# Christian Economics—Or the 'Structures of Sin'?

## *A Response to 'The Modern Development of Financial Activities in the Light of the Ethical Demands of Christianity'*

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*Rembrandt van Rijn, "Christ Driving the Moneychangers from the Temple," 1635.*

In 1994, the Pontifical Council for Justice and Peace of the Roman Catholic Church published a work completed in November 1993 by Antoine de Salins and François Villeroy de Galhau entitled *The Modern Development of Financial Activities in the Light of the Ethical Demands of Christianity* (hereafter *Modern Development*).*

As the President of the Council, Roger Cardinal Etchegaray, indicates, the conclusions reached in the report summarize the position of the authors themselves, and not necessarily that of the Council. The Council's purpose in publishing the document is to arouse discussion and debate.

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Commission. The preface is written by Father Jean-Yves Calvez, S.J., editor-in-chief of the magazine *Études*.

In his preface, Father Calvez indicates that the purpose of this document is to "stimulate ethical reflection on 'financial activity' " and concludes by saying that "it is a matter of urgency that the community of the faithful continue, together with others, the reflection thus undertaken, so that all mankind may be helped to a more exact practice of justice in these new matters which call for careful scrutiny."

The purpose of this paper is to contribute to the discussion initiated by the publication of this document. The author, also a Roman Catholic, is an associate of the world's leading physical economist, Lyndon H. LaRouche, Jr. The urgency of writing this paper and thus contributing to the debate, both among the public at large and within the Roman Catholic Church, is, that the document published by the Pontifical Council for Justice and Peace is severely flawed, thus leaving its readers unprepared to deal with the present on-rushing global financial collapse.

Whereas initial published reports of the contents of the document suggested that it correctly denounced the financial speculative bubble which is currently destroying the world's economy, a close reading of the document as a whole unfortunately reveals that the authors only denounce what they consider to be "unethical" aspects of speculation, while actually attempting to justify financial speculation in general and to render it coherent with the social teaching of the Roman Catholic Church.

The authors, who are described as "Christians who are involved by their work in these new issues," are clearly attempting to justify morally their continued participation in a system which has become increasingly characterized by financial speculation since the introduction of floating exchange rates at the beginning of the 1970's. They, therefore, desire "new procedures" which will render such activity ethical in the eyes of the Church and to their own consciences. However, the primary effect of this document, if unchallenged, would be to undermine the moral authority and efficacy of the Church itself in fighting for justice and peace.

The flaws in the document also reflect the fact that at the time of its preparation, which according to the authors occurred prior to the European monetary crisis of September 1992 to August 1993, the French government under President Mitterrand was politically subordinated to Great Britain in a replay of the 1904 Entente Cordiale, which existed in the pre-World War I period following the French defeat at Fashoda in 1898. One can see the influence of the thinking predominant at the British Exchequer throughout the document.

The document specifically reflects the authors' acceptance of the provisions of the Maastricht Treaty, which was conceived by Mitterrand among others in December 1991. If implemented, the Maastricht Treaty would eliminate the existence of sovereign nation-states in Europe and subject the populations of Europe to a supranational European Union bureaucracy committed to the British-style "liberal capitalist" free trade, privatization, and austerity policies being imposed throughout the world by the International Monetary Fund.

Such a pro-British orientation, of course, runs contrary to the economic development focus of Gabriel Hanotaux, French Foreign Minister from 1894-98, whose policies were based upon the social teachings of Pope Leo XIII, as enunciated in the encyclical *Rerum Novarum* (1891).

The problem is that the current global financial crisis cannot be solved by merely administrative adjustments; therefore, it is not a question of "new procedures." As Lyndon LaRouche has stressed in the context of his Ninth Economic Forecast, the entire world monetary system is disintegrating, owing precisely to the parasitical speculative activity of the last thirty years, the which the authors have by the end of their document endorsed, with some ethical reservations, as the progressive wave of the future.

