

command of African history to establish that Africa knew mighty civilizations prior to the 17th century, boasting cities as large or perhaps larger than any in Europe or Asia.

"This alibi, of precolonial virginity," he continued, "is a pretext for the colonial and neo-colonial remodelling of Africa. The cliché is that Africans are dedicated to rural life... We have to establish reality. Historians like Al Bekri, Ibn Khaldoun and Ibn Battuta have spoken of the existence of cities in Africa, as large as the ones in Europe and Asia at that time. This holds a lesson for the future... Africa today is a panorama of a continent-divided. The anti-urbanism now existing in Africa, however, cannot eliminate the memory of what a high degree of urbanism was achieved before the cities were destroyed by the slave trade. This anti-urbanism must be ended.

"Why should Africa have defied the law that all developing regions move toward a concentration of the population? This is the myth that precolonial Africa was cut off from the world. But in fact, it was integrated with the rest of the world. The Ghana kings, Sonni Ali, the Sonrhay Empire, organized vast trade routes and built canals. Kankan Moussa, the King of Mali, administered an intense commercial life. There were vast organized movements of population and vast trading networks across Africa.

"In the Western Sudan there were many towns trading to the Mediterranean; excavations at Kumbi Saleh, the capital of Ghana, show a well organized shop and market system. There were many towns with concentrations of population without equivalent in West Africa today. Timbuktu, Jenne, Oulata—all had more than 100,000 inhabitants engaged in world trade. Jenne's shops sold cereals, butter, pepper, dried fish...

"Were non-Africans responsible... Did expanding Islam build the cities and develop the trade?... Houses of the Sudanese type like Kumbi Saleh, Timbuktu, were built with local materials. This area didn't wait for the expansion of Islam... Kumbi Saleh was built in the third Century A.D., before Mohammed... In cities of the southern equatorial type, vegetable material was used for buildings. The buildings at Zimbabwe, that have been attributed to the Phoenicians, to everyone in fact except the Africans, required as much ingenuity as the Egyptian pyramids.

"Africa was not cut-off, but integrated with the world... Africa was not a people of tribes, but of cities and civilizations... The veil must be lifted on the genius of the African city-builders."

—Vin Berg

The myth about

The following is the text of the address which U.S. Labor Party Chairman Lyndon H. LaRouche delivered to the Fusion Energy Foundation's Conference on African Development on June 27 in Paris.

For more than half a century, it has been well known that the application of 20th century science and technology can transform the semiarid, starving region of the Sahel into the breadbasket of the African continent. President Franklin Delano Roosevelt outlined the main features of such a postwar effort to Prime Minister Winston Churchill during their wartime meeting at Casablanca.

Each decade, governments, financial institutions, engineering firms, and others complete studies of new projects. To date, for Africa alone, we have a substantial accumulation of projects of investment which are not only technologically feasible beyond doubt, but which would produce a substantial contribution to the national surplus of the nations and the regions in which they are intended to be placed.

Indeed, at this moment we have more sound projects to launch than the combined forces of the industrialized and developing nations have the present economic means to launch simultaneously.

Our practical task for development is that of selecting a combination from among those proven projects. We must allocate limited capital resources for development to a combination of selected projects which, taken together, will have the optimal effect in raising per capita output in the developing nations.

Up to that point, the policymaking and the administrative problem are well defined and easily understood among the relevant professionals. Limiting our attention to those governments, parties, and financial institutions which are opposed to a neo-Malthusian, Club of Rome, genocidal policy, the problem occurs the instant those groups' sound packages are turned over to the economic specialists. With some few exceptions, the economic specialists respond with elaborate explanations showing why the high-technology development of continents such as Africa is more or less impossible.

In point of fact, the arguments of such economic specialists are worse than mistaken. The variety of

equilibrium economics

economic theory they are employing is worse than incompetent. Unfortunately, graduates of Cambridge University, the London School of Economics, or like-minded training institutions infest the administrative infrastructure of governments, parties, banks, firms, and trade-union organizations even in the best of nations. Governments and others set forth to undertake an eminently sound program for the economic development of the so-called developing nations. The bureaucratic mice from Cambridge and London School of Economics gnaw at the roots of such programs. As a result of this gnawing at the roots, sound programs wither, and the abused and neglected developing nations slip closer to the abyss of biological catastrophes of famine and epidemic, combined with the effects of the social chaos fostered through such enmiseration.

I refer our attention on this point to the wartime policy-proposals of President Franklin D. Roosevelt. At the Atlantic and Casablanca meetings with Prime Minister Churchill, Roosevelt informed an understandably enraged Churchill that the United States was not going to fight a second world war for the purpose of once again saving the British Empire. Roosevelt added that under his policy for the postwar world, the United States would crush all efforts by the British and others to subject the international economy to "British 18th-century methods."

Unfortunately, Roosevelt died on the brink of peace in Europe. To put the matter in the kindest possible terms, President Harry S. Truman was no Franklin Roosevelt.

Excepting such cases as President Eisenhower's "Atoms for Peace" policy and the policies associated with Charles de Gaulle, the postwar Bretton Woods monetary system has been a cancerous revival of what Roosevelt rightly denounced as "British 18th-century methods." This Bretton Woods system has meant leaving former colonial nations to carry independently their accumulated debts—independent of significant assistance from the industrialized nations. This is the phenomenon which developing nations often describe as "neo-colonialism." On balance, since the death of President Roosevelt, the United States government has worked to perpetuate the old British Empire in thin disguises, and has done so by embracing what Roosevelt denounced as "British 18th-century methods."

The Cambridge school of economics, including such

fellow-travelers as the Mont Pelerin Society and the liberals and radicals of the London School of Economics, is the formalization of precisely those "British 18th-century methods." Without rejecting those methods, without junking those miserable varieties of political economy, the New World Economic Order could not be brought into being.

