Systems Analysis Is White-Collar Genocide

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If you ask me which of the Nazi leaders was the most depraved, I tell you it was Hjalmar Schacht. You object? Then, let me ask you a question. Which has the more evil motives: an epidemic of pneumonic plague, or the chemist who deliberately unleashed that infection upon a major city?

It is an ugly, painful, but completely true fact: Each and every recipient of the Nobel Prize for economics has achieved academic fame for advocating policies which mean global genocide in today's practice. The case of the abysmally immoral drug-lobbyist, Professor Milton Friedman, is almost too obvious. In only one of his academic claims is Friedman correct; he is absolutely correct when he asserts that his monetarist doctrines are modeled upon those of the Nazi regime.[1] Are the other Nobel economics award recipients less evil than Friedman? To the helpless victims of the Auschwitz gas-chambers, all SS uniforms looked the same.

This brown stain on the Nobel Prize is no mere academic controversy.

Consider such cases as the economics departments of Yale and Cambridge (England) universities, or of the Wharton School at the University of Pennsylvania. Whence come the policies of intentional genocide of such supranational agencies as the International Monetary Fund and World Bank? The economics departments cited are not the only sources of such genocidal policies of practice, such as "IMF conditionalities," but they are among the leading such sources, and very, very witting sources as well.

To locate the extent of this evil, there is no better reference-case than that of the Vienna-based International Institute for Applied Systems Analysis (IIASA). It is IIASA which bridges the pro-global-genocide forces of the NATO countries to the pro-genocidal faction in Moscow.

Like Aurelio Peccei's genocidalist Club of Rome, IIASA is a 1960s creation of the NATO political-intelligence bureaucracy (e.g., the OECD). Since the late 1960s, IIASA has served as the broadest avenue of direct, two-way collaboration between the NATO command and officials of the Soviet KGB. Only the British Secret-Intelligence-Service (SIS) link into the hierarchy of the Russian Orthodox Church has approximately comparable importance to this same general effect.

IIASA is headed by a Soviet national, Dzhermen Gvishiani, son-in-law of the late Prime Minister Alexi Kosygin. According to Scandinavian and Austrian intelligence sources, Gvishiani is one of the highest-ranking recruiters of Soviet spies currently in place in Western Europe.

Through his massive penetration of leading nuclear-industry and other scientific circles, Soviet access to the most sensitive areas of military secrecy is assured. Nor is it irrelevant that Gvishiani cooperates closely with those outwardly pro-nuclear-energy circles within Western nuclear industry which are in fact working actively to neutralize pro-nuclear-energy efforts in the West.

Important as that espionage aspect of IIASA may be, Gvishiani's role as a Soviet KGB asset is the least

1. Lyndon H. LaRouche, Jr. and David P. Goldman, *The Ugly Truth About Milton Friedman*, The New Benjamin Franklin House, New York, NY, 1981.

Hal Becker (left), Treasurer of the Connecticut-based Futures Group, which specializes in using systems analysis to convince Third World governments that they need population-reduction programs.

interesting feature of his activities. In any case, NATO intelligence is well-informed of Gvishiani's Soviet rank and his activities on behalf of the KGB. Such matters have even been advertised in published news releases! NATO has not lessened, but has increased its collaboration with Gvishiani. For the NATO political-intelligence command, there are higher than cosmic considerations motivating NATO's intimate collaboration with Gvishiani.

Look behind Gvishiani: in Moscow. Look into leading circles of the Soviet command. Within and proximate to the Soviet Communist Party's foreign-intelligence organization, IMEMO, there exists a task-force, a constellation of influential figures associated with a project known as "global systems analysis." This project is currently reported as intending to release during 1982 a pro-global-genocide proposal. These Soviet circles brag that that Moscow report will be more radical than the Club of Rome's *Limits to Growth* and President Jimmy Carter's proposals for global genocide (*Global 2000, Global Futures*).

Recently, the pro-genocide ("systems analysis") faction in Moscow has surfaced as a considerable factional force in the ongoing Soviet leadership-succession contest.

Look from IIASA westward. As we examine the pedigrees of the forces linked to IIASA through NATO channels, we encounter immediately all of the leading pro-genocide institutions and networks of the "West."

IIASA's special importance, by comparison with which the matter of spying becomes almost trivial, is that it is the principal official link between the pro-genocidal factions in both the East and the West.

The emphasis on "systems analysis" in IIASA's official title is highly significant. This brand of "systems analysis" originates, by that name, in the Cambridge University (England) Apostles. The Apostles, based in Cambridge's Trinity and King's Colleges, is the Cambridge arm of the command of British SIS. It is principally at King's College, among a circle including the neo-Keynesian Mrs. Joan Robinson, that this genocidal concoction called "systems analysis" was brewed.

In the United States, Cambridge "systems analysis" is dominant not only in the economics departments of Yale, Princeton, and so forth. Some of the most important centers which combine systems analysis with planning of global genocide include the RAND Corporation and the Operations Research network based historically on the Johns Hopkins University campus. Both these latter institutions were creations of British SIS's psychological warfare division (PWD), the London Tavistock Institute (Sussex). The dominant think-tanks at Palo Alto, California are a significant part of this complex.

The academically influenced reader will pose a question to us at this point. "Is it not true," such a reader might ask, "that systems analysis is morally neutral, and that it is merely a coincidence that some people are misusing systems analysis to further their own genocidal purposes?"

The answer to that question is that the methods and procedures associated with "global systems analysis" are intrinsically genocidal. To promote and to employ such forms of systems-analysis techniques for policy-making is in and of itself an act of global genocide. In other words, *the promotion of such systems analysis is a* prima facie *capital offense under terms of the Nuremburg Code*.

Unless the influence of systems analysis is eradicated from policy-making of governments and supranational institutions, the resulting number of genocidal deaths will exceed by up to a hundred-fold the genocide perpetrated by the Adolf Hitler regime.

Now, we clear up possible confusion concerning interpretation of the term, "systems analysis." Once that is settled, we proceed to prove conclusively that the practice of systems analysis in the sense of IIASA's practice is in itself an act of genocide.

Three Meanings of 'Systems Analysis'

In the most generous view of the term itself, "systems analysis" might be employed by this or that person to signify one of three things. First, it might signify a kind of systems analysis practiced outside the realm of economic policy-making. Second, it might signify a form of economic systems analysis such as the application of linear-programming techniques to scheduling problems of a retail chain, an industrial corporation, or some other smaller-scale application to relatively short-term projections ("micro-economics"). Finally, it may signify what we have singled out for attention here: the application of economic systems analysis to whole economies or supernational complexes of economies ("macro-economics") over a period as long as a decade, a generation, or more.

Critics will no doubt argue that the principles of "micro-economic" systems analysis are almost identical to those of "macro-economic" applications, to whole national or supranational economies. There is a significant degree of truth to that argument. Nonetheless, "micro-economic" systems analysis is often either morally neutral or sometimes useful; whereas, "global systems analysis" is invariably evil.

See that delicious peach. It contains cyanide! No, you may eat it quite safely. However, if I extract the cyanide from a very large number of peach-pits, the result is not marzipan, but an instrument of homicide. Something relatively harmless, or even beneficial on a small scale, may be deadly on a large scale. We explain, briefly, how and why this analogy applies in the working-point at hand.

First, systems analysis in general.

It is sometimes useful to misrepresent a process by interpreting (misinterpreting) that process as if it were a network of interconnected chains of causes and effects.

If such a fictitious network can be simplified, reduced to a matrix of the sort agreeable to present-day computer technology, a process which appears to defy mathematical analysis in its true form may be analyzed with a reasonable minimum of error of calculation by the methods of approximation we have indicated.

That will serve as a fair summary of the general meaning of systems analysis. Now, we shift attention to the application of such methods to economic analysis.

The application of systems analysis to economic and related cases developed during and out of World War II "operations research" practice. Economic-network problems (scheduling problems) were simplified in the descriptive form of sets of linear algebraic expressions, and calculations performed on the matrices so constructed. "Linear programming" is the most commonplace of the buzz-words put into circulation through such approaches. There were other aspects to the practice, but our illustration is quite adequate for the point at hand.

An industrial corporation (for example) wishes to optimize its paid-in profits from sales. It wishes to compare such profits with the production and distribution costs they incur, and also the capital expenses incurred by increasing sales by some amount, and consequently, the total cost of the realized profit-contribution from sales. Such a firm would begin the analysis required by projecting its share-of-market potential by delivery-weeks ahead (for example). To effect such deliveries, clearly the finished goods must be available for shipment at some predictable point in time in advance of the customer's receipt of such goods. To have goods available for shipment, the goods must be produced, and in finished-goods inventory on the shipping-date required.

If there were only one product in question, the calculation might be relatively simple. If numerous kinds of products are included in the mixture of goods included in an economical shipping-quantity to a customer, the calculation becomes more cumbersome.

Goods are produced in batches or streams. Batches must be in economic lot-quantities. Different products use different ratios of varying combinations of production and other capacities. Materials and semi-finished goods must be on hand to start the production-cycle for each unit of production scheduled. Purchase-orders must be placed in advance for such materials and semi-finished components. Inventory risks shrinkage and incurs the costs of financing capital committed to inventory … and so forth and so on.

The calculation of proper day-to-day increments to each aspect of the overall schedule can be performed by use of standard ratios of costs and so forth. Despite the several kinds of fallacious fictions included in the method and statistics employed, the benefits of making such an approximate calculation are very large, over the short-term, relative to the actual amount of aggregate error prompted by the fallacious assumptions.

We have outlined such an illustrative case to this relevant purpose. As long as these indicated and related forms of systems analysis are restricted in application to relatively smaller-scale ("micro-economic") cases over short-term spans, and with a carefully selected, limited number of considerations taken directly into account, such "micro-economic" applications are often

Adolf Hitler with his Economics Minister Hjalmar Schacht.

beneficial—assuming that both the analysts and the management possess and exercise reasonable competence. The benefits vastly outweigh the errors caused by fallacious assumptions of the method employed.

The moment we shift the use of similar methods to whole national economies, especially over periods in the range of five years to a generation or longer, the benefits become relatively infinitesimal in respect to the gross errors arising from fallacious assumptions.

However, global systems analysis is not evil simply because it is intrinsically incompetent: There is something nastier than mere incompetence afoot.

As a final preparatory step, we provide the reader with a bird's-eye view of the rigorous proof we are about to summarize.

First, we shall give the proof that all healthy forms of human culture have economic processes which are characteristically *negentropic*. We shall explain what this term, negentropic, signifies, in respect to technological progress and growth in scale.