In the course of this paper, it will be necessary to expose the false underlying axiomatic assumptions which led the authors to make the moral compromise that delivers them to their false conclusions. The authors are like goldfish in a goldfish bowl: they assume the continued existence of the bowl at precisely the point that the bowl is about to be shattered. They want to adjust to financial speculation as the "modern" type of economic activity, precisely at the point that such parasitical activity is about to bring Modern History to an end.

Among those false axiomatic assumptions are the following:

1. Since they lack an understanding of universal history and of physical economy, the authors falsely assume that the financial speculation of the last thirty years is an inherently good and progressive modern development;

2. Adversely influenced by the ideology of "post-industrialism" of the last thirty years, they lack a scientific understanding of what is meant by the "productive" or "real economy," and therefore do not consider how financial speculation has indeed parasitized the physical economy;

3. As a result, they fail to understand that financial disin-

tegration of the global monetary system is inevitable, unless the system is placed into bankruptcy and reorganized by sovereign nation-state governments;

4. Since they do not have an appreciation of the role of the sovereign nation-state in generating credit for economic development, they regard the global financial speculation and deregulation of the last thirty years as necessary, and do not consider the need to reestablish constitutional public control over the economic policy through national banking;
5. The authors assume falsely that the debt crisis of Third World nations is not the result of the liberal capitalist policies of such institutions as the International Monetary Fund, and as a result embrace the very "conditionalities" policies of the I.M.F. which Pope John Paul II has identified with the "structures of sin";
6. Insofar as they accept the "economy of indebtedness" and thus fail to embrace the necessity of debt moratoria or cancellations, their understanding of Church social doctrine, rooted as it is in the tradition of the Jubilee, is fatally flawed; and
7. As a consequence of the aforementioned errors, the ethical norms they propose are not truly moral, but are rather an accommodation to evil.

Before examining each of these false axiomatic assumptions, we begin this paper by considering the social teaching of the Roman Catholic Church on these questions. This is necessary to do because the authors begin their study with such a review. However, they either claim that the social encyclicals allow for their interpretation, or that the encyclicals have not fully taken into account the "Modern Developments" they attempt to justify.

## Catholic Social Teaching

Let us begin by reviewing the social policy of the Roman Catholic Church on the questions of speculation, free trade, and other manifestations of "liberal capitalism," including the debt crisis. The authors of the report use the fact that the Church no longer defines usury as "loans at interest," in order to argue that a further relaxation of Church opposition to financial speculation should occur today.

However, although the Church now recognizes the existence of non-usurious loans with low, long-term interest for productive investment purposes, it has never relaxed its opposition to usurious speculation. Moreover, the Church has consistently opposed the liberal capitalism of the Manchester School of Adam Smith, which ideology is the source of the speculative innovations of the last thirty years, which have brought the world to the current crisis, and to which the authors have adapted.

In *Rerum Novarum* (1891), Pope Leo XIII wrote as follows:

> A devouring usury, although often condemned by the Church, but practiced nevertheless under another form by avaricious and grasping men, has increased the evil; and in addition the whole process of production as well as trade in every kind of goods has been brought almost entirely under the power of a few, so that a very few rich and exceedingly rich men have laid a yoke almost of slavery on the unnumbered masses of non-owning workers. (6)

The critical distinction made by Pope Leo XIII is that "the just ownership of money is distinct from the just use of money." (35)

In the encyclical *Quadragesimo Anno* (1931), Pope Pius XI explicitly attacked not only communist collectivism, but also the individualistic liberalism of the Manchester School, i.e., Adam Smith. He writes:

> [T]he proper ordering of economic affairs cannot be left to free competition alone. From this source have proceeded in the past all the errors of the "Individualistic" school. This school, ignorant or forgetful of the social and moral aspects of economic matters, teaches that the State should refrain in theory and practice from interfering therein, because these possess in free competition and open markets a principle of self-direction better able to control them than any created intellect. Free competition, however, though within certain limits just and productive of good results, cannot be the ruling principle of the economic world. (p. 44)

> It is patent that in our days not alone is wealth accumulated, but immense power and despotic economic domination is concentrated in the hands of a few, and that those few are frequently not the owners, but only the trustees and directors of invested funds, who administer them at their good pleasure. (p. 50)