For such reasons, it is a wishful delusion to speak of the development of regions such as Africa without committing ourselves to the replacement and eradication of those kinds of economic doctrine associated with Cambridge and the London School of Economics.

Since I began to gain public notice for my work on this matter, about five years ago, some important progress toward a New World Economic Order has been made.

During the spring of 1974, my associates and I proposed the immediate reorganization of the European Community's monetary structure into the form of what we termed then a "Golden Snake." We demanded the pricing of monetary gold at its price of production, not some fictitious gold valuation of the sort earlier used under Bretton Woods. We proposed that a gold-based EC currency bloc would be made economically feasible through economic cooperation agreements with the Comecon nations.

Happily, that 1974 demand of ours has been satisfied on the initiative of President Giscard d'Estaing and Chancellor Helmut Schmidt. The establishment of the European Monetary System, combined with new accords among Moscow, Paris, and Bonn, has established the indispensable cornerstone for the new, needed world monetary system.

During April 1975, I announced a further proposal at a press conference in Bonn. This proposal was later publicized in a series of reports under the title of *The International Development Bank*. The requirements of that further proposal are satisfied by the second aspect of the initiatives of President Giscard and Chancellor Schmidt, the European Monetary Fund.

If the members of the EMS place common reserves in a gold-based pool, that pool is readily converted into a new credit-banking facility. Churning liquidities held by central banks and other major institutions can be exchanged for purchase of low-interest, gold-denominated, long-term bonds. The liquidity so concentrated in the new banking facility can aggregate to a level of

***“Today, if we choose the American System, we shall not only survive,
but open up a half-century of unprecedented worldwide growth and prosperity.”***

hundreds of billions of dollars. This provides the basis for issuing low-interest, long-term credits for export of high-technology capital goods from the industrialized to developing nations.

I do not know to what extent my own proposals and those of my collaborators directly or indirectly influenced the shaping of the EMS and EMF institutions. Pope Paul VI's 1967 *Populorum Progressio*, the initiatives of President Charles de Gaulle, of the late Jacques Rueff, were already proposals in the same direction. The economic principles involved do not differ from the economic principles of Jean-Baptiste Colbert, Gottfried Wilhelm Leibniz, Alexander Hamilton, Henry C. Carey, and Friedrich List. The point is that there was a convergence between my own proposals and the designs accomplished by the various contributors to and architects of the EMS and EMF. To the lasting credit of President Giscard and some other leaders, we have made and are making some important progress away from the swamp of “British 18th-century methods.”

If we assume that the European Monetary Fund will be put into operation quickly now, this step is excellent. It is an indispensable step if we are to avoid an otherwise certain world depression and almost certain thermonuclear war.

However, this step by itself is not yet adequate. One more ingredient must be added. We must rid our government and financial institutions of the pernicious influence of “British 18th-century methods.” Without that additional measure, both the EMS and EMF must tend to fail—and the condition of Africa, among other developing regions, will then become hopeless.

This last problem I have attacked in a publication entitled *The Theory of the European Monetary Fund*, published last autumn. As part of the same effort, I directed a group of my close collaborators to create a computer model matching the specifications of the same published document. Such a computer model has been constructed. It has been tested using a data base of U.S. statistics from the 1968-1973 period, and the model tested has been proven to have approximately 100 percent reliability. The crucial test has been accomplished through using 1968-1973 data-based versions of the model to predict post-1973 developments. The computer model so developed has been named a “Riemannian Economic Model.” Copies of some of the published reports on this model have been made available to you here today.

This conference on the development of Africa is a most appropriate occasion for reporting some of the

leading, indispensable functions the “Riemannian Economic Model” will have in ensuring competent projections and measurements of economic performance. This model enables us to replace the “British 18th-century methods” embedded in the computer models and other economic-accounting procedures heretofore generally in use.

To that purpose, I shall now summarize for you the following key points.

First, I shall locate myself as an economist directly in the tradition of what the great Marquis de Lafayette and others defined as the “American System.” The best known economists of the “American System” are George Washington's Treasury Secretary, Alexander Hamilton, President Abraham Lincoln's economic advisor, Henry C. Carey, and the close collaborator of Lafayette, Germany's Friedrich List.

Second, I shall identify the gross incompetence of the system of National Income Accounting in official use in the United States today. By means of this illustration I shall leave no doubt in your minds of the rightness of the theory of Hamilton, Carey and List, or of the gross incompetence of the sort of economics advocated by both British liberals and the Mont Pelerin Society today.

Third, I shall turn your attention to the flaw of omission in the economic theories of Hamilton, Carey and List. I shall emphasize that what I have accomplished, relative to my leading predecessor-thinkers of the “American System,” is to have employed the kind of relativistic physics associated with Bernhard Riemann and Georg Cantor to solve the problem of generating predictive economic models consistent with the fundamental principles of the “American System.”

In this connection, I shall show why no competent administration of development of the developing nations is possible without replacement of British methods of political economy by the American System.

The presentation will bring into focus the point emphasized in the title of this presentation. In the conclusion, I shall turn your attention again to the special characteristics of the “Riemannian Economic Model,” to show why any mathematical model or accounting system reducible to simultaneous linear equations is axiomatically incompetent to represent a developing economy. As a corollary point, I shall have shown you that the effort to administer an economy or world monetary system according to doctrines derived from Petty, Smith, Ricardo, Mill, Keynes, Schacht, von Mises, or von Hayek, must direct economies into relative stagnation and ultimate collapse.