Second, if a society's economy can be fairly described, over successive periods, by means of linear economic models, that society is very sick, and will die unless radical changes are introduced to its policies of economic practice.

Third, if policies adduced from linear models are superimposed upon the budgets, investment-policies, and related decision-making processes of a society, such an imitation of the policies of Nazi Finance Minister Hjalmar Schacht leads consistently toward the use of both labor-intensive forms of forced labor, toward the expedient elimination of "useless eaters" which Albert Speer implemented on Hitler's behalf at such locations as Auschwitz, and toward colonialist looting-practices such as those the Nazis imposed upon occupied territories and populations of Eastern Europe.

We thus provide the rigorous proof for a fact which is obvious enough on other grounds to any sane and moral adult. Any influential person or persons who propose to insert Malthusian population-policies into the policies of practice of either governments or supranational institutions is a mass-murderer in the same sense as Hjalmar Schacht, Adolf Hitler, and Auschwitz's Albert Speer. Anyone who supports Malthusian policies, even as a simple, probably hashish-stinking "environmentalist," is an accomplice in mass-murder in the same sense as the SS guards at Auschwitz.

What we are accomplishing, in exposing IIASA as in violation of the Nuremberg Code respecting "crimes against humanity," is to show that Malthusianism criminality is not merely something superimposed upon economic policy-making. The axiomatic features of the doctrines of political-economy taught at most universities, and accepted by most of the economics profession today, is intrinsically a Malthusian doctrine, and thus intrinsically a cult-dogma of genocidal mass-murder of peoples.

The proof we summarize here is rigorous, but elementary. We require as included evidence for this proof nothing which is not properly within the intellectual reach of adults whose education has included a proper secondary-school education. With a reasonable amount of concentration, every intelligent adult with such an educational background can assimilate the proof we now develop.

A Proof Based on Economic Science

The prevailing reason our proof is not already common knowledge of literate persons is, as we noted,

Adam Smith

Portrait by John Linnell, 1834

Rev. Thomas Robert Malthus

that all known university economics departments and most of the members of the economics profession today are incompetents, teaching and using a Malthusian cult doctrine based chiefly on British political-economic teachings, or on the neo-positivist, radically-fascist versions of British political-economy associated historically with the Vienna school.

The first point to resolve in outlining the proof is therefore the question: What is a competent variety of economic science? The most effective way in which to make the matter clear to the intelligent layman is to stress the fact that British political-economy first appeared a hundred years after the science, of modern industrial economy had been developed in all essentials on the continent of Europe. A century after the publication of the founding work of modern economic science, Gottfried Leibniz's *Society and Economy*, a lying operative of the Edinburgh division of the British Secret Intelligence Service (SIS), Adam Smith, published, on the eve of the American Revolution, a lying propaganda-tract whose popularized short title is *The Wealth of Nations*. Prior to this pro-colonialist tract, aimed chiefly against the Americans, the British produced not a single attempt at coherent apologetics in political-economy.

Adam Smith was immediately subordinate to the chief of Edinburgh SIS, David Hume. The point to be stressed in this connection is that the 18th and 19th centuries' SIS was interchangeable with the direction and bureaucracy of the British (and Dutch) East India Company.

This British East India Company, the principal financier and political-intelligence arm of the ruling families of Britain, was in fact under the financial (and political) control of interlocking financier interests dominated by the immensely wealthy and powerful family funds of Venice and Genoa, the financier interests of the Italy-centered "Black Guelph" families of Europe and the Middle East, the so-called "black nobility" of Czarist Russia, Austro-Hungary, Byzantium, and so forth.

These Venice-Genoa-centered financier interests, which financed and directed the establishment of the 1603 and 1660 British monarchy, have always controlled, since those dates, the financial center known as the City of London. The British East India Company, like the Dutch East India Company which owned the House of Orange, was a spin-off from the Venetian Levant Company. Most of the major insurance cartels of the world today are spin-offs and subsidiaries of Venetian-family rentier-interests based today in Venice, in Venice's colony known as Switzerland, and in the "unregulated, offshore" financial complex based on the British Commonwealth.

The British East India Company, including Venetian inside-control over that Company, is key to understanding all British monarchical policies from 1603 to the present date—although the swastika-bearing East India Company itself has almost vanished into the ranks of its numerous financial and political progeny. The British SIS today is the hard-core residue of the British East India Company.

The first academic chair in political-economy in Britain was created and financed by the British East India Company on behalf of that Company's agent, the Reverend Thomas Malthus. David Ricardo, a close collaborator of Malthus's (contrary to Karl Marx's frantic effort to deny this fact), was an official of the Company. So was Jeremy Bentham, the author of modern Jaco-

binism, and the inventor of the "hedonistic calculus" used as the basis for modern British political economy by company official John Stuart Mill—and by William Jevons and Alfred Marshall. J. M. Keynes, Hjalmar Schacht, Milton Friedman, the fascist Fabian Society relic known as Friedrich von Hayek, and the Vienna neo-positivist lunacy of John von Neumann and Oskar Morgenstern,[2] are all direct offshoots of Bentham's and Mill's version of the Hobbesian "hedonistic calculus."[3]

Gottfried Wilhelm Leibniz

Among all leading industrial economies today, all of the successful industrial economies developed during the course of the 19th century were developed under direction of a body of economic science directly opposite to every principle of British political-economy. These cases include the United States (1789-1866), France (into 1814), Germany (1809-1914), northern Italy under Cavour, and Japan (1868 to the present).

In each of these cases, including pre-Napoleon III France, the industrial development was predominantly a *self-sustained* progress in technology, education, and industrial and agricultural development. Only Britain, among those nations, based its industrial development at home on colonialist looting of regions and populations abroad. After the enactment of the treasonous Specie Resumption Act of 1876-79 in the United States, Britain's City of London had world-domination over financing of world trade and of debt of nations, a continued domination, much-revived since August 1971, which is the principal source of support of price of the pound sterling (through looting of other nations) today.

Modern economic science began more than three centuries before Adam Smith's *Wealth of Nations*, in the policies of economic development and military strategy formulated for early 15th-century Italy by the great Byzantine scholar and statesman, George Gemisthos Plethon. The 15th-century Golden Renaissance's development of statecraft was mediated through such principal channels as the School of Raphael. This School of Raphael produced the great Neapolitan culture which was the internationally admired jewel of southern Italy until the destruction of Naples by Horatio Nelson and such creatures as the Acton family of Britain. At the beginning of the 17th century, when formal modern economic science began, the world leadership in the science of statecraft was Naples, especially the circle identified with Tommaso Campanella.

From these outgrowths of the Golden Renaissance two essentially identical schools of economic science emerged in 17th-century Europe. In France, where this science was fostered by a group known as *les politiques*, the name of economic science was *mercantilism*. (Through, chiefly, the connections provided by Benjamin Franklin, French *mercantilism* provided the foundations for the *American System of political-economy*.) From Italy itself came cameralism which was the name chiefly used to define economic science in Germany into the 1840s.

During the 1670s, during the same period Leibniz completed the discovery of the calculus reported in his 1676 paper,[4] Leibniz also published his *Society and Economy*. the founding work for all economic science since. Later, in 1952, this writer effected a major dis-

2. John von Neumann and Oskar Morgenstern, *The Theory of Games and Economic Behavior*, Princeton University Press, 1944.

3. LaRouche and Goldman, *op. cit*.

4. Leibniz's published report on the discovery of the differential calculus was sent to the Paris printer in 1676, as Leibniz was leaving France, to return to Germany. For unexplained reasons, publication of this paper, which exists and whose authenticity is determined by datable elements of the Leibniz archives, was suppressed. This date, 1676, is eleven years prior to Newton's publication of an unusable concoction on which his reputation as inventor of the calculus was alleged to depend.

covery in economic science, representing a further advance in the power of mercantilist-cameralist knowledge, but that discovery is merely an elaboration of conceptions already developed (chiefly) by Leibniz during the 1670s.

To define economic science as a category of specialized knowledge for the literate layman today, it is sufficient to compare the contributions of Campanella's circle and of Leibniz, and to trace the effects of Leibniz's revolution in economic science into the emergence of the American System of political-economy. Once we have accomplished that definition, that outline, we can then concentrate on the ABCs of economic science, free of the cult-nonsense spilling over into disinformed popular opinion from the university economics departments.

Cameralism and mercantilism were most essentially republican adversaries to the feudalistic doctrines of the 14th century and the Venice-directed Counter-reformation of the 1527-1653 period.

The feudalists, like the British today, were axiomatically *physiocrats*, who argued that all wealth of nations was derived ultimately from geographical accidents such as natural resources. The feudalists argued that the only source of profit to society is some form of rent, ultimately as "ground-rent" charges imposed upon the extraction of wealth from natural resources. Beginning with Adam Smith's *Wealth of Nations*, British (and, Viennese) political-economy expanded the physiocratic definition of natural resources to include human labor, defining human labor in the same analytical terms of axiomatic assumption appropriate to cattle.

"No," shouted the circle around Tommaso Campanella. They echoed their republican (city-builder) predecessors, including Plethon, Leonardo da Vinci, et al., on this crucial issue. "The wealth of nations can not be sustained on the basis of geographical accidents such as natural resources. The sole, continuing source of wealth is the development of the productive powers of the population of the nation." Campanella's circle emphasized what we today would term public education, technology, and state action to foster public works and private enterprise based on advancement of technology. Campanella's circle also stressed the role of the machine and kindred development of tools of agricultural and industrial production. Such families of technologically advancing series of tools, they termed—as did Alexander Hamilton later[5]—"artificial labor."

The crucial thing lacking in Neapolitan and related forms of pre-1670 mercantilism and camerialism was Leibniz's contributions. The center of Leibniz's fundamental contributions to economic science was his elaboration of the principle of the heat-powered machine, "by which one man might accomplish the work of a hundred others."