> This power becomes particularly irresistible when exercised by those who, because they hold and control money, are able also to govern credit and determine its allotment, for that reason supplying so to speak, the life-blood to the entire economic body, and grasping, as it were in their hands the very soul of production, so that no one dare breathe against their will. (p. 50)

> Easy returns, which an open market offers to anyone, lead many to interest themselves in trade and exchange, their one aim being to make clear profits with the least labor. By their unchecked speculation

prices are raised and lowered out of mere greed for gain, making void all the most prudent calculations of manufacturers. (p. 64)

To remedy this, Pius XI says:

> Free competition and still more economic domination must be kept within just and definite limits, and must be brought under the effective control of the public authority, in matters appertaining to this latter's competence. The public institutions of the nations must be such as to make the whole of human society conform to the common good, i.e., to the standard of social justice. (p. 52)

In the encyclical *Populorum Progressio* (1967), Pope Paul VI writes:

> It must certainly be recognised that colonising powers have often furthered their own interests, power or glory, and that their departure has sometimes left a precarious economy, bound up for instance with the production of one kind of crop whose market prices are subject to sudden and considerable variation. (7)

> If certain landed estates impede the general prosperity because they are extensive, unused, or poorly used, or because they bring hardship to peoples or are detrimental to the interests of the country, the common good sometimes demands their expropriation. While giving a clear statement on this, the Council recalled no less clearly that the available revenue is not to be used in accordance with mere whim, and that no place must be given to selfish speculation. Consequently it is unacceptable that citizens with abundant incomes from the resources and activity of their country should transfer a considerable part of this income abroad purely for their own advantage, without care for the manifest wrong they inflict on their country by doing this. (24)

> The introduction of industry is a necessity for economic growth and human progress; it is also a sign of development and contributes to it. (25)

> A system has been constructed which considers profit as the key motive for economic progress, competition as the supreme law of economics, and private ownership of the means of production as an absolute right that has no limits and carries no corresponding social obligation. This unchecked liberalism leads to dictatorship rightly denounced by Pius XI as producing 'the international imperialism of money.' One cannot condemn such abuses too strongly by solemnly recalling once again that the economy is at the service of man. (26)

He called for the creation of a "World Fund" to relieve the most destitute of this world (51):

> Developing countries will thus no longer risk being overwhelmed by debts whose repayment swallows up the greater part of their gains. Rates of interest and time for repayment of the loan could be so arranged as not to be too great a burden on either party, taking into account free gifts, interest-free or low-interest loans, and the time needed for liquidating the debts. (53)

In discussing trade relations, he pointed out that "the rule of free trade, taken by itself, is no longer able to govern international relations," owing to the inequalities of economic power between developed and underdeveloped countries. Under such conditions, "prices which are 'freely' set in the market can produce unfair results. One must recognize that it is the fundamental principle of liberalism, as the rule for commercial exchange, which is questioned here." (58)

In the encyclical *Laborem Exercens* (1981), written on the ninetieth anniversary of *Rerum Novarum,* Pope John Paul II locates the basis for the social teaching of the Church in the very first pages of the *Book of Genesis,* where the Church finds

> the source of her conviction that work is a fundamental dimension of human existence on earth. . . . When man, who had been created "in the image of God . . . male and female," hears the words: "Be fruitful and *multiply, and fill the earth and subdue it,*" even though these words do not refer directly and explicitly to work, beyond any doubt they indirectly indicate it as an activity for man to carry out in the world. Indeed, they show its very deepest essence. Man is the image of God partly through the mandate received from his Creator to subdue, to dominate, the earth. (4)

> In view of this situation we must first of all recall a principle that has always been taught by the Church: *the principle of the priority of labor over capital.* This principle directly concerns the process of production: in this process labor is always a primary *efficient cause,* while capital, the whole collection of means of production, remains a mere *instrument* or instrumental cause. (12)