I shall emphasize, in passing, that Karl Marx was wrong in his misguided effort to adduce the principles of industrial-capitalist development from the British model. Marx was correct, however, in showing that depressions, misery and ultimate collapse are intrinsic to societies which model their economies according to the doctrines of Smith and Ricardo. Today, if we choose the "American System," we shall not only survive, but open up a half-century of unprecedented world-wide growth and prosperity. If we tolerate the British model, we are doomed either to early nuclear war, world-wide biological catastrophe, or both.

1. Hamilton: the origins of political economy

To understand the "American System" economics of Hamilton, Carey and List adequately, we ought to trace the development of modern national economies from a comparison between Dante Alighieri's *De Monarchia* and the *Concordantia Catholica* of Cardinal Nicholas of Cusa. From the middle of that Dark Age following the defeat of the Hohenstaufen, to Europe's emergence into the Golden Renaissance, the leading Augustinians and citybuilders of Europe had progressed to the notion of a world order based on national republics. Cusa's ecumenical proposals, beginning with his *Concordantia Catholica*, have an importance that is presently vastly underestimated in the emergence of the modern nation-state, and of national economies.

The first modern political economist was the great Byzantine Platonist and collaborator of Cosimo de Medici, Plethon. Reading Plethon's proposals for national economy today, we are properly filled with profound contempt for David Ricardo's *Principles* as well as the British productions of William Petty and Adam Smith. Relative to the great Plethon from the early 15th century, Ricardo, four centuries later, did not comprehend even the ABCs of national economy.

The first successful establishment of a modern nation-state and national economy was accomplished during the last half of the 15th century by France's magnificent Louis XI. Louis XI's achievements in France, intersecting Augustinian city-builder currents within Tudor England, contributed to the establishment of the second modern nation-state, England, during the early 16th century.

From that point onward, into the American Revolution, there was a philosophical and practical alliance between what became the Commonwealth Party in England and the Navarre-centered *politiques*, the Commonwealth Party of France. Jean-Baptiste Colbert is the interim culmination of this process in France of the post-1653 period.

The overthrow of the Commonwealth Party in Brit-

ain in 1660 was a terrible blow to the republican cause. However, the English Commonwealth Party provided for the future by its 17th century colonization of what was later to become the United States. Over the period 1766 through 1789, the figure of Benjamin Franklin was the focal point for alliance of the transatlantic Commonwealth Party with the networks of the heirs of Colbert and Leibniz throughout the continent of Europe.

Looking at the problems of the 18th century from Benjamin Franklin's Paris we observe the following. Eighteenth century France was the most advanced and most rapidly developing industrial nation of that period—in contrast to relatively stagnating Britain. Nonetheless, parasitical forces among aristocratic serf-holders and Amsterdam-Geneva-linked rentier-finance prevented France from realizing its industrially based potential to become a true republic. As Lafayette's policy toward Louis XVI illustrates, the political defect of France was seen to be not the monarchy as such, but the grip of anti-industrialist oligarchical forces of countryside and rentier-finance on the monarchical government. The wrecking of French credit by the evil father of the evil Madame de Staël exemplifies the problem.

In the dedication of Franklin's transatlantic conspirators, the American Revolution was not simply an American internal affair nor a geopolitical matter of continental efforts at weakening the British monarchy's evil power. The new American Republic was intended to become the more or less perfected realization of the kind of republican order the heirs of Dante, Cusa, Colbert and Leibniz intended to bring into being throughout Europe most immediately.

Therefore, when we speak of the "American System" of political economy, we are not suggesting that the European networks centered around Lafayette proposed to imitate some recent concoction autochthonously sprung up in North America. Although it was the majority of American people who, principally, had made the revolution and established the young republic, the republic was based on political and economic principles of European design.

Whether or not they have been informed of such details, when nations of the developing sector today demand a New World Economic Order, they are demanding in fact the same policies the American revolutionaries demanded in adopting the U.S. Constitution. They are demanding the benefit of those policies which Lafayette and his allies knew and promoted under the name of the "American System."

It is an absurdity, a wild distortion of the bare facts of U.S. history, to regard the American Revolution merely as an internal conflict between British colonies and the British throne. That revolution was in fact a world-wide struggle between what we identify as the "American System" and what the misguided Karl Marx admires as the "British model."

A handful of brief illustrations are important here.

The successful assimilation of modern technology by Japan was rooted in the acceptance of Dutch humanist influences long before the Meiji Restoration of the 1860s. Long before the Meiji Restoration, a group of gifted persons in Japan dissected a corpse, satisfying themselves that European science was relatively sound, and Chinese culture backward and absurd on this and related points. In a like manner, the forces which launched a 19th century economic miracle in Japan under the Meiji Restoration drew on two sources. By way of historic connections to Neoplatonic Europe, connections to German republicans, Japan adopted the political economy of Friedrich List. With aid of a Meiji leader who apprenticed himself in the Lincoln administration, Japan took directly from the economics of Alexander Hamilton and Henry C. Carey.

List and Carey were not parallel developments. List was a part of an international conspiratorial network headed by Lafayette, and spent ten years in the United States, under the sponsorship of Lafayette, where List worked closely with Henry C. Carey and his father Mathew C. Carey. List presented his work to Europeans under the name "The American System." Hamilton, Carey, List and the great French political economists of the early 19th century represented in fact a community of collaborating scholars.

Although British subversion of leading institutions of the United States was a major problem throughout the 19th century, the essentials of the American System were deeply embedded in the republic. The forced industrialization of the nation under President Lincoln made the success of the American System irreversible—at least until the ominous reverses of the 1960s and 1970s. Similarly, the Meiji Restoration embedded the "American System" in the economy of Japan. The achievements of List and his collaborators have been organically embedded in Germany's Rhineland and Ruhr. It is the heritage of France's Hanotaux and Russia's Count Sergei Witte, a heritage based in the "American System," which still to this day serves as the institutional basis of reference for the Gaullist policy toward the European continent.

