasts identified adequately in many published locations, including two most recent editions of the quarterly journal *Fidelio.* "On LaRouche's Discovery," (Spring 1994) is an account of the original work, over the years 1948-52, which produced my original fundamental discovery in the science of physical economy. This, including footnotes (pp. 37-55), is a concise report of the discovery. The second, longer treatment of the significance of economic policy in history, is found in "The Truth About Temporal Eternity," in the Summer 1994 issue.

If the reader has advanced competence in mathematical physics, including the issues associated with such matters as Bertrand Russell's fraudulent attacks upon Bernhard Riemann and Georg Cantor, or the related matter of Kurt Gödel's shattering proof of a crucial blunder by John Von Neumann, those two articles report enough to constitute rigorous scientific proof. If the reader lacks that advanced training, the contents of the two articles will be nonetheless highly informative and relevant.

It is my intent, that any literate person, whether one with adequate scientific training or merely good moral sense in such matters, will be suitably informed by the following description of the proof for my ninth forecast.

What is a financial bubble?

As the first step in understanding the derivatives bubble about to pop, ask yourself the question which I posed to members of my class in economics back in 1966, a class which included Virginia's present-day Democratic celebrity Nancy Spannaus and a number of other university graduate students. Why do slumlords find investment in New York City slum-housing so profitable? Nancy Spannaus, together with others among those graduate students, set up a field investigation, a project which involved many long hours at the New York Hall of Records, tracing the history of New York slum properties and their sites back as far as several generations. Spannaus and other members of the task force found and proved the answer to my question.

Take any income-producing investment, whether a factory, a farm, a retail sales outlet, or a slum rental-housing property-title. From the total revenue which the owner of that investment obtains annually, a certain portion is taken out of the total. By "taken out" is signified "not poured back into reproducing or improving the physical operations of the investment itself." Four elements of this withdrawn portion of the total sales revenue are of primary concern to us at this moment: Withdrawn *rent, interest, profit,* and a certain portion of the *taxes* paid.

Focus for a moment upon the withdrawn-rental portion— the portion of the rent not put back into either paying taxes on the real estate or maintaining and improving the structure. Let us suppose that the current holder of the title to that slum rental property decides to sell this property as a rental property; how do we determine the expected valuation used for determining the selling price? *That valuation will not be based on the cost of constructing a replacement building, or*
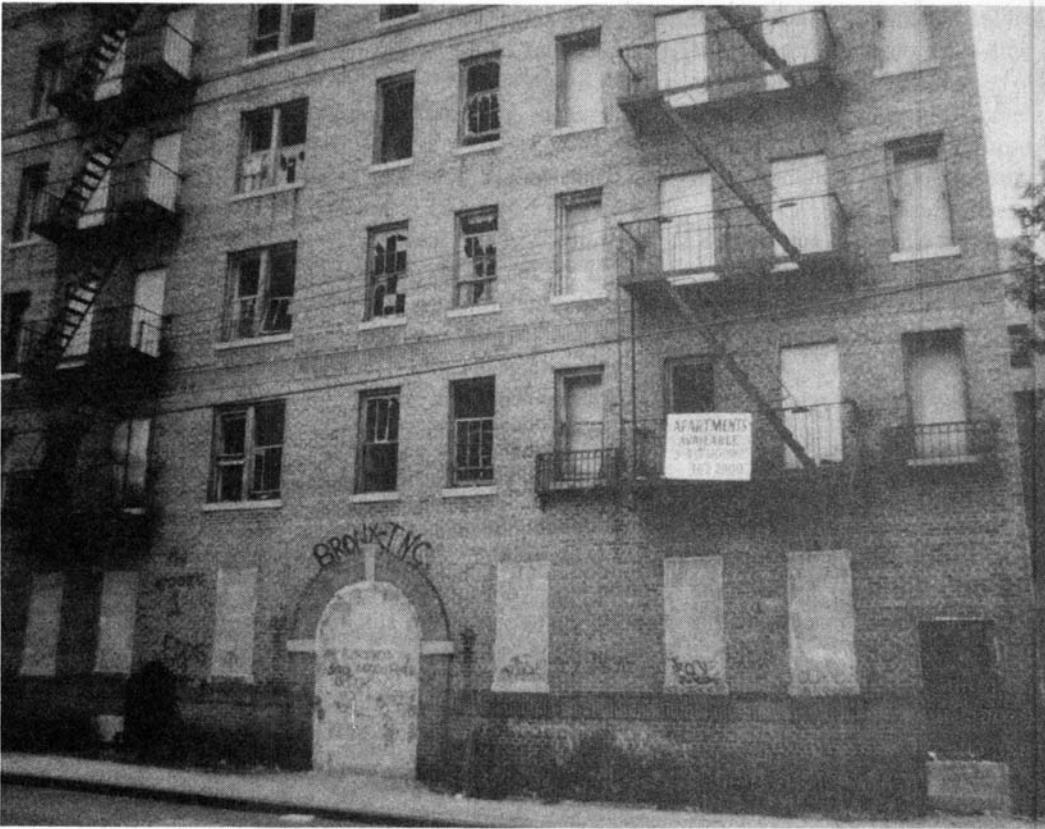
A scene in New York City's South Bronx. As LaRouche and his associates documented back in 1966, a slumlord can make more profit on properties used by poor families, than a legitimate landlord can take in from decent housing. This fact was a harbinger of the age of utter economic degeneracy which we have now entered—the age of junk bonds, hostile takeovers, and derivatives.

the depreciated original cost of the building; it will be based upon a multiple of the withdrawn portion of the rental income, or some analogous consideration.

Thus, for this classroom example, we have two values for that slum property. One is the depreciated value of the original construction, including depreciated value of improvements added. The other value is a multiple of the portion of the rental income withdrawn from the physical cycle of maintenance and replacement by the holder of the title. Let us give a name to the difference between the depreciated value of the original construction and the market value assigned to the rental income from that building. In 1967-69 New York City, the latter valuation was vastly greater than the first. The increase of the latter valuation over the former is termed *fictitious capital.*

The task force of which Nancy Spannaus was a member found that the slumlord system was extracting greater actual rates of return on slum properties used by very poor families, than more legitimate landlords were taking in from decent housing renting to middle and higher income households. By squeezing the rental income to the maximum, through non-maintenance and use of related tricks, a slum property realized a higher yield than a non-slum property. One could have seen in those facts a warning of the coming age of utter economic degeneracy, the age of junk bonds, hostile take-overs, and derivatives: one might say, the age of the keenest

admirers of George Bush and Maggie Thatcher. The landlord with the scummiest morality, and the least degree of redeemable value to society, was being rewarded more richly than a landlord with decent morals.