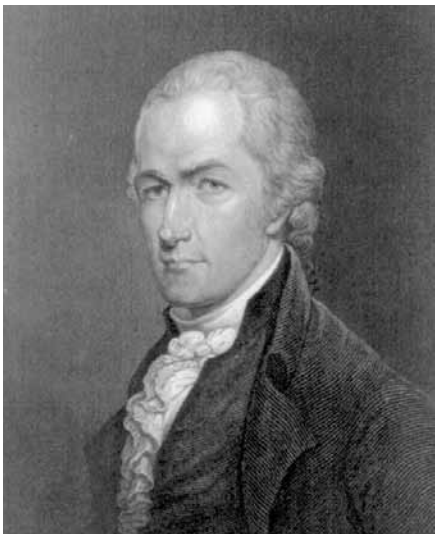
Concretely, Leibniz went beyond the notions of machines powered by explosions (Christian Huyghens) and beyond the development of the first successful steam-engine in collaboration with Papin.[6] Leibniz generalized the notion of development of an indefinite series of improved sources of heat to power machines, and then examined the comparative features of machines in terms of the efficiency of their use of heat to multiply the productive power of labor. From these considerations, Leibniz invented three fundamental notions of all modern science, economic science included: *work, power*, and *technology*. (*Technology* was otherwise known among Leibniz's French followers as *polytechnique*.)

All of Leibniz's and associated contributions to economic science were embodied in the statecraft of Benjamin Franklin's factional allies among the leaders of the American Revolution. From 1783 through 1876, American policy was divided between two factions: the Federalist-Whig faction (Washington, Adams, Monroe, John Quincy Adams, Henry Clay, Henry C. Carey, Abraham Lincoln, et al.), who deployed the American System of political-economy, and the Jacobin opponents of the Whigs, including Presidents who substantially ruined the U.S. economy during their terms of office (Jefferson, Madison, Jackson, van Buren, Pierce, Buchanan). It was chiefly the influence of the American System which effected the previously-cited 19th-century economic development of the United States, Germany, northern Italy, and Japan.

The case of France's economic development (prior to 1814) was chiefly parallel to the American System, but based on the same mercantilist principles (e.g., Claude Chaptal, Charles A. Dupin). In the United States, Germany, northern Italy, and Japan—as in the

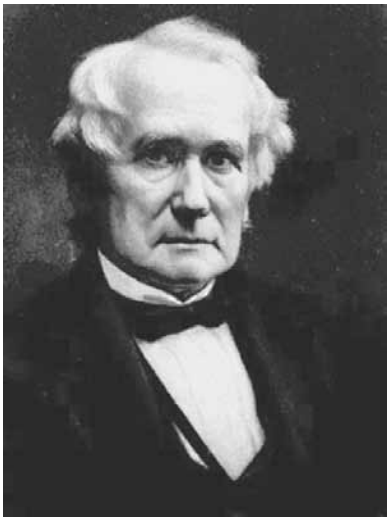
5. Alexander Hamilton, *Report to the U.S. Congress, On The Subject of Manufactures*, 1791.

6. Philip Valenti, "A Case Study of British Sabotage: Leibniz, Papin, and the Steam Engine," *Fusion*, December 1979, pp. 27-46.



Alexander Hamilton

Friedrich List



Henry C. Carey

Russian policies of Czar Alexander II and Count Sergei Witte—it was the influence of the American System, directly and by that name, which created all of the institutions responsible for those nation's economic progress during the recent two centuries.

The name, "American System," was coined by U.S. Treasury Secretary Alexander Hamilton in his 1791 Report to the Congress, *On The Subject of Manufactures*. This was the policy which brought the United States out of 1789 bankruptcy and crises into the prosperity which Jefferson and Madison nearly ruined. The influence of the British East India Company and its agent Albert Gallatin over U.S. policies under Jefferson and Madison, was stressed by a close collaborator of both Franklin's and Hamilton's, Mathew Carey, in the course of the depression caused by Jefferson's and Madison's pro-free-trade policies. Carey's influential writings and organizing contributed greatly to the revival of the (dirigist, protectionist) American System under Monroe and John Quincy Adams, as well as the revival of the U.S. military, which Jefferson and Madison had virtually ruined. It was the Whig Party which continued the American System policies, with aid of the German agent (and American citizen) of the American System, Friedrich List.

After the death of his father, Mathew Carey, and Friedrich List, Henry C. Carey, Lincoln's economic adviser, took the lead in international spokesmanship for the American System against the enemy, the British monarchy and the British system of "free trade."

In 1868, Japan's Meiji Restoration launched the industrial miracle of that nation (to date) on the basis of adoption of the American System of Hamilton, List, and Carey.

Although the sovereignty of the United States, respecting its principal components of national debt, national credit, and national currency, was treasonously subverted to Britain's advantage by the 1876-79 Specie Resumption Act, the institutions of public education and industrial and agricultural development were so deeply embedded in the popular consciousness and practice, that the impulses of such institutions could be eroded, but not destroyed, over the period from 1871-76 into the launching of the treasonous, Malthusian "post-industrial society" cult's policies during the 1960s.

In brief, then, mercantilism, cameralism, and the American System of political-economy represent different brand-labels for the only economic science, the only science of statecraft which has succeeded in producing self-sustained economic development of a capitalist economy. It should be added that the relatively successful features of the Soviet economy have always been adaptations of the principles of the American System to a non-capitalist form of economic development—ever since V.I. Lenin revived Count Sergei Witte's and Czar Alexander II's demand that Russians learn to think in economics like Americans.

The ABCs of Mathematical Economics

The fundamental expression for all mathematical analysis of economic processes is some expression equivalent to:

$$P = F[(n + m)/n]$$

in which P signifies *potential relative population-density*; F signifies some function, to be discussed here; and n and m are *degrees of freedom in economic phase-space*.

By degrees of freedom, we signify the *complexity* of the economy, as typified by its division of labor and by the complexity embodied in machine-tools and analogous forms of capital equipment of both production of goods and physical distribution of newly-produced goods.

The function is determined in the following manner.

In any level of technological development of society, only a certain range of man-altered conditions, typified by "natural resources," can be exploited at acceptable costs. As such man-altered conditions are necessarily depleted *by any unchanging mode of production*, the costs of exploitation of those conditions rises. Therefore, all forms of society based on the equivalent of "zero technological growth" are intrinsically dying societies, societies wanting elementary qualities of moral fitness to survive.

Therefore, societies approximating "zero technological growth" policies of practice are societies self-condemned to die of "entropy," as we shall develop that point rigorously here.

It is only through technological progress that society increases its per-capita productivity, thus combatting rising costs of selected resources, and also increases the available range of varieties of usable resources. This technological progress necessarily increases the complexity of the division of labor; and also increases the complexity of the machines and analogous investments employed for production and for physical distribution of newly-produced goods.

Therefore, the successful continued existence of societies depends upon advances in technology in terms of increases $(n + m)$ in complexity of production relative to a previous level of complexity at a lower level of technological development (n). The mathematical function which corresponds to such an analytical requirement—$F[(n + m)/n]$—is best termed a "negentropic" function, or, alternately, a Riemannian function, the latter emphasizing the greatest 19th-century physicist, Bernhard Riemann (1826-66) of Germany's University of Göttingen.

The proof that "systems analysis" is intrinsically genocidal is supplied within the limits of the most elementary features of such a negentropic, or Riemannian function. That proof, although elementary, is rigorous and conclusive, and would not be improved in any essential respect by introduction of more complicated mathematical-physical considerations.

The elaboration of the notion of potential relative population-density provides the uniquely appropriate basis for situating the proper interpretation of notions of work, power, energy, and technology. That two-phase elaboration suffices to prove conclusively why "systems analysis" is inherently the practice of genocide.

Potential relative population-density signifies the number of persons which can be sustained on an average square-mile of habitable territory by means solely of the productive efforts of that population's own labor-force. This must be measured *relative* to both the variable quality of man-altered habitable territory and the level of technological development by which "ecological" characteristics are properly defined. It is clearly, the potential relative population-density we must measure, rather than the present census of population.

If one accepted the Club of Rome's adopted method, as in the fraudulent *Limits to Growth* of MIT specialists Meadows and Forrester, then this planet of ours was already grossly overpopulated when the level of several millions individuals was exceeded. If Meadows's and Forrester's arguments had been valid, neither Meadows nor Forrester could ever have been born to offer such fraudulent arguments.

Examining the historical (plus archeological) evidence retrospectively from the vantage-point of Leibniz's *Society and Economy*, the perpetuation of human existence over thousands of years to date has depended entirely on the emergence of new forms of society more advanced technologically than their predecessors. This advance correlates, in terms of an exponential function of some ostensible complexity, with increase of mankind's potential relative population-density. It also correlates, in a similar fashion and degree, with a geometric growth of the required average level of per-capita energy-throughput to society, relative to increases in potential relative population-density.

If we examine such historical evidence from the vantage-point of systems analysis, a most interesting feature of this progress of humanity comes to light, although systems analysis can discern this only negatively.

As society advances, the variety expressed in elaboration of tools and of the division of labor in production

of goods increases. This alteration in the input-output characteristics of the economy limits the application of any adopted set of linear algebraic descriptions of the economy to a narrow range in span and in time. The number and designation of input-output "lines" increases, with some lines dropping out. The coefficients, as well as the array of terms within each "line," undergo alteration.

As Bardwell and Parpart emphasized, in explaining the total breakdown of all published "econometric studies" of effects of the October 1979 Volcker-Carter monetarist measures, when economic processes are radically altered in some determining feature, the transformations in the behavior of the economy are roughly analogous to what occurs when ice melts to form water, or water boils to form vapor.[7] (Or, the reverse process.) The changes, in short, are comparable to *changes in physical state* in a physical process. Another term is "phase-change."

In the simplest illustrative case, an economy undergoing concurrent growth in scale and productivity (technology), the systems analyst would be able to approximate the behavior of the economic process over relatively short terms, but would be obliged to develop a different model for a succeeding period than for the preceding period. If we can assume, as this illustration rightly admits the assuming of such a case, that technological progress is being ordered by a policy of practice prevailing in that society, then the different models developed by the systems analysts could be listed as a series:

$$a_1, a_2, a_3, \ldots, a_n,$$

to which we apply the conventional practice of identifying any arbitrarily selected one term, in the interval from a_1, through a_n, as a_i.

In this series of "systems-analysis models," to attempt to use model a_i to project the state of the economy under terms of model $a_{(i+1)}$, leads to highly inaccurate results. This is the key to the abysmal failure of the Chase, Wharton School, and all other standard "econometric" institutions over the period October 1979 to the present. It is conversely the key to the reason that the LaRouche-Riemann analysis has been highly accurate, and the only analysis which even approximates the reality of developments.[8] The LaRouche-Riemann model de-emphasizes the short-term, linear connections, and focuses upon the non-linear characteristics of phase-change in the economic process; that is why the LaRouche-Riemann analysis emerged under conditions following November 1979 as the only competent approach to analysis of the current process of global economic devolution (e.g., depression).