Today, it is rightly the model of the young United States' republic, the model of Japan's economic miracles, and the model of German technology—of the Ruhr and 19th century Göttingen, which corresponds with the need to create a New World Economic Order.

Hamilton's economics as such

The kernel of the economics of the "American System" was first elaborated by George Washington's Treasury Secretary, Alexander Hamilton. During the period 1789-1791 Hamilton drafted a collection of policy out-

lines on banking, credit and economic policies. Those reports by Hamilton bring together most of the essential, distinguishing features of the "American System." The most profound and important among Hamilton's writings is his 1791 *Report on the Subject of Manufactures*. In this report, Hamilton systematically shows to be absurd those notions of political economy embodied in Adam Smith's *Wealth of Nations*. Hamilton refuted in advance the absurdities of David Ricardo's *Principles*, as well as John Stuart Mill, Marshall, John Maynard Keynes, Hjalmar Schacht, and also the liberal and Mont Pelerin Society outgrowths of the British school.

In opposition to the physiocrats, including Smith, Hamilton discredited totally the British doctrine of rent, and also discredited in advance Ricardo's foolish notion of "average necessary labor-time" as the determinant of economic value.

Hamilton's factual basis for this proof was restated later by Mathew Carey, by Henry C. Carey, by Friedrich List, and by key French thinkers of the early nineteenth century. Although the advantage of a broader range of facts than Hamilton commanded, Hamilton's own devastating refutation of the British doctrine of rent is so thorough, and presented in such comprehensible form, that any person who has not mastered this and come to essential agreement with it is professionally unqualified to speak on political economy.

The source of wealth is not the "bounty of nature." Each mode of productive technology defines a different spectrum of natural resources than earlier and later modes of technology. Petroleum, at a premium today, will be a petrochemical source of diminishing importance as fusion energy processes emerge into general usage during the next century. Old resources are relatively finite, and must be replaced by new kinds of resources through development of more advanced technologies.

Only a British rentier or a feudal landlord or usurer could repeat the nonsensical argument that land has a natural fertility for agricultural use. It is productive, ingenious farmers whose improvements in land make that land fertile and improve its fertility.

In the U.S. state of California there is a piece of former desert, called today the "Imperial Valley," which is among the richest agricultural land in the world. What physiocratic imbecile could argue that the value, the fecundity of this land is a product of the "bounty of nature?"

Continuing the line of thought outlined by Hamilton, during the next two decades of fission energy development, fission energy plants will add between 7 and 10 thousand gigawatts of capacity to the world's fixed-plant energy supplies. During this phase, we shall transform the arid Sahel into the rich breadbasket of Africa, using the principles which turned California's desert into the basis for the "Imperial Valley." During

***“The source of wealth is not the ‘bounty of nature’ ...
it is the development of the productive powers of labor.”***

the last decade of this century, fusion energy will become commercially applicable on a broad scale. As continued perfection of fusion energy advances, we shall have the energy at sufficiently low social cost to transform the Sahara and Gobi desert into gardens for human habitation.

One can believe in the unchanged fecundity of land only in a society which refuses to meet its obligation to create the fecundity of the soil.

The second, connected point proven by Hamilton is more sophisticated, more fundamental, more important. Let us look at this point in terms of its refutation of the absurd belief that the “average necessary labor-time” of production determines economic value.

Let us suppose we turn back the clock of history to our ancestor hominids of the late Pleistocene age. Could we maintain a world population of even a hundred million through the forms of food gathering and primitive production employed by old-stone-age ancestors? What is the value today of the average labor time of persons at such levels of culture? It is less than zero. Stone-age man could not maintain a world population of a hundred billion persons even with an 18-hour labor-intensive day. It is not the time of labor that determines value, nor the price paid for a day’s labor. It is the *quality* of labor that determines the value, the level of technology represented by the successive advancements in culture of man from the Pleistocene to the present.

What then, is the source of economic value? What is there reflected in the potentialities of a modern labor force which enables us to maintain a world population of about 4 billion today, and will enable us to maintain an improved standard of existence for about 6 billion persons 20 years ahead? It is nothing but a secular process of progress in developing the productive powers of labor.

This is the essential point of axiomatic difference between the American System and our adversary, the British system. That point of essential difference is Hamilton’s principle, that the *sole ultimate source of all wealth is the development of the productive powers of labor*.

As a corollary principle, Hamilton proves that the development of the productive powers of labor requires the mediation of increased savings embodied as capital. It is through “artificial labor,” the use of machines to employ energy above and beyond that of the human musculature, that continued development of productive powers of labor is to be secured.

In general, Hamilton’s approach was consistent with that of Jean-Baptiste Colbert. The development of an industrial republic requires that the state organize the credit required for commerce and investment, and that the state act to create a protective environment around those ventures which contribute more advanced productive technologies to the national labor force as a whole.

The British doctrine of “free trade,” or the modern name for the same thing, “the free-market economy,” is an historical absurdity and an economic fraud. Historically, industrial capitalist development occurred through the directing role of the state. This was the case for the France of Louis XI, for Tudor England, for France from 1653 through 1814, and for the young American republic. It was the case for Meiji Japan, and the case in the effects of List’s customs union for Germany. Never in the course of modern economic history in any part of the world has private capitalist investment by itself succeeded in developing a healthy capitalist economy.

What private capitalist venture does accomplish is to enable different technological and entrepreneurial ingenuities to compete in such a way that those enterprises embodying the best combinations of technology and management will tend to predominate, and new, more progressive firms will nip threateningly at the heels of those firms whose managements tend to become lazy in respect of technology, and parasitical in respect of their use of profit-incomes. This system of competition functions only on condition that the state creates a system of credit and taxation through which progressive ventures are aided to prosper at the relative expense of the more backward and parasitical capitals.