That economic category, *fictitious capital,* is key for understanding why the present-day derivatives bubble is precisely analogous to a cancer of the world financial and monetary system in its terminal phase. Let us describe the present global bubble in these terms of reference, before turning to analysis of some of the crucial points of our proof.

Instead of a 1960s slum rental property, take today's near-approximation of that: Milton Friedman, Margaret Thatcher, George Bush, and Wendy and Sen. Phil Gramm's (R-Tex.) U.S. economy. That is the "post-industrial" United States which has replaced its steel industry-centered economy with a free-to-steal marketplace economy, the present-day *Wall Street Journal, American Spectator,* and *Washington Times'* s economy of Michael Milken and kindred neo-conservative bandits.

It is visible that the net physical investment in maintenance and improvements of productive capacities of basic economic infrastructure, farms, and factories has long since dropped way below the level of zilch. The collapsing of farms (for the greater glory of George Bush's cronies in the grain cartel), and the collapsing of numbers of industrial

and other skilled operative's work-places shows conclusively that the U.S. economy is being contracted rapidly by a process of asset-stripping. This is a global process. It took off first in the developing sector, especially after the installation of the post-August 1971 "floating exchange-rate monetary system," in place of the former gold-reserve standard set earlier by the Bretton Woods agreements. After the introduction of the New York Council on Foreign Relation's 1975-76 "controlled disintegration of the economy" doctrine as Federal Reserve Chairman Volcker's October 1979 "Volcker measures," this disease of looting spread throughout the U.S. economy, into all sectors.

By the beginning of the 1980s, through the asset-stripping already in place during the "post-industrial" binge of the 1970s, the United States economy had lost the technological capabilities on which the successful 1960s manned landing on the Moon had depended. Under the guidance of Senate president and later President George Bush—as the late Robert Benchley wrote back in 1943—matters went "from bed to worse." From the end of 1982, the asset-stripping process ran amok under the influence of the Gramm-Bush push for radical deregulation of finance. The measures of deregulation pushed by Bush and Gramm could be fairly termed the "Kravis and Milken Junk-Bond Feeding Legislation." The "planned train-wreck" called the Gramm-Rudman bill, putatively intended to balance the budget, balanced nothing, but rather unbalanced much of what was left of the economy, and also the minds of its credulous supporters.

Look at this degeneration of our economy through the eyes of a 1960s New York City slumlord—his admiration would be orgasmic.

Look at the real income-stream taken away from the "reproductive cycle" of the process of production and distribution of goods and of such specifically indispensable services as education, health care, and science. Trace the profit, interest, rent, and taxes from these sources. Now carry that extraction away from reinvestment in the physical improvement of those cyclic processes of production and distribution of product, and sell those extracted sums of income-flow on the financial market. Sell them as slumlords sell property titles to slum-rental holdings—not the physical property, but rather the legal title to the rental income.

Generate thus large masses of fictitious capital. Now, in addition to the real-income stream from primary sources of rent, profit, interest, and taxation, a second kind of income-stream has been generated, *fictitious capital gains.*

In any market economy, even in the rural barter of livestock, the occurrence of *fictitious capital* and of *fictitious capital gains* is endemic. Under certain kinds of conditions, the pyramiding of fictitious capital gains as an income-stream upon which a second order of fictitious capital is generated, sets into motion a process made famous in modern economic history by such disastrous lunatic binges as the seventeenth-century tulip bubble in the Netherlands, the early eighteenth-century South Sea Island and Mississippi bubbles, and today's Bush-league practices behind the junk bond and derivatives bubble.

As long as money and assets discountable for money treat such property-titles and contracts as negotiable assets, money treats real-income streams and fictitious capital gains more or less equally. In this circumstance, a legion of worse-than-useless Wall Street, City of London, and kindred parasites around the world become immensely rich, while families of farmers, industrial operatives, ordinary honest businessmen, and the nation at large become increasingly poor, even as destitute as Russia under the policy-influences of Margaret Thatcher, George Bush, and Jeffrey Sachs.

As long as the prospective purchaser is prone to act upon the belief that a nominal capital gain in a contracted fictitious capital represents an expected and discountable income-stream, this imagined new income-stream can be assigned a fictitious capitalization in the same way a slum-property title is assigned a fictitious valuation based upon the purchaser's willingness to pay a market-price for acquiring title to the stream of rental income. Once this next phase in the spiral of financial speculation becomes the basis for a new market in such instruments, a process of "geometric" growth of nominal fictitious capital is unleashed. A ballooning of fictitious aggregates occurs. That is the distinction of a true speculative bubble, as contrasted with endemic forms of speculative activity within markets.

What is a 'cancerous bubble'?

The present global financial and monetary bubble goes one fatal step beyond a mere ballooning of fictitious capital gains. It has a dimension which marks it as fatally cancerous for the financial and monetary systems which it infests.

Asset-stripping is the key to this point.

Let us use the term "leverage" to identify the implied multiplier which converts an imputable annual rate of income-stream into a corresponding magnitude of nominal fictitious capital. In the case of the slumlord, looting the tenants to increase the income-stream from rental income is a way of increasing the imputable income-stream, and thus the fictitious capitalization of the property-title. The valuation of the secondary and tertiary fictitious capitalizations spun off from the imputable marginal gains in fictitious capitals are themselves so based upon leverage against the primary, real income-stream.

The valuation of the interconnected whole market in fictitious capital gains depends thus upon both the relative and corresponding absolute magnitudes of the primary income-streams taken as a whole. This fact is illustrated dramatically by the case of the asset-stripping needed to sustain the massive creation of fictitious capital in the RJR Nabisco operations. Without massive asset-stripping against the economy as a whole, the speculative bubble as a whole would have collapsed approximately a decade ago.

This is complicated by the fact that without an increase in the flow of fictitious capital gains at the top of the bubble, the bubble as a whole would collapse. For, without a continuing growth of the magnitude of fictitious capital gains, the bubble as a whole would collapse under pressures of reversed leverage.