The series, a_1, signifies that within the span of approximate applicability of each "model," a_i, there are occurring "non-linear," hidden developments which are transforming the economy into the state represented by "model" $a_{(i+1)}$. In other words, it is those considerations which linear systems-analysis axiomatically ignores, those cumulative "non-linear" effects, which produce the ordered succession of transformations, a_i.

This is a more rigorous manner of stating a point we outlined earlier in this report. As long as linear economic analysis is limited to a short time-span, and is two-foldly limited in scale of application to limited, gross features of a "micro-economic" process, the intrinsic fallacies of linear analysis can be relatively ignored for purposes of calculation of estimated values. As we enter into the broader range of policy-decisions affecting the transformation of a_i into some successor state describable by $a_{(i+1)}$, it is the intrinsic fallacies of the linear method which predominate in the comparison of calculated and actual effects.

What we have outlined for the illustrative case, of successive phase-changes under conditions of growth, is true for the case of economic decline, the case for the step-wise collapse of the economy under continuation of the Carter-Volcker policy of October 1979.

There is no middle ground between growth and devolution. There is no possible condition under which a linear policy-model of an economic process can sustain equilibrium over a period of even several years in the modern world.

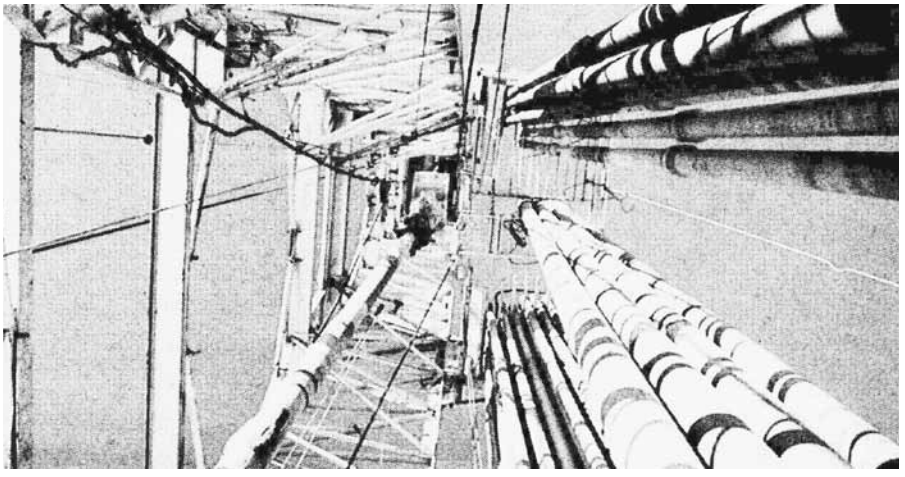
All linear models are intrinsically zero-technological-growth models. All societies governed by zero-technological-growth in policy-making are economies undergoing entropic collapse, being directed into a devolutionary series of phase-changes.

Thus, in any circumstance in which linear thinking

7. On "phase-change" analogy for economies, see Steven Bardwell and Uwe Parpart, "Economics: the Thermohydrodynamic View," *Executive Intelligence Review*, Vol. 7, No. 17, May 6, 1980, pp. 26-35.

8. David P. Goldman, "The U.S. Recession: Why the EIR Model Beat Wall Street's 1980 Projections," *Executive Intelligence Review*, Vol. 7, No. 34, Sept. 1, 1980, pp. 16-22.

respecting economic processes shapes the policies of governments, banking, and so forth, that society is being directed into a devolutionary spiral, which, if continued, means convergence upon genocide. Lowering of the effective productivity of the economy (e.g., through unemployment of goods-producing labor, cannibalization of existing productive capacities, etc.) has the ecological effect of lowering the potential relative population-density. When the potential relative population-density is pushed down, as by Friedman and Volcker types of monetarism, below the level of the existing population, genocide emerges.



Courtesy of the University of Texas at Austin

Drilling for oil: The broad introduction of more and more efficient energy resources can mark phase changes in an economy.

The (macro) systems analyst could be rescued from the intrinsic incompetence afflicting his work only on condition that we define an ordered succession of phase changes in the economy—for example, $a_1, a_2, a_3, \ldots, a_n$—as ordered by what is best named a "transformation-function." We now explain what this sort of function implies, and then proceed to follow it to more profound considerations.

The Rigorous Definition of 'Work'

Imagine some form of mathematically-describable physical action upon an economy, such that the following conditions are satisfied. This action, performed on a_1, transforms the economy from the state approximated by "linear model" a_1, into a state approximated by "linear model" a_2. This exact-same action, applied to a_2, effects state a_3. The exact-same action, applied to indefinitely defined member of the series a_1, to a_n, a_i, transforms the economy from state a_1 into $a_{(i+1)}$.

If this transformation-function holds for all of the phase changes, a_i through a_n, we have the non-linear function which determines each phase change of the ordered series, a_1 through a_n.

This brings us against a new problem. If there is any break in the series, such than some different transformation-function is required to account for the change from state $a_{(n+i)}$ into state $a_{(n+i+1)}$, the series of changes defined by the transformation-function for a_1 through a_n, comes to a halt at that point, and a new series, defined by a different transformation-function, begins.

In the reality of societies' practices, such changes in transformation-function occur whenever there is a radical shift in that society's policies of practice. Therefore, what we require is some general theory of all possible transformation-functions. Without such a general theory of transformation-functions, any notion of a "general mathematical economics" is an absurdity.

By transformation-function, we clearly mean, from the reference-point of linear modeling, a change in the lines and coefficients of line of a matrix. As we have already indicated, a positive such transformation must increase the implied number of lines, and must alter the coefficients in the direction correlated with increased per-capita productivity for the society's production of goods.

What is the common feature of transformations which provides the proper basis for a general theory for evaluating transformations? We are forced back to potential relative population-density. Whether any transformation is positive or not is measured as the increase in the potential relative population-density of the entire society (all of that society's population) effected by that transformation. A transformation-function, therefore, is positive if the series of phase-changes subsumed by it is also a series of successive increases in the potential relative population-density for that society as a whole.

In turn, transformation-functions are to be compared with one another, to the extent that they are really alternative options for society's existing state of development, by the comparison of their values as generators of successive increases in the potential relative popula-

tion-density of the society as a whole.

From this vantage-point of reference, the only portion of the total activity of a society which represents *net work* accomplished is determined by the work of increasing the potential relative population-density of the society as a whole. The transformation-functions which yield the highest ratios of increase of net work, successively, are the functions of relatively greater *power*.

What of all that other activity in society? Excluding the exertions of pimps, belly-dancers, drug-pushers, and Hugh Hefner of *Playboy* magazine, there is much activity in society which does qualify as useful activity. Why does this useful activity not deserve the honor of being treated as *net work* accomplished? There is a vast amount of molecular activity within that three-legged stool, standing quietly in the corner. We call such work, relative to elementary physics' mechanics, *virtual work:* it has the form of the kind of activity which accomplishes work, but this activity is not expressed in a manner which actually accomplishes work.

A large amount of useful activity is required by society simply to "stand still," relative to changes in the potential relative population-density. The crucial thing is the ratio of the net margin of total activity, which increases the potential relative population-density, to the remainder of that activity, required merely to "stand still." So, *the ratio of net work to total work*, or the *ratio of net work to virtual work*, is the ratio series of leading concern for us.

This ratio-series, of *net work to virtual work*, is plainly congruent in some fashion with a series of ratios of the form $(n+m)/n$.[9]

Since such functions affect the ecological function only as they effect beneficial physical alterations of nature, and of man's per-capita power to effect such alterations, only the production of goods and the physical distribution of such goods have any primary correlation with the notions of *work* and *power*; only production of goods and the physical distribution of such goods are competently treated as *productive*.

Useful administration, and useful forms of services (which pretty much excludes all forms of "social work") affect the organization of the production and physical distribution processes; and services, beginning with education, medicine, science, affect the productivity of goods-producing labor, the making of policies bearing on advancement of technology, and so forth. These functions affect productivity, but are not in themselves productive. Moreover, the contributions of administration and services to society are fully taken into account if we limit measurement to increases in the goods producing productivity of the entire society's per-capita average.

To illustrate the point in "practical" terms of reference, we interpolate the following discussion.

In capitalist society (or, in the Soviet Union as well), net work is accomplished through allocation of a produced social surplus of goods to expansion of the scale of production of goods and the physical distribution of such produced goods: the *net operating profit* of the society's combined industrial and agricultural production.

This "reinvestment" of net operating profits into improved production (and physical distribution) of goods occurs in two interconnected flows.

The first aspect of this flow is the extension of the relatively most-advanced modes of productive technology to replace relatively less-advanced modes of productive technology—including employment of unemployed portions of the total labor force and shifts of employment from wasteful or marginally useful forms of employment in services into high-technology production of goods. The average goods-producing productivity of the entire population of the society is increased in this manner.

The first aspect of the process of improvements would dry out unless new, more-advanced additions were being made to the total spectrum of technologies in use by the society.

To this purpose, it makes no difference whether the economy is capitalist (for example, the American System of political-economy of Hamilton, et al.) or the Soviet industrial model. The "dirigist" application of governmental regulation of flows of credit and taxation, combined with governmental encouragement through undertakings beyond the capacity of any agency but government, channels the creative potentials and other initiatives of the population into preferring technological progress in the mode of production of goods to all other economic objectives, and into effecting the maximum conversion of society's net operating profit into "reinvestment" in capital-intensive advancement of the modes of industrial and agricultural production.

It is idiocy, or even worse, to propose as policy of practice, that the net operating profits of society can be

9. For a beginner's introduction to the economic science behind this, cf. Lyndon H. LaRouche, Jr., *Basic Economics for Conservative Democrats*, New Benjamin Franklin House, New York, NY, 1980.

LaRouche emphasizes, "Cheap labor is less-proficient labor; the costliest kind of production is bungled production. Those who undermine the quality of the nation's labor-force undermine the strength of the nation, and usually produce inferior merchandise besides."

enhanced by lowering real wages of the population, either by directly suppressing wage-rates and social benefits in the form of essential state services such as education, or by reducing the average wage of the entire population through fostering increased unemployment. Brown and Root's essential problem is not merely ideological fanaticism, but downright incompetence in the ABCs of industrial management.

The relative productivity of a nation's labor-force is determined principally by the level of education and popular culture of the population as a whole. The material culture of the household and community determines the productivity and cultural potential of the population, as deterioration of medical services delivered decreases the productivity of the average member of the labor-force through increased illness, disability, and mortality-rates.