> The word of God's revelation is profoundly marked by the fundamental truth that *man,* created in the image of God, *shares by his work in the activity of the Creator* and that, within the limits of his own human capabilities, man in a sense continues to develop that activity, and perfects it as he advances further and further in the discovery of the resources and values contained in the whole of creation. (25)

In the encyclical *Solicitudo Rei Socialis* (1987), Pope John Paul II notes that the gap between the developed and developing countries has widened. He writes:

> Moreover, one must denounce the existence of economic, financial and social *mechanisms* which, although they are manipulated by people, often function almost automatically, thus accentuating the situation of wealth for some and poverty for others. (16)

> The instrument chosen to make a contribution to development has turned into a *counter-productive mechanism.* This is because the debtor nations, in order to service their debt, find themselves obliged to export the capital needed for improving or at least maintaining their standard of living. (19)

Pope John Paul II denounces both Marxist collectivism and liberal capitalism: "Each of the two blocs harbors in its own way a tendency towards *imperialism,* as it is usually called, or towards forms of new-colonialism . . . ." (22)

Pope John Paul II refers to these different forms of imperialism as "structures of sin." (36) The characteristics of the structures of sin are

> on the one hand, the *all-consuming desire for profit,* and on the other, *the thirst for power,* with the intention of imposing one's will upon others. . . . If certain forms of modern "imperialism" were considered in the light of these moral criteria, we would see that hidden behind certain decisions, apparently inspired only by economics or politics, are real forms of idolatry: of money, ideology, class, technology. (37)

To replace these "structures of sin" and "evil mechanisms," Pope John Paul II calls for "reform of the international trade system," and "reform of the world monetary and financial system." (43)

In the encyclical *Centesimus Annus* (1991), after the collapse of the communist system, Pope John Paul II identified "a risk that a radical capitalistic ideology could spread" (42) which refuses even to consider the realities of marginalization and exploitation especially in the Third World and the reality of human alienation, especially in the more advanced countries.

He specifically identifies the debt crisis, writing:

> it cannot be expected that the debts which have been contracted should be paid at the price of unbearable sacrifices. In such cases it is necessary to find—as in fact is partly happening—ways to lighten, defer or even cancel the debt, compatible with the fundamental right of peoples to subsistence and progress. (35)

In respect to the role of the state, he writes:

> Hence the principal task of the State is to guarantee this security, so that those who work and produce can enjoy the fruits of their labors and thus feel encouraged to work efficiently and honestly. The absence of stability, together with the corruption of public officials and the spread of improper sources of growing rich and of easy profits deriving from illegal or purely speculative activities, constitutes one of the chief obstacles to development and to the economic order. (48)

He concludes by calling "for a *concerted worldwide effort to promote development,* an effort which also involves sacrificing the positions of income and of power enjoyed by the more developed economies." (52)

In the letter *As the Third Millennium Draws Near* (1994), John Paul II writes:

> Thus, in the spirit of the *Book of Leviticus* (25:8-12), Christians will have to raise their voice on behalf of all the poor of the world, proposing the Jubilee as an appropriate time to give thought, among other things, to reducing substantially, if not cancelling outright, the international debt which seriously threatens the future of many nations. (51)

## The Policy Implications of the Social Encyclicals

It should be clear from the above excerpts from among the most important encyclicals of the last hundred years issued by Roman Catholic Popes from Leo XIII to Pope John Paul II, that the Church has consistently criticized the "liberal capitalism" of the Manchester School. The Church has never criticized the existence of money or the use of money for the moral purpose of facilitating production beneficial to man. However, it has consistently criticized the "individualistic" desire for profit. This criticism is based upon the Gospel teachings that "no servant can serve two masters. . . . You cannot serve God and mammon" (*Matthew* 6:24; *Luke* 16:13) and "the love of money is the root of all evils" (*I Timothy* 6:10).

It is clear from the above excerpts that what John Paul II calls the "structures of sin" is what Pope Pius XI called the "international imperialism of money," which is based upon a "liberal capitalist" or radical capitalist ideology, of "free trade" or "free competition."