"Collapse" would be a most misleading sort of euphemism in that case. "Reversed leverage" in such a bubble is best approximated mathematically by the same Kolmogorov equations used to describe a chemical, fission, or thermonuclear explosion, or a firestorm like that which the British wartime Royal Air Force created at Hamburg and Dresden: in mathematical-physical terms, a "shock front," and a very hard one at that. In effect, one evening the financial markets appear normal, stable; by the end of the next day, or something approximating that, everything is rubble; the financial and monetary system built up since August 1971 has disintegrated as it were in a single day's trading.

As in the case of a heroin or methadone addict, the habit of looting the real-economic basis must be fed to prevent a collapse. Feeding the habit prevents the immediate collapse by hastening the date of total collapse. The addicted state is destroying the basis upon which it feeds to sustain itself. As is illustrated by the tragic fate of the enterprises gobbled up in the RJR Nabisco caper, this is the fate of the world's economy under the rule of the cancerous financial bubble marked by derivatives speculation.

So, to sustain the bubble, the bubble must grow. To cause the bubble to grow, the real basis must be looted more savagely: asset-stripping. We see the result in the collapse of the constant-dollar value of the market-basket of per-capita and per-square-kilometer real consumption by households, farms, and manufacturing. We see the collapse of the similarly adjusted value of tax-revenue base per capita and per square kilometer.

Go back to 1913, to Paul Warburg's notorious Federal Reserve System scheme. See Confederate agent Alan Bulloch's nephew, Teddy Roosevelt, running a Bull Moose campaign to bring about the election of Ku Klux Klan booster Woodrow Wilson. Both are supporters of Warburg's Federal Reserve and federal income-tax proposals. Roosevelt's actions, and the later Wilson White House backing for the re-founding of the Ku Klux Klan, ensure three things: that the two acts will be declared legally enacted, and that the United States will be pre-committed to go to the side of Britain's planned war against Germany (otherwise Britain would not have gone to war, and then there would have been no World War I, or its sequel World War II). Look at the present situation from the standpoint of the state of Paul Warburg's original Fed and tax system proposals back about 1913, and look briefly at the relevant preceding development, the U.S. Specie Resumption Act of 1875-79. Look at the relationship between Federal Reserve-engineered U.S. debt-service charges and the U.S. income-tax revenue today, and then the significance of the derivatives bubble is clearly symptomized: Doom is on the way.

Through its relevant U.S. agent, the House of Morgan, London bankrupted the United States government during the last quarter of the nineteenth century by a congressional law called the U.S. Specie Resumption Act. This act, enabled through massive corruption of members of the Congress, unlawfully repealed relevant sections of Article I of the U.S. federal Constitution, by requiring the U.S. government not only to cease engaging in its sovereign constitutional right to issue currency, but to call in existing, Lincoln-series U.S. currency-notes to a degree conforming to the demands of the London gold-exchange market. This collapsed the United States into a protracted social crisis, manipulated from London, under which conditions London was able to buy up the choicest morsels of the still-growing U.S. economy. By the turn of the present century, London, which had been constantly the principal mortal adversary of the United States since 1763, was suddenly promoted in Jim-Crow Anglophile America into our closest ally! The natural follow-on to the protracted crisis caused by the Specie Resumption Act was the plainly unconstitutional Federal Reserve System.

The Federal Reserve System is key to the derivatives bubble of today. Without corrupt, virtually treasonous complicit officials at the Fed, the speculative mania which has ruined our nation and much of the world besides would not have been possible. The Fed is a privately owned central bank, chartered by the federal government, which has gained increasing, unlawful, extortionist power over our government itself. It is principally an agent of those major commercial banks and private banking and other financial houses based in New York City. During the recent 15 years, the principal functions of the Fed have been to manipulate the U.S. government in Washington, and to use the monetary authority usurped by the Fed to subsidize bankrupt and other banks and other wild speculators in New York City and associated localities.

The Fed operates in collusion with complicit Treasury officials to increase the private indebtedness of the U.S. government to the clients of the New York City-based market in U.S. bills and other securities. This debt-creating mechanism is used principally to feed the Fed's process of generating its own unconstitutional, private U.S. Federal Reserve currency-notes; this generation of currency-notes is managed to generate a subsidy for the Fed's true private owners, and, during the recent dozen years, to feed the Bush-leaguers' wildly speculative financial bubble-building.

When the Fed was originally conceived, the adoption of a national income-tax was designated as the lawful source of budgeted funds to meet the debt-service obligations upon the Federal Reserve-created U.S. government debt! Now, we see that the U.S. revenue from the income-tax is being gobbled up more and more by the debt-service requirements on

the federal debt! As the sign carried by the fellow wearing the white robe and beard says, "The end is nigh!"

The constant-dollar value of the per-capita tax-revenue base is contracting, largely as a result of the asset-stripping impact of Bush-league speculation practices. To increase the tax rates on anything but the speculative financial markets themselves would be to increase the income-stream out of the real economy, accelerating the economic contraction, hastening the collapse. To cut entitlements, another persisting proposal made on behalf of the Wall Street speculative pirates, would have similar effects.

That relationship between federal debt-service and income-tax base is but one of numerous signs to the same critical effect. As the driver explained, bringing the bus to a halt before the washed-out bridge, "Brother, it looks like we are about to run out of road."

The cancer of speculative derivatives burgeons—an ugly growth. Worse, to exist, the cancer must loot the healthy tissue in at least equal degree. Thus the monster grows, while the human being is sucked to death so. Excise the tumors, kill the cancer without killing the healthy tissue. The task is destroy the parasite, to save its victim.

The issues of method

The problem has been described. We are thus situated to consider the likely varieties of significant objections to that description.

Known objections to the foregoing description fall into three broad classes, of which two can be summarily discarded as cases of a speaker who offers no rational argument for his no less vehement objections. The three are:

1) What we may describe fairly as the Eddie-George-the-pantry-bandit syndrome: "Mommy, you are exaggerating again; there are no cookies in this jar."

2) The opinionated-common-gossip syndrome: "People whose opinion I respect say that you are wrong."

3) The academic standpoint: any one or a combination of several fads commonly taught in contemporary classrooms, textbooks, and economics and financial trade periodicals.

Only the last has any further interest for us here.

Within that third class of objections, the principal academic premises are, variously or in combination: a) the marginal intellects, the utilitarians who deeply resent personally any attempt to distinguish between productive and non-productive occupations; b) the idiot-savant mathematicians of the "Chaos Theory" cults; c) the ever-faithful gnostics chanting, with an obligatory uprolling of the eyeballs, "the magic of the marketplace." Conveniently, all three, and related other varieties of professionalist objections, including the lately fashionable "Chaos Theory," share the fundamental flaw of the late John Von Neumann's efforts to derive a mathematical dogma of radical marginal utilitarianism from a set of linear inequalities.