Only incompetent managements propose to drive down real wage-rates of the average member of the population as a means for subsidizing the incompetence of industrial or other employers' management. It is only through concentrating "reinvestment" of net operating profits, credit-resources and tax-benefits of the entire society to promote preferential rates of investment in technologically advanced goods-producing industry that the preconditions for sustaining society's wealth, and hence for permitting future profits, is made possible. Brown and Root's managerial incompetence thus borders on downright subversion of the strength of the entire United States.

"Cheap labor" is less-proficient labor; the costliest kind of production is bungled production. Those who undermine the quality of the nation's labor-force undermine the strength of the nation, and usually produce inferior merchandise besides.

Society as a whole "produces labor." It produces a labor-force of a certain quality (technological aptitude, productivity) by better education, and better material culture of households and communities, all of which is made possible by cheapening the direct social cost of consumer goods and services through society's technological advances in productivity. These costs cannot be reduced without lowering the quality of labor-force produced. If the quality of the labor force is reduced, productivity declines. If productivity declines, the entire economy declines.

The object of sane managements in respect to labor force policy is to reduce the social cost of improved real wages-income: get more and better for one's employees at a reduced percentage of the employee's total income.

Returning from these illustrative remarks to our working-point here: The continued existence of any economy depends upon a *net directedness* of the sum of activities within the societies composing the economy. This net directedness is the technological progress which maintains or increases the potential relative population-density of the population of that economy as a whole. (Although the case of constant value for potential relative population-density is merely a hypothetical case, a useful pedagogical notion, a value not achievable except for brief intervals in actual society.)

Even the case of parasitical forms of society, such as British society, is no exception to this. If one society, such as the degenerate society of ancient Rome or the society of the British monarchy, derives the crucial margin of its growth and prosperity by sucking the juices from people of other societies, by destroying so the parasite's hosts, the parasite also destroys the future basis for its own successful existence as a parasite.

Therefore, each and every activity within a society must be judged, valued, in terms of its "marginal contribution" to those forms of technological progress which increase the potential relative population-density. That is the only unit of measurement (metric) which can be employed in economic science.

With aid of this metric, all activities within an economy are classified as *productive* or *non-productive*. This distinction between productive and non-productive overlaps a second kind of distinction, between *useful* and *useless* (or worse) activities.

Science, medicine, public-school teaching of science or classics, good administration of governmental agencies and private firms are all *useful* to the point of being indispensable. However, they do not *directly* alter the ecological potential of society: only the direct production of useful goods, and useful physical distribution of such goods, change the physical setting of society *in the manner required to improve the ecological potential*. Useful administration and services *improve the organization of* productive work, as administration exemplifies this, or as education and science exemplify this. The contribution of administration and services is not measured in terms of the output of an economy, but rather in terms of the *rate of improvement in the ratio of* net work to total work performed over successive phase-changes by the population as a whole.

To perform a useful service (or a useful function of administration) is *to cause others*, directly or indirectly, to advance the technology of production of goods. To perform useful work directly is *to cause oneself* to advance the technology of production of goods or of the physical distribution of such goods. *To cause others* to advance the technology of production of goods is *useful*, but not *productive*. *To cause oneself* to improve the technology of production of goods is both *useful and productive*.

What aspect of the activity in these cases constitutes *work*? Is it the sweating, the pushing and shoving? By no means; there is no contribution to advancement of the technology of the production of goods in repeating the same technology of practice year after year. *Exertion, sweat, time expended*, are not measurements of work. *Work is measured by what it produces*. Work must be measured as the advancement of the technology of the society as a whole, for which purpose potential relative population-density is the criterion of an advancement in technology. Work is not of the quality of sameness, but of the quality of difference, of *change*.

This does not mean that repetitive labor in production of useful goods may not contribute to positive change.

The repetitive factory operation may produce a supply of semi-finished or finished goods which is indispensable for a time to those others in the economy who are more visibly, more immediately introducing useful advances in technology. In the aerospace industry, for example, such a relationship exists between the special category of industrial operatives assigned to developmental work and the operatives doing relatively repetitive work on the components-production or mainframe assembly line.

If one man climbs on the shoulders of two others, to effect escape from a pit into which all have fallen, the two onto whose shoulders the third person climbs are effecting useful change even while they stand still, precisely because they are integral to the process by which change is being effected. However, we evaluate the activity (or, still-standing) of the two in terms of the amount of change being effected by the combination of all three.

These points are clear, and are properly interpreted only if we take the society as a whole (economy as a whole) as our only primary datum.

Most of the technical blunders committed by honest accountants today, in attempting to assess the U.S. economy (for example) as a whole, is their credulous acceptance of the Gross National Product methods and procedures of national income accounting. They accept the monstrous, axiomatic fallacy of the GNP system (or GDP system, in other nations), of assuming that the output of the whole economy is the simple sum of the "value-added" margin contributed independently by each of the component farms and firms of the economy as a whole. They accept the delusion that the whole economy is the sum of its parts, whereas the value of each part of the economy is properly determined by taking the economy in total as the indivisible whole used as the starting point for analysis.

It is the positive change in the potential relative population-density of the whole economy which is primary. *The parts are to be assessed and measured in respect to their marginal contribution to the changes maintaining and increasing the potential relative population-density of the whole*.

It is the quality of difference, of positive change in the technologically determined value of the potential relative population-density of the whole economy, the latter

taken as a self-subsisting unity, which provides us the only standard of measurement for defining *work*. *Work* is the work accomplished *to the effect of perpetuating and extending the existence of self-subsisting systems*.

The work is measured by a general function, of the form of $P = F[(n+m)/n]$, which subsumes all cases of transformation-functions, as we have outlined the notion of transformation-function here.

Therefore, if we define work and power in terms of such scalar measures as calories and watts, we have imposed upon economic analysis, by imposing the notions of self-evident quantities of activity as scalars, an axiomatic assumption which from that point onward excludes any competent assessment of the economic process being considered. Work, as measured from the standpoint of the potential relative population-density of the whole economy, taken as a self-subsisting whole, is a magnitude which must appear to be *axiomatically nonlinear* from the vantage-point of the ordinary industrial accountant or systems analyst.

The imposition of such linear assumptions upon economic policy-making is worse than merely total incompetence. By limiting decisions made by government and private firms to decisions which are consistent with advice of economists, a policy of stagnation and decay is superimposed upon the economy itself.

Decisions respecting reinvestment of net operating profit, respecting introductions of improved technologies, respecting the built-in carrot-and-stick of taxation policy, respecting the standards and borrowing-costs for creation of credit and issuance of that credit among various alternative borrowers, together with the purveying of a consensus respecting what modes of action will probably be "economically successful, determine the production, investment, and purchasing decisions of the individuals in society. This is determined directly, through policies imposed by government, by banks, by insurance firms, by corporate industrial managements, and by trade union organizations. This is determined indirectly as the shaping of the popular consensus guides the development of the policies of practice of most institutions and households in society.

If the policy-making so directly and indirectly governing the society's aggregate policy of practice is governed by linear thinking, the effect of decisions within affected institutions and households of the society will be to impose a linear model in the internal actions of the economic process itself.

Since a linear model is a model causing stagnation and the onset of devolutionary spirals in actual economies, so the prevailing delusions and practices of the university economics departments and professional economists are the principal cause for depressions and other most-unpleasant developments in modern history—especially over the course of the period since 1871-1879, at the point the British system achieved decisive world-domination at the expense of influence of the American System.

This is already half the proof that global systems analysis is intrinsically genocidal, but only half. To the errors we have so far identified, the British system adds a vicious element, to which we turn attention next. After that, we shall resume the examination of *work* and the reasons only a negentropic, or Riemannian, form of the fundamental function meets modern requirements.

The Outright Fraud of 'Free Trade'

The British monarchy's economy (which includes the economy of the British Commonwealth taken as a whole) is primarily a neo-feudal economy, as Friedrich List and Henry C. Carey, among others, rightly demonstrated during the first half of the 19th century. At bottom, the British doctrine of political-economy is based on the principle of ground-rent income to a feudalist oligarchy, including such disguised forms of ground-rent income as ground-rent embedded in the capitalization of debt service charges.

Throughout modern history, there has been a raging conflict between the interest of ground-rent and the interest committed to reinvestment of profits of society's industry and agriculture in the form of expanded, more technologically-advanced new industrial and agricultural production. Essentially, this has been, and continues to be, a conflict between feudalist and industrial capitalist interests.

As the feudalist faction has adapted to the changed world brought into being by the 15th-century Golden Renaissance and the consequent emergence of industrial capitalism, the feudalist faction (for example, the British) has attempted to assimilate industrial modes within the framework of feudalist principles and feudalist forms of oligarchical financier interest. The feudalist, when disguised as a capitalist entrepreneur (but still a feudalist under the disguise), insists that the principle of capitalism is a fixed rate of return on *financial investment*, a return based on nominal valuations of financial investment. The New York City housing swindle and associated deadly real estate bubble, are effi-

ciently representative of this feudalist policy.

The price of housing ought to be the competitive cost of producing an equivalent, without respect to the nominal valuation of the land on which it stands, and without respect to inflated financial changes for construction. Yet, over the postwar period (in particular) the rate of return on paid-in owner's investment, in New York real estate, has been substantially higher than for investment in new construction; because, chiefly, the New York government connived with landlord interests to swindle renters.

The value of New York City real estate is not based on the principle of profits on production and maintenance. Although the rental income to nominal capitalization ratio is used as the customary multiplier for valuing real estate properties on the market, even the rental income itself is not the key to the New York City financial bubble in real estate speculations: a true imitation of the John Law "Mississippi" bubble of the 18th century. The key to the New York City real estate bubble is capital gains income, a capital gains earning much increased by massive flows of funds derived from the international drug traffic into competition for real estate refuges from inflation, and by the major role the growth of the New York City pornography-and-sodomy industry has had in augmenting flows into real estate revenues and investments.

What is capitalized, in point of fact, in such real estate capital gains spirals? What is capitalized is not the improvements emplaced upon land, but rather the ground-rental income value assigned to the unimproved land itself. The economy of New York City has been sucked dry, through the pockets of households and treasuries of industries (fleeing increasingly from such a robbers' roost), to feed this ground-rent bubble.

Under Prime Minister Margaret Thatcher's Friedmanite (fascist) monetary policies, the economy of the British Isles has become a vast, decaying, industrial slum, yet, like slum properties in New York City, the market value of the British economy, as expressed by competitive valuations of the pound sterling, has increased relative to the values of more viable national economies.