Such a system is based upon the unjust use of money, what Leo XIII refers to as a "devouring usury," which consumes the economic body, the very soul of production, and enslaves entire populations.

Such a system violates the principle of national sovereignty, by denying the right of public authority to "interfere" or otherwise direct and control the economic policy of a nation domestically or in relationship to other nations for the common good.

This is reflected today most clearly, although not exclusively in a new form of colonialism directed towards the so-called Third and Fourth Worlds. This expresses itself most clearly in the debt collection and conditionality policies of the International Monetary Fund, the consequence of which has been genocidal underdevelopment.

The solution consistently proposed by Pope John Paul II, in the footsteps of his predecessor Paul VI, is to effect a Jubilee by reforming the international trade system and the international monetary and financial system, making non-usurious credit available for transfer of technology to the developing nations, drastically reducing or cancelling outright the oppressive, illegitimate Third World debt, and establishing equity among nations by defending the true sovereignty of the nation-state.

The standpoint from which we must judge financial activity is whether it contributes to the development of mankind, and therefore to peace. The only legitimate purpose of finances is to facilitate mankind's ability to carry out the mandate given him in *Genesis,* to be fruitful, to multiply, and to subdue the earth.

Financial speculation does not need to be illegal (i.e., insider trading) to be sinful. Derivatives trading, for example, which used to be outlawed under anti-gambling laws in such nations as Germany, although since legalized, is nonetheless immoral. Purely speculative activity is by its nature sinful, in that its purpose is selfish, personal gain, i.e., theft, rather than solidarity.

According to the *Catechism of the Catholic Church:* "Even if it does not contradict the provisions of civil law, any form of unjustly taking and keeping the property of others is against the seventh commandment: thus, . . . forcing up prices by taking advantage of the ignorance or hardship of another." The Catechism also describes as morally illicit: "speculation in which one contrives to manipulate the price of goods artificially in order to gain an advantage to the detriment of others." (2409)

Financial activity, to be moral—like any human activity—must serve God and God's mandate to man to exert dominion over the universe. Financial activity must, therefore, serve to increase man's power over nature, it must enhance the productive/creative power of the human mind to transform nature through man's labor.

From this standpoint, financial activity must be judged by whether it contributes to the physical production of goods necessary to the welfare of the population as a whole, especially the poor, and to the provision of those social services, such as education, which enhance the productive powers of the human mind. It is, therefore, the responsibility of the public authority of nations to govern credit and to determine its allotment so as to enhance the growth of the productive economy.

## 'The Church and Money'

The authors of *Modern Development* begin their study with a review of Church teaching. Although much of what they write is valid, their discussion of the teaching of the Church contains the seeds of their false conclusions. This section of their work also reveals the fierce attack which the social teaching of the Church has provoked from the "financial specialists" with whom the authors are associated by the nature of their work.

They report that "economic and financial circles are often suspicious of the Church. There are several controversial attacks by economists and especially financial specialists against Catholic social teaching regarding economic activities for being unduly inhibiting." They specifically report that Pope John Paul II's identification of structures of sin in the liberal capitalist West as well as under communism in the East in *Solicitudo Rei Socialis* "has provoked certain criticisms. . . . The whole of the modern financial sector is likely to see itself under the shadow of this warning."

After this introduction, which indicates a need and a desire to alleviate the concerns of financial speculators about the Church's teachings, the authors concentrate on various aspects of what they consider to be the two most important elements of the Church's social doctrine: the need for solidarity, and the priority of labor over capital.

In respect to the first of these, the need for solidarity, the authors ask the following question: "In what way does the development of the financial sector help or hinder the just distribution of power and wealth?" This question itself contains a fundamental error. The question were better formulated as follows: "In what way does the development of the financial sector help or hinder the economic development of society as a whole through industrial and agricultural production and its just distribution?"

In other words, the very question posed by the authors exposes the false axiomatic assumption which has accompanied the growth of the financial sector over the last thirty years—the assumption of post-industrialism.