It greatly simplifies the discussion to begin with a thumbnail historical account of the controversy over the appropriate method for study of economic processes.

Let us situate the internal modern history of political-economy in a nutshell. Modern political-economy began to be developed in Cosimo de' Medici's mid-fifteenth-century Florence, Italy through the initiatives of the Byzantine scholar George Gemisthos, also known as "Plethon." It began to assume modern form during the sixteenth century, in such expressions as the writings of France's Jean Bodin and the establishment of political-economy within a body of statecraft known formally as *cameralism.* The first work establishing a scientific basis for the study of political economy was Gottfried Wilhelm Leibniz's development of a branch of physical science known as *physical economy* over the interval 1672-1716.

At the end of the seventeenth century, Venice's far-flung intelligence services launched a vigorous campaign throughout Europe, mobilizing for the destruction of France and the discrediting of Leibniz. The key figure leading this eighteenth-century operation in the field—in France, Britain, and Germany—was a most senior Venetian nobleman, Abbot Antonio Conti (1677-1749), whose network included such notorious Venetian operatives against France as Giovanni Casanova (1725-98), Count Alessandro Cagliostro (1743-95), and the founder of late-eighteenth and nineteenth centuries' British radical empiricism, Giammaria Ortes (1713-90).

The point to be stressed here is that all of the doctrines for which Adam Smith, Jeremy Bentham, and Thomas Malthus are best known today were copied from the writings of Giammaria Ortes. It was through the work of Ortes that Smith obtained his dogma of "the invisible hand," and Jeremy Bentham his "hedonistic calculus." Malthus's 1798 *On Population* is a direct plagiarism, in more popularized language, of Ortes's 1790 *Riflessióni sulla Popolazióne delle Nazioni.*

To situate the discussion, consider the widespread lie which asserts that the United States was founded upon Adam Smith's doctrine of "free trade." The fact is, the economic and social issue of the U.S. War of Independence against Britain was the American colonists' rejection of Britain's eighteenth-century version of "International Monetary Fund conditionalities," in favor of what was called later a "protectionist" economic policy.

"Free trade" was first brought to the United States in 1783, as a peace condition dictated to France and the United States by Britain's Lord Shelburne, in the 1783 Treaty of Paris. As a consequence of this concession to British "free trade," the economies of the United States and France were bankrupted by 1789. The United States used its head, wrote a federal Constitution which arranged the outlawing of "free trade," and recovered to prosperous growth under President George Washington and Secretary of the Treasury Alexander Hamilton. The king of France acted differently; failing to use his head, he lost it.

The strongly Leibniz-influenced economic policies of the

U.S. federal Constitution and the first George Washington administration were known officially from that time onward as the anti-British "American System of political-economy."

"Free trade" was revived in the United States several times during the nineteenth century. Under the influence of British agent Albert Gallatin from within the second Jefferson administration and the Madison administration. Under the influence of British asset and New York banker Martin van Buren over the second Jackson administration, causing the Panic of 1837. "Free trade" was the doctrine of the New England opium-traders and the southern pro-slavery faction during the early nineteenth century. Under the treasonous Pierce and Buchanan administrations, the effects were ruinous. Every period of economic recovery into 1875 was the direct result of rejecting "free trade" in favor of reviving the "American System" policies of Franklin, Hamilton, Henry Clay, Mathew and Henry Carey, and Friedrich List.

Despite Cobden and Bright and their "Corn Laws" reform, throughout the late eighteenth and the nineteenth centuries, Britain never made a general application of a "free trade" dogma to itself, but only to those competitors and colonies which it looted for the enrichment of the London financial houses. To defend what Britain saw as its special economic or related interest, she was a jealous protectionist, to the point of war. Her policy on that point could be fairly described: "Free trade was meant for the suckers." The "invisible hand" turns out to be her hand in your purse.

All of the grounds for putatively professionalist objections to my description of the speculative process, including the work of the utilitarians, of Walras, of John Maynard Keynes, of Von Neumann, of the modern "Chaos" theorists, and so on, are merely different disguises for the same underlying set of mid-eighteenth-century axiomatic assumptions introduced to Britain through the work of Giammaria Ortes. All of the issues posed by the third of the three named classes of critics can be addressed comprehensively, and most efficiently, by examining the crucial differences in axiomatic assumptions separating the method of Leibniz's influential science of physical economy from the derivatives of Ortes's hedonistic calculus.

The essential difference between Leibniz's physical economy, on the one side, and the liberal, Marxist, and neo-conservative dogmas, on the opposing side, is between those, like Leibniz, who base the measure of economic performance on the starting-point of *human demography,* and those, like British economist Karl Marx, who are obsessed from the start with someone's primeval hoard of "my money." First, look at political-economy from the standpoint of Leibniz's and my own science of physical economy, and then contrast that with the teachings of a mathematical pseudo-science such as John Von Neumann's and Oskar Morgenstern's famous *Theory of Games and Economic Behavior.*

Demographic science

The science of physical economy is premised upon the conclusive proof that the human species is unique in the known universe, set absolutely apart from and superior to all other known forms of existence. The crucial evidence for this conclusion is found in studies of *the changes of the human species' potential relative population-density:* Only mankind is manifestly capable of willfully increasing this potential population-density by decimal orders of magnitude.

The study of this phenomenon begins with scrutiny of two more readily measurable sets of phenomena: *changes in demography,* and *changes in the per-capita productive powers of labor.* First, we examine changes in relative population-density, and then their correlatives in, second, demographic characteristics, and, third, productive powers of labor.

As a matter of elementary scientific rigor, implicitly this study encompasses many different cultural series over thousands of years, and even longer, preceding our time. Of course, it also includes the past 600-odd years since the fourteenth-century European Black Death pandemic. *The scope of the investigation indicates that the question of money is introduced only as a tertiary feature of the studies. We are concerned primarily with the physical relationship between society and nature as a whole; the principles involved must be adduced without introducing any consideration of money. Money matters are studied later, against the background of the monetary system's interaction with the physical-economic processes upon which money-systems are superimposed.*

In demography, we begin with the obvious considerations of fertility of households, and life-expectancy and conditions of health of households' members by age-interval stratifications. We consider not only the typical individual household, and also the immediate society with which the household is associated, but also the reciprocal functional interaction of the individual person and the society with one and another, and of both with the entirety of the human species. We examine the productive powers of labor in terms of a demographic model of social reproduction of the household, the society and mankind as a whole. We measure these productive powers in terms of the market-baskets of both households' goods and of means of production required to maintain improvements in demographics per capita, per household, and per square kilometer above a conjecturable "0," or so-called "equilibrium level."