On this point, one may usefully refer to the observation of Mathew Carey.

During the period of 1815-1818, the United States committed the folly of adopting the British doctrine of “free trade” as U.S. governmental policy. The result of the ill-fated embrace of “free-market economy” principles was a disastrous depression. As a result of that experience, the United States abandoned “free trade” policies, and returned to the policies of Hamilton. The 1818-1828 period of “dirigism” was one of prosperity.

Commenting on this in 1818, Mathew Carey compared the case of Portugal. Carey showed how Portugal’s submission to the British doctrine of “free trade” had ruined that nation’s credit and economy. We might add, comparing the economies of Portugal and the U.S. over the past two centuries, that it was Portugal’s

“As long as an industrial-capitalist system employs such dirigist methods, no depressions are possible.”

persistence in “free trade” practices which brought that once-proud nation down to its present relative semi-backward condition. Carey showed exactly how “free trade” was destroying the U.S. economy during the 1815-1818 period.

A related experience afflicted the United States under Presidents Andrew Jackson and Martin Van Buren. At the time of Jackson’s election—one must add, elected with aid of a massive vote fraud—in 1828, the United States had the best credit of any nation of the world, and was a technological leader, more advanced than Britain at that time. Under Jackson’s “free trade” policies, the credit of the United States was ruined, and the nation and depression of the period beginning 1837. The United States did not recover significantly from Jackson’s and Van Buren’s “free trade” follies until Lincoln’s industrialization drive.

A most relevant illustration is given by the case of the 1930s depression.

In 1940, the United States began a war-production mobilization. At first, the mobilization was stalled by the effects of accumulated obsolescence and decay in productive capital, and by the labor force’s loss of much of the skill-level which that labor force had possessed in 1928-1929. Nonetheless, by 1942, a war-production boom was underway; the United States went through super-employment of its labor force and cranked out a production of goods which staggered the imagination of the world.

Why, then, did the United States permit itself to undergo ten years of hideous economic depression? Granted, ammunition is not generally eatable, and artillery and military aircraft are not very useful as chemical plants or machine-tools. However, if, instead of war-goods, the United States of 1929, 1934, or 1936 had used war-production mobilization methods for producing masses of capital goods, the depression would have ended. Moreover, since capital goods are recoverable values through production—where military goods are not—any long-term debt incurred for such capital-goods production would have represented a non-inflationary, negotiable asset.

As long as an industrial-capitalist system employs such dirigist methods, no depressions are possible. The reason the United States remained in a depression throughout the 1930s is that both President Hoover and President Roosevelt refused until 1940 to break with the British policies of “free trade.”

The Hamiltonian new world economic order

The illustration I have just given I have emphasized because of its direct bearing on the New World Economic Order. The methods Roosevelt used for 1940-1945 war-mobilization in the United States are a model of reference for the methods by which I propose to make the New World Economic Order a reality.

Contrary to official U.S. government statistics, the U.S. economy as a whole is currently operating at a net loss. The statistical reports of economic growth and profitability are largely fictitious; they are based on including within Value Added items revenues which involve nonproductive or even outrightly wasteful purchases. The agricultural and industrial sectors of the U.S. economy, in particular, are in a cannibalistic phase, where a shrinking capacity is maintained by “triaging” part of output-capacity as a whole.

Although the U.S. could secure export contracts for capital goods increasing the level of exports by about \$100 billion annually, the U.S. economy has shrunk since 1966-1967 to the point that prompt delivery on such increased volumes of exports is presently doubtful. I emphasize the figure of \$100 billion because that is the approximate level of increased annual exports of capital goods the U.S. must contribute to launching the New World Economic Order during the course of the immediate four years ahead.

Therefore, the problem of bringing the U.S. economy to the point it can deliver an additional \$100 billion of capital-goods exports annually is a problem very much like the war-mobilization problem Roosevelt confronted in 1940.

On condition that the European Monetary Fund is implemented in the way I have indicated earlier, and on condition that the United States and Japan are brought into support of the EMF, that will establish a new world monetary system, replacing the bankrupt and cancerous relics of the Bretton Woods System—the IMF, World Bank, and London financial market. This new system, being established on a true gold-reserve basis, can generate hundreds of billions of dollars-equivalent annually, provided that the credit issued is for sound projects, and that the credit is issued primarily for world commerce either in capital goods or in commodities circulated in payment against capital-

goods purchases. In other words, it is a worldwide, peaceful equivalent of a war economy.

On that basis, anticipating nuclear-energy plants to be a large component of total increased capital goods exports, we are projecting levels of added world commerce in capital goods in the order of between two and three hundred billion dollars-equivalents annually, as soon as production levels can be cranked up to meet such requirements.

East-West economic cooperation will be an essential part of this. For various reasons, the Comecon nations are not suited to become a significant part of the world division of labor in consumer products. Therefore, unless the Soviet Union, for example, were to meet its purchase obligations with a combination of gold bullion and primary commodities, there would appear to be important difficulties in the way of adequate expansion of East-West economic cooperation. However, the Comecon economies, especially the Soviet economy, have excellent potentials for producing high-quality capital goods for Third World use. Thus, the Comecon can increase its purchase of imported capital goods for its own internal development against the proceeds from supplying other capital goods exports for development of Third World nations.

Admittedly, this effort depends upon the subordination of old Third World debt to the longterm credits of high-technology development. With a new, gold-based monetary system replacing the cancerous IMF, the suitable reorganization of old debt-structures can be accomplished without causing dislocations in the internal banking systems of industrialized nations.

This effort is also to be understood by comparing the United States and the British Empire over the term of the 19th century. It was the British Empire which had the larger territory, the greater mass of natural resources, and the larger population. Yet, compare the rate of per-capita growth of wealth of the two entities.