In that context, the authors identify four potential violations by the development of the financial sector, of the principle of solidarity: (1) the excessive concentration of power; (2) inequality between countries; (3) a distribution of economic resources which conflicts with the wider requirements of the universal destination of earthly goods; and (4) a use of resources by those who control them which does not pay sufficient regard to the need for social justice.

In respect to the first, the authors suggest that the language of Pope Pius XI is somewhat out of date, but that the question remains true.

In respect to the second question, they raise the international debt crisis and argue that "the development of financial 'intermediation' is seen in this context as running the risk of creating dependency. It can encourage new inequalities of wealth as well as of power among countries as well as within each country." What they ignore is that financial speculation not only runs the "risk" of creating dependency, it not only "can encourage" new inequalities, but it clearly already has, which is why Popes Paul VI and John Paul II have called repeatedly for the last thirty years for debt reduction or outright cancellation.

In regards to the third question, the authors correctly point out that the Church respects the right of private property, but limits that right because of the universal destination of earthly goods. As they write: "This principle raises certain problems for the economist."

The authors then ask: "Does this financial management process lead towards effective implementation of the 'universal destination of earthly goods'? Or has it the opposite effect? To answer this question, it is clearly necessary to know what the 'social usefulness' of the investment financed in this way might be. This is a difficult notion to define." The authors, of course, do not advance a scientific notion of "social usefulness."

Finally, in regard to the fourth question, the authors admit that "since financial activity can involve important risks, it can lead to very large profits both for individuals and companies." The authors then claim that the Church leaves the morality of such speculation to "each individual to exercise his or her discernment."

Next, the authors discuss the Church's concept of the priority of labor over capital. In this section of the document, it becomes clear that the authors reject this teaching. After citing Pope John Paul II's discussion of the priority of labor in *Laborem Exercens,* they write: "It is however far from being 'an evident truth' for economists. Labor and capital are classically seen as the two necessary factors of production which the firm should use in their most efficient proportions in order to be competitive. It follows, therefore, that there is no certain or universal absolute hierarchy between capital and labor."

For the authors, this concept becomes merely a high aim, which in practice is not applicable, particularly in more developed societies: "This assertion of the priority of labor over capital is in practice most relevant in economies in which capital has a less important role in the production process and in wealth creation than is the case in the economically more developed societies."

This statement reflects the degree to which the authors have adapted themselves to liberal capitalism and rejected the fundamental premise of the social teaching of the Church. The priority of labor is a universal law. It is equally valid in a so-called developed society as in an underdeveloped one. The Church's concept of the priority of labor stems from the idea that the source of all wealth is human creativity. All economic activity finds its origin in the productive powers of the human mind, and all economic activity finds its end in the enhancement of these powers for the common good. What distinguishes man from all other creatures is that he is created in the image of God and, in imitation of God, the Creator, he has the capacity to create for the purpose of multiplying and subduing the earth in furtherance of God's creation.

Despite this fundamental error, the authors proceed to report that the Church's criticism of financial speculation is based on two reasons: "the ease of profits (rapid profits through little work), and the negative effects of speculation on the productive economy." This leads them to write that "it is clear that the possibilities of large and rapid profits associated with financial dealing by speculators pose a problem for the Church's traditional view."

They further concede that the Church's teaching stresses that property is acquired to "serve work." In *Laborem Exercens,* Pope John Paul II writes: "Property is acquired first of all though work in order that it may serve work. This concerns in a special way ownership of the means of production."

They conclude that, "[h]ere Catholic social doctrine agrees with the traditional arguments in favor of 'productive investment.' " From this standpoint they admit that financial speculation "can be seen as a misuse of capital, diverting it from investing in 'the real economy.'" But note once again that for them it merely *can be seen* as such, not that it is.

It is at this point that the authors reveal why they reject the so-called traditional arguments of the social doctrine of the Church with regard to speculation and productive investment: "Above all, industry is only one sector of production among others, alongside the service sector in full expansion."

## 'The Financial Sector and the Real Economy'

Having thus reviewed certain aspects of the social doctrine of the Roman Catholic Church, the authors turn to the primary purpose of their document—the justification of speculation.