We examine the effect of the development of basic economic "hard" infrastructure (e.g., water, general land-transport, power, sanitation, and communications) upon demographic and productive factors. We include three qualities of services—education, health care, and scientific and equivalent development—as "soft" infrastructure, and also include as "hard" infrastructure the logistical means required for

maintaining these three essential categories of services to households and productive facilities.

To shorten the account, sum up a number of steps in the following terms:

We define consumption in terms of a roster of goods included in market-baskets of consumption, whether by households, or by production of goods. *Excepting the three indicated special classes of services (education, health-care, and scientific progress), the designation of* goods *is limited to physical goods.* These goods are listed as elements of *market-baskets,* each associated with corresponding categories of the general social division of labor in employment. We have as broad categories of market-baskets: *households' goods, hard-infrastructure goods, soft-infrastructure goods, agricultural producers' goods, industrial producers' goods,* plus a general social-overhead allowance for consumption by other categories of employment as a whole.

We also define economic activity by categories of land-use. We have waste land, reserve land, land used for urbanized and rural residence, respectively, land used for urban administrative and general social functions, and land assigned to the categories of each of the principal elements of the social division of labor.

In practice, in a well-designed university curriculum, economic science starts with the study of the changes in these categories and their ratios during the recent 550 years in western Europe and the Americas. Once the student is familiar with the conceptions which are prompted by studying five centuries of changes in those locations, the student is prepared to contrast the modern European case with the qualitatively different cases during the preceding 2,000 years of European civilization, and with the older civilizations of Asia and Mediterranean Africa to about 6000 B.C. Those studies prepare the student to study pre-Columbian America, Oceania, and sub-Saharan Africa. This gives the student a global overview within the bounds of the intraglacial warming period in which we presently dwell. And, so on.

The ascertained cause for the somewhat correlated changes in potential population-density, demographic profiles, division of labor, land-use, content of market-baskets, and so on, is changes in human behavior of a quality typified by valid fundamental scientific progress. Such scientific progress merely typifies the quality of thinking common to the spectrum of changes in statecraft and in Classical forms of fine arts which, together with scientific-technological progress, cause the improvement in demographic performance. In other words, *what is reflected here is an increase in mankind's per-capita power over the universe, as measured in respect to per-capita power per square kilometer of the Earth's habitable surface.*

The subjective cause for the increase of this power admits of no description other than "creative powers of the individual mind." The case for a valid fundamental discovery within the scope we assign to the name "mathematical physics"
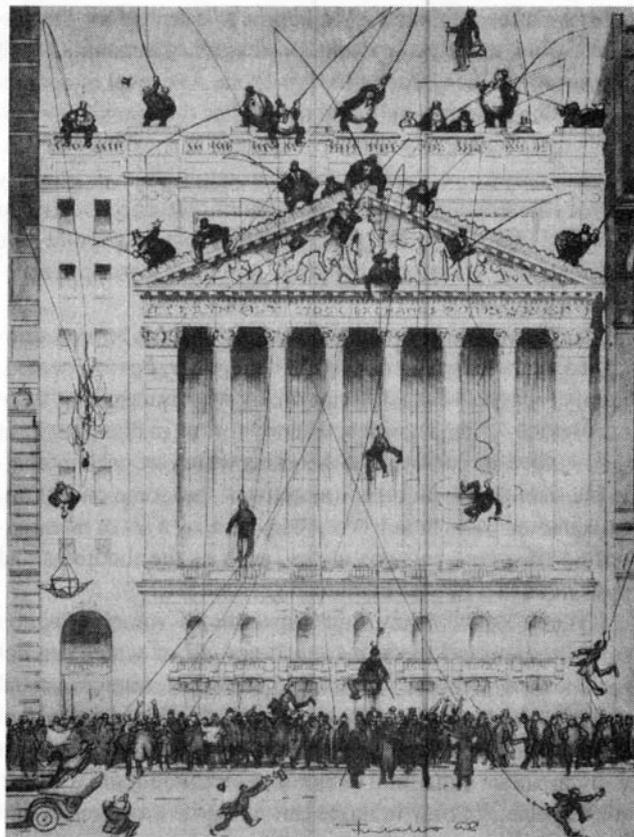
A 1921 cartoon entitled "The Anglers" shows speculators fishing for victims in the stock exchange. Today, the speculative mania has created the biggest financial bubble in world history.

typifies this argument. For our purposes here it will be sufficient merely to summarize the argument supplied in the indicated relevant sources.

Technology as creativity

In any branch of science, there is no way to avoid certain deep-going conceptual problems without foundering forever in the incurable incompetencies of one's own foolish babbling. In economics, the key such conception is that of *creativity.*

The investigation of this conception begins, pedagogically, with the subject of those forms of creative discovery which are most easily represented, the mathematical form of what are justly called "revolutionary," or "axiomatic-revolutionary" qualities of fundamental scientific discoveries. The yardstick we apply to the study of such discoveries and their impact is the standard of *technological progress,* by which we signify increase in the qualitative powers of physical productivity of labor per capita, per household, and per square kilometer of usable land-area.

Once the idea of "creativity" is removed from the domain of emotionally colored, vague imageries, and is rendered an intelligible scientific conception of willful practice, the

entirety of economic science begins to open up for the student. Until that step is made, professors of economics will never move much beyond the pre-Stone Age level of competence, bungling and babbling over all of the crucial conceptions upon which this branch of science is absolutely dependent. Once creativity is rendered an intelligible, practically applicable conception, all of economic science begins to open up rapidly for the student. From that standpoint, the incompetence of all critics of the foregoing description becomes transparent.

To the degree any mathematical physics can be represented in a mathematically consistent way, it may be represented, if only for purposes of description, by what is termed a "theorem-lattice." That signifies, that any formal mathematics can be regarded as a network of theorems which are each mutually consistent with all other theorems of that some collection. This mutual consistency is representable by a set of interconnected theorems and postulates, such as the theorems and postulates of a formal Euclidean geometry.