To study the matter, it is adequate to compare the effects of the Hamiltonian development of Meiji Restoration Japan with the misery of India during the latter part of that century. Although India today has a low average annual output and income per-capita, it also represents the nation with the third-largest complement of scientists and engineers in the world. This present contrast reflects the earlier contrast between India's advanced culture and its misery during the 19th-century. By looking at 19th-century India in this way, and applying the comparable cases of Japan's development and U.S. assimilation of illiterate immigrants during the last decades of that century, it is easily shown that India could have achieved the per capita prosperity of today's Japan, but for India's participation in the British Empire's "free trade" system.

The use of "free trade" to impose economic backwardness and misery upon nations is argued in Adam

Smith's *Wealth of Nations*. Although most of Smith's *Wealth of Nations* is devoted to lying representations of the work and policies of Jean-Baptiste Colbert, Smith is accurate insofar as he shows the necessary connection between "free trade" and the conditions Britain imposed on the victims of its colonial rule.

If those victimized regions of the world had lived under the hegemony of the "American System" rather than the British system, the hideous condition of much of the Third World would not exist to be remedied today.

2. U.S. National Income Accounting

Apart from the spread of the toxic doctrines of Smith, Marshall, Keynes, and von Mises in U.S. universities and corporate boardrooms, the chief subjective cause for the present decay of the U.S. dollar and economy is the use and acceptance of the National Income Accounting system employed by the Department of Commerce, Federal Reserve System, and by most influential institutions of the private sector. The absurdity of the National Income Accounting system is most easily demonstrated beyond any margin for objections.

If the United States were merely to legalize the present level of domestic traffic in illegal narcotics and related, illegal mind-altering substances, the reported Gross National Product of the United States would be increased by more than \$100 billion annually. A similar kind of result would be accomplished by legalizing illegal gambling, and by absorbing large portions of the unemployed as employees of an expanded number of gambling establishments. If one were not satisfied with this amount of increase in the National Product, the legalization of burglary and armed robbery would enlarge the GNP.

It may be recalled that John Maynard Keynes once argued that an economy could be stimulated by hiring unemployed persons to dig and refill holes in the ground. If all the labor force in the United States were discharged from productive employment, and employed by the government in digging and refilling holes in the ground, the payment of an adequate hourly wage for this employment would suffice to increase the GNP over the levels existing when production was still functioning.

This imbecility of the National Income Accounting system is the chief reason that the past 12 years decline of the U.S. economy has been a period which GNP figures report to be one of more or less successful continuation of economic growth.

Although Hapsburg Vienna's so-called economists were influential in the design of that GNP system, the axiomatic principles were consistently British. The mere

fact that any person could take Keynes seriously, after Keynes's observation on the digging and refilling of holes, is adequate evidence that in matters of political economy, at least, such an admirer of Keynes must be either a moron or a certifiable lunatic.

It is relevant that despite Karl Marx's self-deception on this point, the Reverend Thomas Malthus was a collaborator of David Ricardo. The fact that Marx is self-contradictory in his own definition of "productive" in his *Capital* is not inconsistent with Marx unjustified praise for the relative "scientific" merits of Smith and Ricardo. In Volume I of *Capital*, Marx gives a wrong definition for "productive"; in a location in *Theories of Surplus Value*, Marx's distinction between *productive* and *nonproductive* is close to being correct. It is important to stress such observations concerning Marx when dealing with the Third World, since the London School of Economics representation of Marxian economics has been promoted among Third World intellectuals, including Third World leaders who otherwise have a sensible view of economic development.

In the case of Thomas Malthus, Malthus's refusal to distinguish between productive and nonproductive forms of consumption is only more luridly obvious than in the writings of Smith, Ricardo, Marshall, Mill and the professedly Malthusian Keynes. Malthus is only more shameless than many other British political economists on this point.

In the British System, especially the "utilitarianism" of Mill and Mill's successors, the consumption of a commodity or service is an end in itself. The fact that someone is induced to purchase or otherwise consume a paid commodity-production or service is wrongly adopted as the "elementary fact" of the economic process. So, Malthus proposed that the purpose of production of profit was to sustain an army of non-productive oligarchical parasites—such as himself.

The proper distinction between productive and non-productive consumption is readily made. The case of capital consumption is most easily accepted on this point. If a firm does not employ its plant, machinery, materials and related capital in production of new outputs, the capital purchased goes to waste. The same is true of labor. If households are nourished, clothed, educated, housed, and so forth, but the labor-force represented by those households is not productively employed in production of goods, that portion of consumption has no direct economic value to the economy as an economy.

Consumption is not the final phase of the production chain. Consumption, to the extent that it represents economic value, is the connecting link between what has been produced and new production. Growth signifies that the result of consumption of old production is more production than was previously produced.

On condition that we correct and reinterpret Marx's

economic categories from the standpoint of the American System, a rigorous definition of "productive" is obtained through two steps of successive approximation. We give the first approximation at this point, and then develop the final approximation under the next subheading.

To analyze an economy, we must take the population of that national-economy as a whole. That is to say, we must not fall into the foolish practice of assessing an economy as a mere aggregation, one by one, of its component parts. The first step of analysis is to apportion the households of the total population into two sectors. One part is households of productive labor, meaning households of persons who are modally operatives in industry, construction, agriculture and such tangible infrastructure as transportation. The other portion of households is "non-productive."

From the productive sector of the population we define a total productive labor force. The total output of this productive labor force is analyzed in categories roughly corresponding to Marx's. These are C for cost of reproduction and used-up material preconditions of production, V for the cost of all the households representing productive labor, and S for the portion of tangible-product output remaining after deducing C and V.