A similar, if more ugly situation, prevails in the external indebtedness of the so-called developing sector as a whole. As the International Monetary Fund and the World Bank lead in shutting down productive investment in those nations, those financier agencies act to increase the per capita debt service of each nation through refinancing arrangements. In this case, especially in the so-called Least Developed Countries of Africa and Latin America, International Monetary Fund and World Bank policies are already, explicitly and intentionally acts of massive genocide against whole peoples.

Generally, worldwide, the portion of total world income to rentier-financier types of financial institutions, especially those based in Switzerland and the British Commonwealth, has increased vastly, and at an accelerating rate. This increase in rentier-financier income has already exceeded the net operating profit margins of the combined capitalist economies of Western Europe and North America. Since President Jimmy Carter and Paul A. Volcker introduced fascist varieties of monetary policies to the Federal Reserve System in October 1979, it has been the muscle and bone of the economies which have been looted as the principal source of growing revenues to rentier-financier interests allied with the British monarchy. Hence, Western Europe and the United States are now sliding ever more deeply into a new world depression which was started by Margaret Thatcher in Britain and then spread into the policies of the government of the United States.

These illustrations are adequate for our purposes here. The deadly conflict between "ground rent" and profits of productive enterprise is clear enough to any intelligent person. So far, ground-rent rentier-financier interests are controlling the British, U.S., and many other governments, and are implementing global genocide through such instruments as the International Monetary Fund and World Bank.

If the policies which contribute to this relative increase of power of rentier-financier interests, against industrial and agricultural entrepreneurial interests, are built into a linear form of global systems analysis model, as is the case in fact, the acceptance of that model as a guide to policy-making is in and of itself an act of global genocide. The proposal to increase and to enforce the payments to rentier-financier account, while savagely contracting the productive basis for producing means to pay such financial charges, is an act of genocide.

Feudalists Among Moscow Communists?

The fact that the kind of global systems analysis incorporating both linearity and the British model is intrinsically a policy of genocide poses some interesting speculations concerning the Moscow Malthusians. Is it possible to believe that a powerful minority faction in

Moscow is not only committed to global genocide, but also that this faction is acting directly in support of the policies of British rentier-finance?

The fact that we must consider such a question necessary to answer reflects a widespread, monstrous, popular ignorance of the roots of socialism and communism extended among even policy-making layers generally.

Modern socialism and anarchism, together with solidarism, are direct outgrowths of the "Young Europe" radical-insurrectionary movement led by Giuseppe Mazzini and coordinated with British SIS through such key figures as Lord Palmerston and Karl Marx's British Museum "controller," David Urquhart. Although Karl Marx and Lenin, chiefly, are "flukes," who proposed socialist models based on the capitalist model of technologically-progressive economic growth, the socialist and anarchist movements during and since international-terrorist Mazzini's period have been anti-capitalist, pro-Malthusian "social battering-rams" created chiefly by the neo-feudalist, rentier-financier interests centered in Venetian family funds and the British oligarchy.

The Bukharin group wanted to keep Russia primitive: Peasants during the 1920-21 famine.

In Russia itself, the evil Russian Orthodox Church (not to be confused with any actually Christian denominations) performed a decisive role in coordinating the anti-Semitic "black hundred" gangs under Czarism, in controlling the Czarist Okhrana, in directing the 1905 and February 1917 revolutions, and in creating the Russian socialist and agrarian-populist movements. The Russian Orthodox hierarchy then, and presently, is integrated with the Jesuit order and with the hierarchy of the Established Church of England.

For example, the late Herbert Waddams, chief of British foreign-intelligence for the Queen's private household, was a principal coordinator of Anglican plotting with the Russian Orthodox hierarchy, as well as the "fifth man" in the Philby-Maclean-Burgess-Blunt affair, a nasty ring of homosexuals penetrating many parts of the European, U.S., and Middle Eastern intelligence communities. (Mount Athos monastery in Greece, the historical center for Aristotelean propaganda since the Comneni dynasty of Byzantium, is also a principal world-center of pederasty. British public schools and Eastern Orthodox priesthoods are particularly nasty centers of pederastic practices.)

The Trotsky and Bukharin circles were, historically, under the coordination of the same complex of British-Venetian forces which produced Mazzini's and Palmerston's Young Europe organization earlier. Most of this sort of Bolshevik radical was deployed by such exemplary assets of the Venetian family funds' intelligence service as Alexander Helphand-Parvus, and most were run by Venetian interests during key parts of their life through Venice's principal route into Russia then (as now), Hapsburg Vienna. It is most interesting, for understanding factional alignments in Moscow today, to piece together the list of Bolsheviks who were on the payroll of Parvus at one time or another into the early 1920s.

This British-Venetian network among Bolsheviks was the controlling force within the international political-intelligence apparatus under Grigory Zinoviev of the Communist International. Jay Lovestone, who was part of this Communist International apparatus of Venice's into the middle 1930s, is among the few surviving personalities who could tell much from his experience as a secondary leader on the inside of this operation.

There is, among those in Moscow who continue the Trotsky-Bukharin-Zinoviev tradition of Cominternism today, an inner circle which has, as a matter of tradition, wittingly allied itself strategically to Venetian-pivoted solidarism and the financier interests deploying SIS's Bertrand Russell from London. These are the same British interests historically behind the China opium-traffic through Hong Kong and Shanghai. These inner

circles of fanatics dream of "The World Revolution," a world free of sovereign nation-states, in which the pederastic socialist doctrine of Oxford's John Ruskin predominates.

From the standpoint of the inner hierarchical circles of the Russian Orthodox Church, the precedent for such global socialist influence under world-rule by the rentier-financier oligarchy is the arrangement concluded between Patriarch Gennadios of the late 15-century Eastern Orthodox Church and the Ottoman Sultan, Muhammed the Conqueror. Gennadios, as a reward for assisting the Ottoman Turks to subjugate the Greeks, was made Patriarch of the Eastern church and given dictatorial powers over the cultural and religious affairs of non-Islamic populations of the Ottoman Empire.

With the help of the anti-industrial-capitalist forces of the neo-feudalist Venetian and British rentier-financier interests, the Soviet plotters of "The World Revolution" aim to achieve global socialist power.

The Stalin government went to great excesses of desperate fear in the 1930s purges, but in respect to most among the leading Bolshevik figures charged at the Moscow Trials, excepting the case of the Red Army leadership, the accused were quite guilty, not of being Hitler agents, but of being British-Venetian agents of the variety we have indicated here.

Under the adventurous Nikita Khrushchev, the survivors of Stalin's purges of the Comintern inner circle, together with numerous revengeful survivors and surviving family-members of 1930s-purges persecution, were encouraged to come out into the open as a political force. Khrushchev, at one point, publicly mooted even the "rehabilitation" of Nikolai Bukharin, the arch-agent of the Anglo-Venetian interests. The establishment of IMEMO in 1956 is of crucial significance. It has been the haven for political rallying of the Cominternist ("world revolution") faction within the Soviet Union, closely allied with British SIS—and the Jesuits, and gradually increasing considerably its penetration of many powerful institutions of the Soviet state.

Apart from the shameless advocacy of Malthusian policies of genocide, there are two leading elements of propaganda radiated from the inner Cominternist circles which expose the extent of the Cominternists' combined direct and indirect influence over the shaping of Soviet policy as a whole. This force is chiefly responsible for the policy of Soviet alliance with Britain against the United States, sometimes under the cover of the doctrine that "Britain, the played-out capitalism, is therefore, the lesser evil to be played against the military-industrial complex." This latter is alleged, according to Soviet propaganda, to be based in the U.S. industrial interests of the South and Southwest (not in New York City's Eastern Establishment, where President Eisenhower located its existence). This force is also responsible for Soviet insistence that "arms reduction" is the primary measure to be taken on behalf of avoiding war. It rejects the reality, that shifting the world from a Malthusian, rentier-financier neo-colonialist policy, to one of rapid technological development of the developing nations, is the only possible avenue for war-avoidance. The policy, forcefully laid down by Boris Ponomarev at the East Berlin world Communist Parties Conference in 1980, that developing nations must limit development to their own native resources, is not only a policy promoting global genocide against peoples of many developing nations, but is directly connected, in Soviet policy-making logic, to the perverted confidence in the mechanisms of "disarmament."

In understanding Soviet policy, we must look more closely at ourselves for comparable cases. As with our governments, virtually no policy is ever developed for practice on the basis of rational, principled perceptions of national self-interest. Policies are formulated pragmatically, on the basis of making concessions to and avoiding rupture with those political adversaries with whom one believes it is politically expedient to effect a compromise.

There is no single principled, rational perception of Soviet national interest behind the formulation and implementation of Soviet foreign policies; those policies and their implementation are defined by pragmatic expediency, in terms of shifting balances of power among combinations participating in the Soviet leadership. The most common expression of the influence of the genocidalist Cominternist forces in Moscow is not the overt promotion of a genocidal policy, such as Ivan Frolov's evil observations in a recent issue of *Literaturnaya Gazeta*,[10] more frequently, the genocidalist faction's influence is reflected as an accommodation worked into the pragmatic stew of this or that Soviet policy, especially—from our point of emphasis—Soviet foreign policy postures and maneuvers.

Once all these and related considerations are taken

10. Interview with Ivan Frolov, Deputy Director of the U.S.S.R.'s All-Union Systems Research Institute, in *Literaturnaya Gazeta*, Oct. 14, 1981.

into account, the fact remains that the Malthusians of the West and the Malthusians of the East, are instruments of policy of the same, rentier-financier interest of London and Venice.

We have reserved the most challenging conception for this concluding portion of our report. Although what we report now does not violate our policy of limiting this report's contents to the intellectual capacities of intelligent graduates of proper secondary-school education, what we must report now is admittedly more difficult for many among those readers than what we have outlined so far. It is by no means beyond the comprehension of such a reader, and much of what we report now will appear quite elementary to that reader, at least in afterthought. Yet, the crucial points included here do, we admit, represent some cause for culture-shock.

Therefore, as we have just noted, we have scheduled the culture-shock for the concluding portion of this report, after the general principles of our argument have been made clear.

The core of what we must outline here is elaborated more fully in a recent report outlining a policy for teaching of geometry in public schools.[11] The reader who desires to explore these matters more deeply will find that publication useful.

Negatively, our argument so far is elementary, rigorous and conclusive.

The argument setting forth the application of potential relative population-density is also elementary and conclusive, at least as far as we have taken that so far in this report. Yet, if the average reader were to attempt to elaborate this proven approach to develop an actual economic analysis, the reader would soon find, in most cases, that the attempted application guides one to further conceptions whose initial impact is perhaps best described as "dizzying"—like the first time the reader, as a youth, jumped from the high diving-board into a swimming-pool. (It is delightful, once one has done it a few times.)