Therefore, we may think in terms of some collection of interconnected theorems, each and all of which are not inconsistent with any among that set of interconnected axioms and postulates. In looking at this business in that way, we are able to conceptualize both the presently known and yet-to-be-discovered theorems which would satisfy those restrictions. We may describe this as all the theorems of that formal mathematical-physical *type*.

Against this background, consider the case, that one is able to define experimentally a theorem which is true in nature but which is not consistent with any previously known mathematical-physical type. Close analysis shows that this new theorem requires a specific kind of change in one or more of the axioms of the presently accepted form of mathematical physics. Enter Socrates: The fun begins.

The question is thus posed implicitly. Suppose we adopt a new set of interconnected axioms and postulates, one which conforms fully to the new experimental theorem, which introduces only the absolutely necessary modifications in the previously established collection of axioms and postulates. Can we secure an experimentally valid, revised version of the theorems of the old system which fit the new set of axioms and postulates?

In effect, that is what a revolutionary discovery in science forces us to do. In that case, a crucial experimental theorem of those troublesome specifications has introduced an axiomatic-revolutionary change into formal mathematical physics. That kind of successive axiomatic-revolutionary change has been the characteristic of both formal mathematics itself and of modern physical science since Nicolaus of Cusa's *De Docta Ignorantia* of A.D. 1440. The discovery of Dmitri Mendeleyev's Periodic Law, Georg Cantor's transfinite, Max Planck's quantum of action, radioactivity, and nuclear fission typify the revolutionary changes which erupted at the close of the last century and the first three decades-odd of this.

Each of those required an axiomatic-revolutionary change in our notions of physics as a whole.

Over the millennia preceding A.D. 1400, the revolutions came more slowly, and there were even long periods of sterility, or even falling backwards in too many cultural strains. Yet, the same principle is reflected in the shards of very old prehistoric cultures. This type of willful increase in mankind's power over nature per capita and per square kilometer, is what most clearly sets the human species absolutely apart from, and above all other known forms of existence within physical space-time.

That brings the inquiry to a crucial point: "Why must one equate 'axiomatic revolutionary' with 'creative'?" The mastery of the science of physical economy depends upon the student's comprehending this connection. Once this point is grasped, the essential incompetence of today's politically correct university economists and their textbooks is shown readily. The immediate relevance of this is that it involves proof of the fraudulent character of the assertions of Norbert Wiener and John Von Neumann, and their followers the idiot-savant chaos-theorists, on the subject of the human intelligence and mathematics generally.

Logic versus creativity

Given two theorem-lattices, separated from one another by only a single change in axiom. There is no consistency between any theorem in one of these lattices with any theorem in the other. The difference between the two is therefore, mathematically, a formal discontinuity. In real life, this signifies, that in the case of every valid axiomatic-revolutionary discovery in mathematics, or mathematical physics, once we have discovered the axiomatic change which defines the successor theorem-lattice, we shall always be able, on principle, to treat every theorem of the preceding lattice as a special case of the latter; however, no theorem of the second lattice can be reached by consistency with the axioms of the first.

This principle was well known to Plato and his associates. Plato's *Parmenides* dialogue is a demonstration of the way in which a creative discovery must appear from the standpoint of the mere formalist Eleatic (or the Aristotelian Immanuel Kant's *Critiques*). To the formalist, such a discovery appears as an inexplicable leap of the intellect.

The classical modern illustration of Plato's point is the solution to the paradox in Archimedes' quadrature of the circle by Nicolaus of Cusa.

Until Cusa, mathematicians were fooled by the fact that a series derived from Archimedes' construction may estimate the value of the ratio of the circular radius, π, to any required decimal position. Cusa showed (A.D. 1440, 1453) that this apparent arithmetic convergence had an embedded falsehood insofar as one assumed falsely from the apparent convergence in numeric values that a circular perimeter was constructable in this way. The values were, in fact, nearly equal, but never congruent. Cusa defined circular action as of a

different, higher mathematical species than the Greeks had assumed all incommensurables to have been. Later (1697), the physical significance of Cusa's discovery was proven for radiation of light by Jean Bernoulli and Gottfried Leibniz, and established as the basis for what they termed "non-algebraic" or "transcendental" functions.

Since 1697, this discovery, known under the rubric of the *continuum paradox,*[1] has continued to be the center of the principal methodological controversy, and a source of the most significant classroom and textbook frauds within mathematical physics.[2] A crucial treatment of this from the standpoint of Karl Weierstrass's work was given by Georg Cantor's presentation of the series of *Aleph* transfinites (1897); the exposure of the axiomatic fallacies of the entire life's mathematical work of Bertrand Russell, and also the related work of John Von Neumann, was given by Kurt Gödel in 1931.[3] Despite the conclusive proof, from these and other sources, the denial of the existence of what Riemann describes as the "continuum paradox" persists stubbornly as a leading, fraudulent feature of the standard mathematical physics curriculum today. As in the exemplary cases of Norbert Wiener's popular *Cybernetics* and the work on economy and the human mind by John Von Neumann, this popularized classroom fraud plays a dominant role in the mistakenly generally accepted versions of professionally taught and practiced economics doctrine today.

Back during the 1940s, this writer sometimes amused himself by asking some of the pompous varieties of academ-

ics whether human life were statistically possible. The central premise upon which this writer's 1948-52 discoveries refuting Wiener and Von Neumann were based, was the position that a theory which cannot be shown to be consistent with the existence of the theoretician is bad physics. In later years, a few notable thinkers have expressed either the same or a very similar position.

Plato's Academy at Athens demonstrated their proof, that there existed geometric magnitudes which are not congruent with rational numbers, geometric magnitudes called "incommensurables." Later, Nicolaus of Cusa was the first to show us that we must divide those incommensurables into two distinct species, species which Leibniz later identified as the "algebraic" (the lower species) and the "non-algebraic" (the higher species), the latter commonly referenced today under the rubric of "transcendental functions." The continuum paradox, the central topic of Leibniz's *Monadology,* and the center of the work of Riemann later, must be recognized as showing us that there exists yet a higher species of mathematics. This is a higher domain in which the principle of cardinality is preserved, but not ordinality as we know it from the three lower species of mathematical domains. It is this last, the fourth and highest domain (from Cantor's Aleph 1 and up) which enables us to represent scientific creativity and its effects, a representation which is impossible from the standpoint of lower orders of mathematical physics.