The fact that the second group of households falls under "nonproductive" does not mean axiomatically that they are not usefully engaged. It signifies merely that their relationship to the productive process *does not involve any direct physical changes in nature*. This category of "non-productives" includes socially indispensable services such as education, administration, science and engineering, medical hygienic services, and so forth. It includes Keynesian economists and other parasites, of course.

The portion of the total product consumed by the nonproductive households and by activities related to nonproductive function is designated by the symbol D.

D is paid for from the surplus product (S). This gives us the net of (S - D) as net surplus product, which we identify otherwise by the symbol S'.

It is the ratio of net surplus product to social cost of product, the social "rate of profit" $S'/(C + V)$ which occupies the central place in a proper study of an economy. It is that production and consumption which either at least maintains or, preferably, increases the value of this, while also increasing the scale of production, which we define as the productive relationship.

The social rate of profit, $S'/(C + V)$, does implicitly define the relationship between necessary forms of services and the economy's productive base. That is, the total value of such services must not rise faster than permits a rising value of the social rate of profit $S'/(C + V)$.

As my collaborators, Parpart, Bardwell, Goldman

*“Adam Smith is accurate insofar as he shows
the necessary connection between ‘free trade’ and the conditions
Britain imposed on the victims of its colonial rule.”*

et al. have demonstrated, rearranging available U.S. official statistics to fit the social rate of profit $S'/(C + V)$ prescription produces a suitable portrayal of changes in the postwar U.S. economy, a portrayal which correlates directly with the way in which the inflationary decay of that economy has in fact occurred.

That is to be called wealth which is tangible wealth, and which, in its adopted mode of consumption, leads to production of new such wealth at an increased rate.

3. Correcting the flaw of omission in Hamilton et al.

The continuing formal flaw in the quantitative economic practice of the American system's theory has been that it could not go further than the implications of the first approximation of "productive" just identified.

The American System correctly prescribes that ratios of the form of the social rate of profit $S'/(C + V)$ define the productive relations of an economy. Second, the American System has correctly insisted that it is the continued advancement of productive technologies, toward higher rates of per-capita output, which is the real, deeper criterion of a healthy economy.

Therefore, the required quantitative model of an economy is one in which such technological progress is represented as the driving force of the economy. Using mathematical terms, technological progress is the *invariant* of the economic process; it is not a dependent variable of a system of linear equations, nor is it an exogenous factor to be introduced or omitted by choice.

If we examine this special kind of invariant we must associate with technological progress against the backdrop of modern relativistic physics, the physics specialists should quickly recognize that this is a special kind of invariance, and corresponds to a very specific kind of physical space. That is the kind of physical space identified by Bernhard Riemann in the 1854 habilitation dissertation.

It is for related reasons that the computer model reported has been named a "Riemannian Economic Model."

Although all of Riemann's principal contributions to physics were in fact derived from the conception presented in his 1854 paper on hypothesis, so far to date the general appreciation of Riemannian physics among specialists has not taken that connection system-

atically into account. The kind of invariance which Riemann's 1854 paper implies is not an ordinary sort of invariance, but what I have, appropriately, defined as transinvariance.

I confess that from the standpoint of Maxwell-oriented physics, the notion of transinvariance embedded in Riemann's 1854 dissertation is shocking almost to the point of incomprehensibility. Indeed, Maxwell, Rayleigh, Bertrand Russell and other spokesmen for the Cambridge school of mathematics have sometimes been even violent in expressing their fury against Riemann's habilitation dissertation, or otherwise against crucial aspects of the physics Riemann derived directly from that same methodology.

I, too, wrestled with the problem of the dissertation, until a study of Georg Cantor's development of the notion of transfinite enabled me to comprehend Riemann's conception. That insight came back over a quarter-century ago, in 1952, and it was between six and eight years later before I was able to elaborate this breakthrough into a form fully appropriate for economics. Although these conceptions were embedded in the instruction in economics I gave beginning 1966, it was not until certain among my associates applied this economics heuristically to crucial problems of so-called anomalies in recent years' plasma research that they, too, were as fully convinced as I of the fact that the 1854 dissertation represented a fundamental breakthrough in the understanding of the lawful ordering of the universe. It was because those among my associates who are otherwise specialists in plasma physics were able to see such a connection, that it became possible to develop a suitable computer model for the kind of economic analysis with which I have been associated during the past two-and-a-half decades.

Therefore, taking such matters into account, one must not be tempted to blame Hamilton, Carey, List and so forth for failing to solve the problem of predictive economic models.

Although the lack of such Riemannian approaches was a defect in the quantitative methodology of the American System economists, this defect does not place those economists at a disadvantage relative to the reductionist economists of the British school. Rather, without an adequate, Riemannian approach to economic models, the economist of the American System school is obliged to approximate the economy defectively by using methods which may resemble those of the best variants of the British school.

To restate the same point: the best kinds of economic models employed up to this time, especially those used for computer simulations, employ systems of linear equations. The input-output models associated with the work of Wassily Leontieff are examples of this. Any model fitting such specifications is of the form otherwise termed "equilibrium model."

The moment we assume that an economic process can be simulated by a computerized "equilibrium model," we have, wittingly or not, introduced a monstrous sort of axiomatic assumption to the analysis. Overlooking the deliberate falsifications included in the computer model of the Club of Rome's Meadows and Forrester, Meadows and Forrester would have produced analogous results even had they not included fraud in their construction. *An "equilibrium model" of an economy is axiomatically a neo-Malthusian model.*

If the proponent of one of these sort of models were to object to our observation, arguing that practical forms of mathematical applications demand such assumptions, our reply must be that such varieties of mathematics are axiomatically incompetent to represent an actual economy. Or, to be more exact, any policies derived from such a model must have the worst possible effects on the overall course of economic development.