The analogy is appropriate. Most people, including some presumably well-educated professionals, who have confronted these conceptions retreat from them in the manner like the anguished youth who walks to the edge of the high diving-board, hesitates for a while, and then retreats, blushing with shame, and perhaps shaking slightly: "I can't do it." In confrontation with such conceptions, many have said: "I just can't accept that. I would have to give up most of what I have been trained to believe, if I were to accept the implications of that proof." Yet, despite what most were once "trained to believe," the Earth is not flat, and the planets orbit around the sun in visual space. (Often, psychological cowardice is a more powerful force than physical cowardice. So, by means of playing upon a recruit's psychological cowardice, military commands force soldiers to charge against rifle and artillery-fire.)

The mental cowardice which prevents students and professionals from beginning to master a competent variety of mathematical economics is best identified as the fraudulent representation of the universe by René Descartes's and Isaac Newton's parodies of Descartes's error. Once the reader recognizes that these views are not only erroneous but pathologically fallacious, mastery of mathematical economics becomes feasible.

All modern mathematical physics, and the mathematical methods applicable to economic science, originates with the three principal published writings of Johannes Kepler at the beginning of the 17th century. Unfortunately, the interpretation of Kepler's work found in most undergraduate textbooks, classrooms, and related sources today is incompetent. It is either intentionally fraudulent, or merely a credulous regurgitation of what the dupe has been taught to recite on this topic. Kepler's accomplishment, especially when employed to expose the sheer fraud of Descartes's and Newton's physics, is the most efficient reference-point for introducing competent mathematical economics to graduates of secondary schools (or higher institutions).

What Kepler proved was not merely that the solar orbits are defined as a harmonic series of possible orbits—independent of the masses of the bodies. What Kepler proved empirically, and conclusively, was that Euclidean space is not physical space. Euclidean space—the space of the geometry of vision—exists in reality, but it does not contain within it the larger reality of which it is only a part. Kepler proved this, by proving that the ordering of physical events in solar space is wholly governed by principles of a nature which can not be contained within the geometry of visual space (Euclidean space): the principle of the Golden Mean ($x^2 - x - 1 = 0$, in algebraic terms).

It was earlier established, by the work of Nicholas of Cusa, of the circle of Leonardo da Vinci and Luca Pacioli, and others, including Albrecht Dürer, that all

11. See "How the United States Could Still Surpass the Soviets in Science," by Lyndon H. LaRouche, Jr., *Campaigner* magazine, Special Supplement, January 1983.

The Golden Mean relationship exhibited in living processes: Every seashell's logarithmic spiral is determined by the Golden Mean ratio.

living processes tended to exhibit principles of geometric ordering consistent with the principle of the Golden Mean. Kepler applied this to the most-conclusive body of empirical evidence available for a decisive (*crucial, unique*) experimental test of the principle at that time: the solar orbits. He proved that the entire solar system was ordered according to principles of proportioning for which the Golden Mean is paradigmatic.

Later, Isaac Newton and Newton's admirers have lied outright, attempting to deny, for example, that Kepler actually succeeded in discovering elliptical orbits, and that Kepler had not seen a connection between his laws and earthly gravitation. Both statements were outright lies, which could not have been kept in circulation in English-speaking countries if publication of English translations of Kepler's principal writings had not been suppressed up to the present time.

The truth of the matter is simply this. Kepler proved a number of fundamentals, sufficient to establish all modern mathematical physics as a coherent discipline.

There were some things he did not complete, but it was his genius to define the need for discovery of such things as the calculus, establishing the guidelines Leibniz employed to effect the development of the calculus before 1676. From the successive work of Kepler and Leibniz, most emphatically, all competent strains of modern mathematical physics flow. True, Kepler did not perfect the theory of elliptical functions; it was the enemies of Newton and Cauchy who did develop the theory of elliptical functions, up through the essential completion of that work by Bernhard Riemann in the late 1850s and early 1860s. However, Kepler defined the importance of developing a theory of elliptical functions, and set science along the pathway of successive developments which led to its fruitful realization in later times.

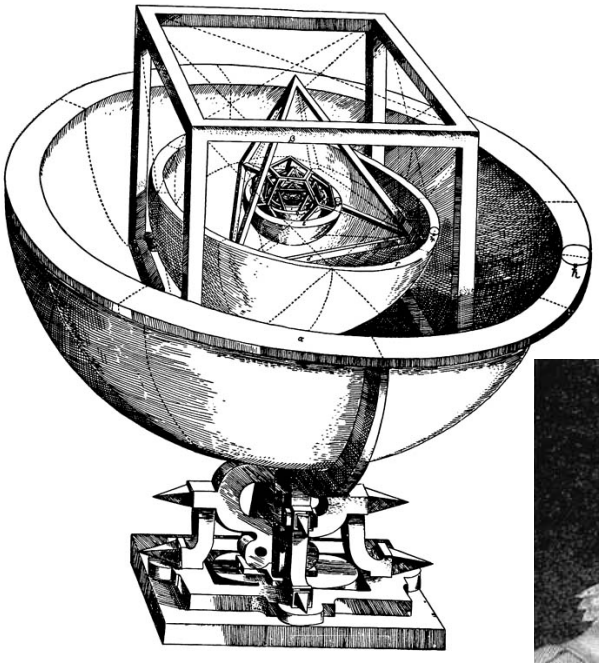
Enough of that aspect of the matter. We turn directly, that background identified, to the problem of defining a physical space and the indispensable contribution of such a definition for mathematical economics.

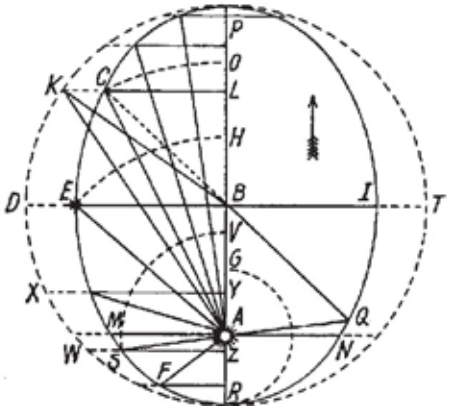
The starting-point of the work leading into Kepler's discoveries, as Kepler himself details rigorously in step-by-step fashion, is the great problem of geometry posed beginning the Tenth Book of Euclid. It was proven, at the Cyrenaic temple of Amon, during the fourth century B.C., that only five regular polyhedra can be constructed in Euclidean space. In other words, all of the postulates of proof by construction which lead into the topics of the Tenth through Thirteenth Books of Euclid lead mankind rigorously to the result that the internal ordering of all such geometry—the geometry of visual space—is governed by some principle which does not lie contained within the geometry of visual space. The characteristic quantifiable (determinate) *expression* of this "external principle" for visual (Euclidian) space is the Golden-Mean proportion.

This principle, that visual space is merely a subspace of physical space, but in projective congruence with the whole of physical space, was elaborated mathematically for geometric physics generally by the work of Riemann, leading, chiefly by way of Riemann's influence among Italy's scientists, to Albert Einstein's flawed but useful discoveries concerning a Riemannian universe.

Elementary particles do not exist as ontologically self-subsisting substances, and physical processes are absolutely not governed by action-at-a-distance among particles in aprioristic empty space. Nor, as has been repeatedly demonstrated empirically, is empty space conveniently filled with an ether of the sort which James C. Maxwell contemplated as the key to making Newton's incompetent mechanical scheme credible to the 19th century.

What we see in visual space is the reality of a larger,





At left is Kepler's 1596 demonstration of the harmonious relations among the five Platonic solids. Below, a diagram demonstrating his 1609 Second Law, which paved the way for elliptical functions. It states that the radius vector of an elliptical planetary orbit covers equal areas of the orbital plane in equal time periods, explaining why the planets move fastest when they are closest to the Sun.

physical space, projected as images into visual space. The principle governing such projective relationships must be, as Kepler proved conclusively, and as spiral nebulae affirm Kepler's proof today, based on harmonic proportionings *of a sort which subsume* the Golden-Mean proportioning.

What we must observe and measure in visual space, if we are to infer rigorously processes in physical space, is not things, but the ordering of transformations.

We are greatly aided in beginning to understand this point by adopting the viewpoint of elementary (Leonhard Euler, et al.) topology. In elementary topology, as in physical reality, two points do not determine a line; rather, the intersection of two lines determines a point; the intersection of surfaces determines lines; the intersection of solids determines surfaces; the intersection of higher-order processes determines solids. A point, a line, a surface, a solid, is a zone of ambiguity, of overlap of the intersecting, geometrically high-order forms which define that point, line, surface, solid. These ambiguities, or boundaries of overlap, are termed *singularities*.

By definition, a singularity has no *ontologically independent* existence in visual space, and does not correspond to any elementary existence in physical space.

Thus, if it is sometimes convenient for calculations, to suppose that a "point-mass" exists, it is ignorant superstition to presume because of the usefulness of such crude calculations that such a mythological being as a point-mass actually exists in the universe apart from fictions of intellectually lazy mathematicians.

As for numbers, the integers arise in geometry and physics as an associated feature of the counting of singularities, which demonstrates the geometric origin of the integers as well as all other numbers. Similarly, the idea of a "straight line" as a self-evidence, or necessarily self-evident assumption, is another superstitious absurdity. In topology, a straight line is defined by folding a circle against itself, just as a circle is defined topologically by folding closed areas against themselves.

As we generalize from Euler's founding theorems in topology to higher-order physical geometries, we are shown that the formulas governing coefficients of topological formulas respecting singularities work to aid us in discovering what order of physical space is required to yield a combination of singularities corresponding to a formula.

At that point, we are obliged to reject as numerological superstition all attempts to construct algebra on any basis but the geometric basis for elaboration of physical topology (e.g., Riemann's topology) from the reference-point of Kepler's work.

We must interpret processes seen in terms of visual space solely in terms of adducible characteristic fea-

tures of transformations—geometrical transformations—respecting whole, coherent assemblies constituting such processes. It is only when events defined in terms of the "language of visual space" (geometry) are treated as processes in this fashion, that our interpretation of phenomena of processes in visual space is in projective congruence with the ordering of processes in physical space.

Economics and Physics

This is key to what we outlined in defining work in "economic space." We generalize the notion of alternative transformation-functions, by the yardstick of increases in the potential relative population-density of society. It is in this transformation of entire societies as self-subsisting processes, which defines the efficient reality of all activities occurring within an economy.