So, although we cannot represent scientific creativity by any of the mathematical methods taught in engineering schools, a proper comprehension of the work of Cantor from the standpoint of Leibniz's *Monadology* and the Riemann Surface shows us how to deal with this formal problem once we have identified the physics of representing a demographic process of development under the impetus of technological progress.

Economic measurements

This problem was forced upon me during the 1948-51 interval of my efforts to define a rigorous refutation of the obvious frauds by Wiener respecting a Boltzmann H-theorem-based definition of "negative entropy," and Wiener and Von Neumann's mechanistic misconceptions of human thinking processes. My approach to that problem may be summed up as part of what ought to become standard pedagogy in any respectable university classroom in economics today.

The lesson of the internal history of mathematics, especially during the recent 550 years of the rise of European science, is that we must always seek to measure, but must not trust blindly the tape-measures which were issued to us as students in the classrooms or textbooks. Sometimes, we need to invent a new yardstick, just as we have today four distinct species of mathematics. Until the end of 1951, I knew of but three species of mathematics; I was about to learn a fourth, beginning January 1952.

Apply what was then, circa 1950-51, standard industrial

1. See Bernhard Riemann's celebrated 1854 *Habilitationsschrift, Über die Hypothesen, welche der Geometrie zu Grunde liegen,* in *Collected Works of Bernhard Riemann,* Heinrich Weber, ed., Dover, New York, 1953, pp. 272-287. For a passable translation, see Bernhard Riemann, "On The Hypotheses Which Lie At the Foundations of Geometry," Henry S. White, trans., in *A Source Book in Mathematics,* David Eugene Smith, ed. (1929), Dover Reprint, 1959, pp. 404-425, *passim.*

2. The cult-fad of "Chaos Theory" in political-economy, for example, is a delusion of those Bourbaki and kindred idiot-savants who confuse reality with arithmetic estimates assigned to computer algorithms such as Mandelbrot figures. The influence of the late John Von Neumann is largely responsible for the spread of this and kindred lunacies within political-economy and other areas. Norbert Wiener, the author of *Cybernetics* and co-author of "information theory," was justly expelled from a Göttingen University seminar by the great David Hilbert, for reason of the same methodological incompetence which Wiener later exhibited in his outrageous notions of "negentropy," and his own and John Von Neumann's sick notions of the human mind.

These and kindred pathologies explain some of the reasons for the high rate of insanity among many highly trained mathematical formalists. If one attempts to define a "general field" theory of mathematical formalism on the basis of the false assumption of Bertrand Russell, John Von Neumann, et al., that externally bounding limits can be accessed as a theorem of the externally bounded theorem-lattice, the person so deluded must either give up that assumption, as Kurt Gödel did (for example), quit mathematics, or become an obsession-crazed fanatic, a lunatic dwelling in some wildly mystical paranoid's fantasy world. Thus, in the ancient Greek cult of Delphi, it was recognized that peering out from between the cracks of the mind of Apollo there is a leering Friedrich Nietzsche, a Bakunin, a Richard Wagner, a Martin Heidegger, a raving Dionysos-Python, or, as Herodotus underlines, a Satan, an Osiris, a Siva.

3. Kurt Gödel, "On formally undecidable propositions of *Principia Mathematica* and related systems I," in *Kurt Gödel Collected Works,* Vol. I, S. Feferman et al., eds., Oxford University Press, pp. 144-195.

engineering knowledge of the structure of a successfully developing agro-industrial economy. Define as the relevant input and output of a function an array of households' and producers' market-baskets containing nothing *functionally significant* excepting a combination of physical products plus three categories of services: education, health care, and scientific progress. Draw a cut through the continuing cycle of production-consumption at any point. Measuring all inputs and outputs in terms of per capita, per household, and per square kilometer, compare the input (consumption by either households or producers) and output (products of infrastructure, agriculture, mining, and industry, plus services of classical forms of education, health care, and scientific progress).

Since any economic process trapped in a zero-technological-growth mode must collapse "entropically," our first concern is to maintain growth of productive powers of labor. Therefore, subtract input from output, and divide the remainder by input: The result must be larger than "0." The margin by which the ratio must be greater than "0" will be an amount greater than the rate of technological attrition.

Thus far, not problematic. Term the input "the energy of the system," and the remainder the "free energy" margin. See the ratio as a "free-energy ratio."

Then comes the problem: Not only must there be a rate of technological progress, to offset required growth plus effects of attrition of natural and man-improved resources; to sustain the needed, relatively rising free-energy ratio, the value of the energy of the system must increase per capita, per household, and per square kilometer. No matter how we adjust the list of items in the bill of materials and process sheets, that difficulty remains. That locates the crucial issue.

The next step, is to refine the picture by writing down and verifying a series of linear inequalities corresponding to the direction of changes in the social division of labor, and demography, which accompany the indicated, twofold transformation in the apparent functional form of rising free-energy ratio. The principal such inequalities describing successful economic growth of economies during the recent 500 years are described in my 1984 textbook *So, You Wish to Learn All About Economics?* It is easily shown that, during the same centuries, all economies which violated those constraints suffered decline, that violation of these constraints is the characteristic of declining economies.

There should be nothing surprising about the fact of my lines of inquiry into these matters during 1948-52.

During the late 1940s, after the 1930s depression, and following the war, experiencing the recession of 1947-48, and the 1949 economic recovery sparked by the Cold War revival of the Korea conflict, all we veterans who were reasonably sentient were aware of the anomalous fact that, during the twentieth century to date, the only prosperous periods had been those associated with relatively larger expenditures for the costs of war. During those days, the U.S. and other governments were frequently charged with seeking warfare

as a way of organizing an economic recovery! Thinking about the story behind that apparent economic anomaly did not make warfare less wasteful of life and material; tracing out a few economic facts made clear the reasons for the anomalous appearances.

The characteristic of modern regular warfare is exceptionally high rates of technological attrition. Technologies are developed during a few years of forced-draft, which would have required decades otherwise. As some of the Manhattan Project's veterans described this to me in some detail, the intensity of scientific collaboration in that undertaking packed decades into about five years of research and development. If the history of "crash program" technological development is traced from its origin in the 1793-1814 technological leadership of France by Lazare Carnot and Gaspard Monge, through the military and aerospace crash-programs of the subsequent 150 years, what stands foremost for one's attention is what may be fairly described as a four-step process for injecting high rates of prosperous growth into any modern economy.