In real economies, it is true that the relative finiteness of the primary resources associated with any unimproved technology means either that such an economy must tend to exhaust such resources, or, at best, to secure these only at a rising marginal cost. If that Malthusian assumption had been characteristic for the human species' existence, the human species would amount to a population of about one million worldwide today, and we should, like our remote ancestors, have failed to progress to the technology of the paleolithic scraper. Unless the human species had been characterized by progress in technology, the human species today would live in a condition comparable to that of an intelligent variety of baboon.

It is true that some branches of the human population have, over the past thousands of years, either failed to progress technologically, or, like the 15th-century American Indians, had degenerated to their found condition from a civilized into a mean, savage condition. However, the increase of the human population over the past three millenia, since Ionian Greece rose out of the preceding Aegean dark age, has been accomplished chiefly by those branches of the human family which have progressed technologically, or as a result of the influence of more-advanced cultures on less-advanced.

By adducing those impulses of technological progress associated with the rise of successful forms of human culture, we are able to construct an approximate time-series, representing successive technological advances in humanity's mode of production and social life. Examining this series, we note that the most obvious parameter of technological progress is an increase in the per-capita density of the number of usable calories of throughput. Advances in agriculture place control of most useful plant-life at society's disposal per capita. Animal husbandry places more animal—and plant—energy at man's per capita disposal. Improved tools have similar effects. Development of sources of so-called "artificial energy" increases in relative importance as we come historically into civilized forms of existence.

This secular tendency for increase in the per-capita energy-density of human production means an increase in the "reducing power" of societies. Limited old resources are exploited at a lowered social cost; new kinds of resources are introduced.

When sections of mankind have, at any point, resorted to "energy conservation," societies have collapsed; biological catastrophes of famine, epidemic and desertification have plunged such a society back toward savagery. It is to be emphasized that various now-dead societies did choose the Malthusian, "energy-conservation" policy, and did slide into savagery or even oblivion.

At first, what we have considered on this immediate point concerning energy might be misinterpreted to imply that new, external sources of energy are brought into societies, that this is the way in which societies progress. It is a rule that setting fire to factories may help insured entrepreneurs out of financial embarrassment; this method does not increase the productivity of the enflamed factory.

There is something more profound than mere calories of energy involved in effecting the successful branches of human cultural development. *The source of the new energy is the creative-mental potentialities of the human mind.* In those courses of development of technologies which we comprehend coherently as progress in scientific knowledge, man increases his knowledgeable, willful mastery of the lawful organization of our universe.

This advancement in knowledgeable practice is not limited to increasing man's power to loot nature. As the case of agriculture illustrates most dramatically, man is empowered to increase the richness of man-altered nature vastly beyond what might be termed its

“John Maynard Keynes once argued that an economy could be stimulated by hiring unemployed persons to dig and refill holes in the ground.”

natural state.

From this standpoint, we ought to be able to identify quickly the problems reflected in British schools of political economy.

The abstract man represented in the equations of the computer-models of Leontieff and so forth is not a human being. Leontieff's man is a mere beast, with fixed ranges of behavior, like a laboring ox or a talking parrot. The computer models so constructed degrade human economy to an analogue of an ecological equilibrium-model involving grass, rabbits and foxes.

Man is not a beast. He is not grass, a rabbit, or a fox, nor is he permissibly degraded to work in fields or factories like an ox, nor in administrative and academic positions as a mere parrot. The Cambridge-style equilibrium-model degrades man to ox-likeness, proving that in a society in which people think like existentialist oxen, that society will soon collapse in an ecological crisis—and will soon pass into the academic mercies of future paleontologists.

Let us turn back now to Hamilton's principle. The only source of wealth of nations is the development of the productive powers of labor. The Cambridge model merely proves Hamilton to be correct, if in an entirely negative way. Mankind can not survive for long, if ever he permits his economy to be managed according to the prescriptions of the Cambridge school of political economy. That which is properly termed wealth is only that which violates the axiomatic principles of the Cambridge school.

The notion of wealth is not properly limited to the idea of that consumption which facilitates replacement of what is consumed by a society. The notion of wealth is properly restricted to those aspects of consumption which mediate effective technological progress—which effect increases in the value of the social rate of profit ($S'/C + V$).

It is not the *object* of wealth in itself that constitutes true wealth. Objects represent wealth only to the extent that their consumption mediates the advancement of the technological potentials of both man and his means of production.

In other words, the *quantum* we must measure if we are to analyze an economy competently is not a scalar magnitude. It is not numbers of objects, prices, hours of labor, or anything of that sort. The crucial parameter

is the quantum of technological progress mediated through the production and consumption of useful objects. Although the notion of wealth is properly associated with such objects, that association exists only because those objects have some ephemeral but necessary connection to the mediation of a quantum of technological progress.

The Cambridge school proves perversely that we are correct. If man does not progress technologically, societies must die as horribly as the neo-Malthusian implications of British economic theory and British-inspired computer models imply. One may measure anything one chooses in a society. The thing worth measuring in an economy is that unit of action which correlates with the economy's power to survive. The only unit of action which satisfies that latter specification is a quantum of technological progress.

I do not elaborate here the formal-physics issues involved. I refer specialists' attention to the other publications on the Riemannian Model which have been made available for you here today. It is sufficient to report that making a quantum of technological progress the primary determinant of an economic model is identical conceptually with the notion of the kind of relativistic space identified by Riemann's cited 1854 dissertation. No "equilibrium model" could conceivably approximate any actual form of economy but the economy of a society deliberately engaged in 'destroying itself.

Since my collaborators and I have now presented you with the kind of computer model needed, I am entitled to propose that you should discard entirely the accounting systems, the economics texts, and the algebraic constructions heretofore generally used by governments, financial institutions and universities. You no longer require such dangerous rubbish. I now place into your hands a body of economic science which works.