In science, this writer is responsible for discovery of two important conceptions. First, this writer, beginning with a 1952 discovery, discovered that the characteristic function required to define a competent mathematical economics is a *negentropic function*, alternately to be defined most appropriately as a *Riemann function*. Second, this writer developed, as a by-product of the elaboration of that first discovery, an important, improved proof of the validity of scientific knowledge, by locating the basis on which that proof is properly premised. The latter is now summarized here, so that we may appreciate the conclusions to which the foregoing references to Kepler and topology lead us in economic science.

The ordering of societies in such a way as to represent societies of higher potential relative population-density emerging from the development of societies of relatively lower such potential, provides us a series of a form outlined earlier:

$$a_1, a_2, a_3, \ldots a_n$$

The developments in technology which are responsible for this progress correlate with an actual or at least implicit body of scientific knowledge. Therefore, we may treat the indicated series as defining an ordered series of phase-changes in progress of scientific knowledge. The same tactic, of adducing the transformation functions ordering successive members of such a series, applies.

It is the ambiguity of any particular body of currently established scientific opinions in particular that the prevailing scientific knowledge today is superior to the knowledge of the previous epoch, and yet the best formulations of today may become the favorite professor's classroom jokes of the future. For reason of this ambiguity, we can not premise any absolute authority for scientific opinion, such as that prevailing in universities today, on the putative experimental proofs cited in support of such opinions. An isolated experiment proves nothing fundamental; no mere accumulation of inductive judgments from a mass of such isolated experiments proves anything fundamental respecting the lawful ordering of the universe.

Wherein, then, does the possible authority of science lie? Look again at our approach to this series we have outlined. In the first approximation, the transformation function which is shown to define an ordered series of successive scientific revolutions is of a higher order of knowledge than any of the particular bodies of scientific Opinions it subsumes as a generator. Yet, as for the general function of economic science, we require a yet higher notion of transformation, which subsumes all first-order transformations. This latter, higher notion, we can rightly term the principle of "scientific progress."

It is the principle of discovery underlying all successful scientific revolutions which is the sole absolute authority for scientific knowledge.

How do we measure scientific revolutions, so that we may determine which are actually advances, which are retrogressions, nonproductive detours, and to compare the implied degree of power of progress and retrogression relative to other cases? The *implicit* potential relative population-density, as variously expressed by application of the technological benefits of such a revolution, or, if realization of scientific progress is constrained by social policy, what the contribution would be if the benefits of science were promoted adequately: there is the only basis for measuring scientific revolutions.

From this method of inquiry we adduce principles (policies) of scientific discovery, of scientific progress which correlate directly with increasing the average per capita power of mankind over the universe. It is only through means of the metric of potential relative population-density that this could be determined empirically.

What, then, does it mean to generate a series of technological developments, such that the power of the average person over the universe is successively increased?

Negentropy

To increase man's average power over the universe means to increase man's command of the lawful composition of the universe. This means that the generator which orders such a succession of phase-changes in technology is in implicit congruence with the lawful composition of the universe as a whole. It means that that generator is implicitly a statement of principles congruent with the underlying, lawful ordering of the universe.

This conception is not fundamentally new to this writer. It is Plato's notion of the hypothesis of the higher hypothesis. It is the *Logos* conception in the Nicene-*Filioque* doctrine of Apostolic Christianity. It is the approach of St. Augustine and his followers to the ordering of secular society. What is new to this writer's conception is to situate that *Logos*-conception with respect to the implications of a Riemannian approach to the fundamental function of economic science.

Yet, this very notion defines the ordering-principle of scientific (technological) progress as *negentropy*; we shall clarify this in a moment. Therefore, *the lawful composition of the universe as a whole is negentropic*.

By negentropic, we mean, in terms of physical topology, that the principle $(n+m/n$ defines a generative principle, as this notion is reflected in Bernhard Riemann's 1854 habilitation dissertation, *On the Hypotheses Which Underlie Geometry*. It means that the economy defines a series, of the form:

$$(n+a)/n;\ (n+a+b)/(n+a);$$
$$(n+a+b+c)/(n+a+b);\ \ldots$$

It also has a simple economic interpretation:

If the total output of a society is W, and if the following subdivisions, as distribution, of W, prevail,

C = Cost of maintaining goods-producing and physical-distribution capacity status quo ante;

V = Cost of maintaining at a current level of culture, etc., all of the households from which the goods-producing sector of the labor-force is recruited;

d = The cost of all household and other costs for non-goods-producing labor-force activities;

and if

$S = W - (C + V)$;

$S' = (S - d)$ = Net Operating Profit of the society as a whole;

then the ratio $S'/(C+V)$ correlates with $(n+m)/n$, on condition that S' is chiefly converted into "reinvestment" in technological-progress-oriented expansion of the economy in scale and productivity.

In this case, the ratio of $S/(C+V)$ increases. Unless the policies of practice of the society are mismanagement of the society, the increase of $S/(C+V)$ correlates with increases in $S'/(C+V)$.

However, the "objective content" of average real wages and per-capita goods-producing investment increases, at the same time that the social cost (per average total of members of the labor-force) decreases. In other words, both C and V increase in objective content, relative to preceding epochs of the production distribution cycle, but the average cost of C and V combined decreases as a percentile of total activity of the labor-force.

This growth of the function, $P = F[S'/(C+V)]$, is negentropic. The source of the negentropy is the principle of scientific progress, mediated through actual scientific progress, and that latter mediated through technological progress. Thus, the ordering principle which causes a successful economic process to be negentropic is scientific progress, which scientific progress is nothing but those principles of discovery which, as a generative principle, is congruent with the underlying lawful ordering of the principle as a whole.

Imago viva Dei? Is it man's power to reach atonement with the *Logos*, which, as an activity, is the self-mediated activity, through work, which defines man as in the image of God, above the beasts? Is it, then, through exerting increasing dominion over the universe in ways expressed by increase of the potential relative population-density of society, that mankind expresses through technological progress in work, the activity of atonement with the *Logos*? Is it, then, therefore the case, that the function of material progress, mediated through technological progress in work, is not material progress in itself, but that material progress is indispensable to perfect the development of man's potential, individual man's potential, as *imago viva Dei*?

All human history, all evidence adducible from science, informs us that the answer to each and all of these questions is "Yes, it is so."

Whether or not the reader prefers to embrace, ecumenically or otherwise, the Judaism of Philo of Alexandria, the Apostolic Christianity of St. Augustine, or not, there is no competent dispute against the scientific authority of the *Filioque* principle as reflected in the principle of *imago viva Dei*.

The Enemies of Science

Equally to the point, all forces which have rejected those principles—whether the Delphi cult of Apollo, the Mesopotamian Mobads (Magi), the cult of Isis, the gnostic pseudo-Christians of Justinian Eastern Orthodoxy, Jesuitry, and Anglicanism, or simply atheistic Malthusians—have proven themselves to be evil in social practice. Central to the difference between the evil Justinian gnostics of the Eastern Church and Apostolic Christianity, as between the Sadducees and Philo of Alexandria, is the issue whether the universe is linear and entropic, or a continuing creation which is negentropic. The evil agent of the Delphi cult of Apollo is exemplary of the arguments for linearity and entropy.

The universe is not composed of aggregates of very small, ontologically self-evident particles, each variously combining with other particles, and generally otherwise acting upon one another, "at a distance," across empty, aprioristic space. What ignorant opinion sees as "concrete existence" in empty space—points, lines, surfaces, solids, and so forth—are in fact merely singularities, eminently countable singularities, of a current epoch of a process of transformations. Contrary to René Descartes and Spinoza, as also Schelling, the discrete existences are real, if nonetheless, like mere mortal human persons, only ephemerals in the course of the unfolding of the determining process of successive transformations.

The discrete existences are real. The discrete existences called human beings are real, above all others. Only human beings possess the divine potential expressed as the activity of scientific progress, the power to master those laws of the universe with which men and women, among all other existences, are brought into existence and pass away. Only man, among all existences of that sort, can supersede his thing-like ephemerality, to become a real, active part of the process of continuing creation.

The notion of linearity, of entropy, is introduced to credulous folk by such wretches as the sophist Aristotle through the sophist huckster's pointing to things: "See, this thing is tangible. Only it is real." So, a kind of analogy for an optical illusion occurs, in which a sophist's hypnotism so intently focuses the credulous, deluded individual upon the abstract existence of the ephemeral thing (the mere singularity of the process), that the victim's mental power to wrap his mind around the quite observable and efficient process of transformation is destroyed. From that sort of sophist's brainwashing of the credulous arises the dogma of "reductionism," the delusion that the universe is entropic.

From a higher standpoint than we propose to introduce to the readers selected for this report, we could show that God is not the chief accountant of the universe's largest public utility. The activity of the universe cannot be measured competently in units analogous to calories or watts—a procedure admittedly to be recommended to actual public utilities' billing departments. What we call "energy" is not an independent existence, but a reflection of negentropy, the work reflected in raising processes from lower to higher degrees of organization, in the sense of organization implicit in the notions of physical topology.

General Conclusion

We have shown why any superimposition of linear, entropic "economic models" upon policy-making must necessarily lower the potential relative population-density of societies. If this sort of policy is continued, the potential relative population-density must fall below the existing level of population.

Thus, all application of linear, entropic modelling to economies is intrinsically genocidal.

Worse, we have emphasized, today's Malthusians are fully conscious of the genocidal implications of their adopted economic policies ("systems analysis"), so that their capital offenses against the Nuremberg Code are not unwitting, but fully-conscious—on both the Western and Soviet side among Malthusians today.

We have situated that proof within the context of introducing the rudiments of a competent mathematical economics, exposing, for those who may require this to be stated here, the implications to which our mathematical economics leads in practice.

The simple fact which is outstanding is that any elected or appointed official of any government, or of any supranational institution, such as the International Monetary Fund, World Bank, or International Institute for Applied Systems Analysis (IIASA), who supports the policies of the Club of Rome, of IIASA, of the Draper Fund, the Aspen Institute, or President Carter's genocidal *Global 2000* and *Global Futures* proposals deserves to be indicted and removed from office into public outlawry on grounds of complicity in capital offenses, "crimes against humanity" (genocide) of the Nuremberg Code.

That fact is conclusively established without what we have written here. What we have done in this report is to strip away the apology offered by mass-murderers such as Aurelio Peccei, Robert S. McNamara, et al., that it is economics, not malice, which makes them instruments of a greater mass-murder than Adolf Hitler perpetrated.