The top of the mountain is fundamental (axiomatic-revolutionary) progress in science. Slightly down the slope, there is the elaboration of these most crucial discoveries at the summit of the mountain into subsidiary discoveries. At both levels, the new discovery prompts the design of demonstration-of-principle experiments. As these experiments are refined, the lessons of the successful experimental designs are taken to a place a short distance down the slope from the two levels of scientific work: Here we encounter the transformation of the successful experimental designs into machine-tool or equivalent principles. Downstream from the advanced machine-tool-design sector, we have the new machine-tools revolutionizing product designs and productive powers of labor at the base of the mountain, where production occurs.

In "crash program" mobilizations, not only scientific and related progress at its most intense, but every new conception is quickly turned into improved military or other applications. The machine-tool sector is expanded rapidly to accommodate to this. The rate of flow of tools proven in the highly mobilized military or aerospace applications, for example, spills at exceptional rates into the economy in general.

The way in which to think about such experiences is stop all the wimping and whining about budget-balancing and kindred mind-crippling, dog-like obsessions, and concentrate upon the crucial lesson to be learned from examining such an anomalous appearance. Concentrate upon the end-result, the effect of delivery of large masses of technologies, at accelerated rates, into both the improvement of product-designs and increase of the productive powers of labor. The lesson is, that if we would use our heads, unlike the King Louis XVI who failed, during 1783-89, to use his, we should always have the "moral equivalent of war-mobilization." To wit: We should insist that a large part of the total labor force be engaged in developing, investment in, and production by

high rates of massive injection of newly discovered science and newly developed technologies into the promotion of improved product designs and high rates of increase of the productive powers of labor overall.

That object-lesson should reenforce our appreciation of a point which ought to have been clear beforehand. The sum-total of the lessons for statecraft from history and pre-history, is that creative, revolutionary progress in scientific and analogous knowledge is not an occurrence on the periphery of man's vision: It is the essence of human existence, it is what distinguishes us as the Mosaic heritage specifies, as in the image of God the Creator by virtue of our developable individual potential for creative reason.

The anomalous aspect of the mathematical picture of a growing economy is that the essence of the economy is not the production and consumption of objects, but rather the upward transformation of the cycle of consumption for production of the means of improved human existence. The creative powers of reason are the source, the cause for that growth upon which the avoidance of social collapse depends absolutely. The anomalous aspect of the economic process is that the characteristic feature of a viable economic policy of performance is human creative reason, that principle of reason which the economic doctrine of the late John Von Neumann and the contemporary "Chaos" theorists implicitly deny to exist.

Adam Smith has no morals

No nation as a whole has ever profitted from the dogma of "free trade" except by employing the doctrine as a ruse for looting another nation. The technical flaw in Adam Smith's dogma is not derived from a defect within his nonexistent science, but originates purely and simply in his lack of all human decency. One has but to read the moral basis for his dogma of the "invisible hand," in his earlier, 1759, *Theory of the Moral Sentiments*. Ortes is the key.

From the beginning of Venice's deployment of the Fourth Crusade to loot and ruin the competitor power of its former master, the Byzantine Empire, in A.D. 1204, until the collapse of the Lombard debt-bubble during the middle of the fourteenth century, Venice ruled the Mediterranean and European usury as an imperial maritime power. This power was threatened by the A.D. 1440 Council of Florence, leading to the alliance of nations—the League of Cambrai—which came close to conquering and destroying Venetian power during the first decade of the sixteenth century. In the aftermath of that, Venice survived by placing each and all of its enemies against one another's throat, the Papacy, France, Spain, the German Empire, the Ottoman Empire, and England, chiefly. By playing upon the sexual susceptibilities of a possibly insane King Henry VIII of England, Venice split England from its close relations with Spain and with the Tudor House's ally in France. Thus, by the close of the sixteenth century, the leading circles in England had been cap-

tured as Venetian dupes: Walsingham and his circles around Queen Elizabeth, and the evil Francis Bacon, and so forth, around the unfortunate King James I. Even during the Civil War in England, Venice controlled both sides, including the Pallavicini-linked Oliver Cromwell, and the Restoration Stuarts after Cromwell's son and heir had been overthrown.

Those points are key to understanding the great control Venice exerted upon not only Adam Smith, Jeremy Bentham, and Thomas Malthus, but the entirety of what came to be identified as British political, social, and economic thinking from the middle of the eighteenth century to former President George Bush riding like a sick cat on the tail of Prime Minister Margaret Thatcher's broom. During the late seventeenth and early eighteenth centuries, in Britain, the Liberal Party of the Duke of Marlborough, Walpole, King George I, and the notorious Hell-Fire Clubs were already known as the "Venetian Party," as Disraeli referred to the imperial party of mid-nineteenth-century Britain.

Venice saw London as becoming the "Venice of the North," a worldwide maritime power, building a global empire, and moving on to establish a system of world-government consistent with Venetian financial and social principles. London's Liberal Party, in turn, was content to be guided by its Venetian mentors. Still, during the eighteenth century, until the city was weakened somewhat in its quarrel with the Genoese asset Napoleon Bonaparte, the Venetian intelligence service was very widespread, deeply embedded, ferally capable, and still very powerful.

The portrait of Venice's decadence during the seventeenth and eighteenth centuries would probably turn the stomachs of even the citizens of old Sodom and Gomorrah. Vile creatures such as Conti, Grandi, Ortes, Casanova, Cagliostro, and, later, Capodistria, were the appropriate instruments to devise the ultimate extreme in systematic immorality copied from Ortes's writings by Adam Smith, et al.

Nothing could be further from the truth than the British empiricists with their dogma respecting "human nature"; no one was more inclined to the unnatural than these Venetian bachelors who taught them. Man is not a creature of mere appetites and sensual passions; were man as Bacon, Hobbes, Locke, Hume, Smith, and Bentham portray the individuals of our species, our species would never have ascended above the level of baboon-like Yahoos subsisting precariously upon a few berries mixed with decayed flotsam cast upon the beaches of Africa's coast.

Human nature is that essential characteristic which sets our species as a whole absolutely apart from, and above the beasts. That quality is the potential for development of creative reason in every person, the quality which the tradition of Mosaic monotheism recognizes as man in the image of God the Creator. *Human nature* is a child whose mind and morals have not yet been destroyed by a modern Frankfurt-school-style day-care center, a loving child asking parents, relatives, neighbors, and virtually everyone else besides: "Why?"