In the introduction, the authors had noted that since 1987, "real economic power seems to have shifted from public and democratic authorities to uncontrolled and anonymous financial markets."

Instead of criticizing this shift and mobilizing in defense of the public authority of nation-states, the authors accept and rationalize this shift.

"Thus the last twenty years have seen a radical restructuring and globalization of the international financial system as national exchange controls have been largely lifted. Financial activity therefore takes place in a largely unregulated world."

Having accepted this shift, the authors then argue that "[n]ot only can financial markets not exist without speculation, but a very high level of speculation is one of the necessary elements providing market liquidity . . . ."

Admittedly the "very dynamism of financial markets leads to problems," but the financial sector has been able to provide the technical means to "handle the new range of uncertainties."

The authors conclude that this modern development is not contrary to the real economy, and therefore does not merit criticism based on the social encyclicals. "In general, however, one can say that *the links between the financial sector and the real economy are essentially complementary rather than in opposition,* which was denounced by Pius XI speaking of 'the absolute masters of money who govern the supply of credit and dispense it according to their own whim.'"

According to the authors, "the speculative approach is at the heart of the modern financial system which has developed from the ruins of an old monetary order where the value of profits developed very slowly."

Now begins the justification of speculation. The authors acknowledge the "Church's constant opposition to an extreme liberal philosophy," but then proceed to write: "It is worth underlining that speculation is a form of economic activity with theoretical justification." Yes, indeed, there may be "'pockets' of irrationality which can exist in financial markets and can show up as 'speculative bubbles,'" but these are the exception and can be avoided.

The authors then make three distinctions in order to protect speculation from criticism. First, "one should not confuse 'easy money' and insider dealing." Second, "speculation as such and 'easy money' are not synonymous." And third, they argue that there is a difference between the ownership of material goods and of financial services. Since the profits related to financial activities take place over a much shorter financial and economic cycle, the Church's opposition to rapid acquisition of wealth should not apply.

Without ever examining the impact of the speculative activity of the last thirty years on production, the authors next suggest that speculation does not destroy the producer, but rather "[t]he financial sector provides the techniques which allow other companies to manage the financial resources needed to achieve their objectives, and helps to protect firms against the financial uncertainties which they face. . . . Proceeds from such speculation 'allow a better anticipation of future revenues and more productive investment, which conforms to moral rules,' points out Father Perrot."

Finally, the authors admit that "speculation can have three types of seriously damaging impact."

First, they cite the "corrupting effect which the raw material of the speculator (money) can have on the individual's conscience by encouraging the idea of getting rich at any price."

In this connection they cite the activity of George Soros as an example. Soros is quoted from an interview he gave *The Guardian* on December 19, 1992: "I am sure speculative activities have had some negative consequences. But that does not enter my thinking at all. It cannot. If I abstained from certain actions because of moral doubts, then I would cease to be an effective speculator. I have not even a shadow of remorse for making profit from the devaluation of the pound. I did not speculate against the pound to help England. I did not do it to hurt England. I did it to make money."

They also identify the role of organized crime in such phenomena as laundering of drug money.

Second, a more insidious effect of speculation is to undermine wider economic objectives. "On a microeconomic level, there can be an excessive growth of financial activity within a company. On the macroeconomic level, speculation can lead to instability in the entire economic system." The authors see only a danger of "instability" and have blinded themselves to the genocide which is currently occurring in the Third World due to the speculation they consider theoretically justified. One wonders what ever happened to the need to promote the development of the Third World as an economic and moral objective.

And third, "speculation can have an anaesthetizing effect on public and private regulators." Here they argue once again that in the monetary and financial area, the globalization process has been positive, but there must be greater cooperation to regulate "excessive speculation." Therefore, "supervisory authorities must ensure that speculation does not become an activity separate from the rest of the market and remains within the context of wider economic progress, assuring the common good against a background of spontaneously evolving financial markets which are unstable and on occasion simply cease to function."

## The Current Crisis from the Standpoint of Universal History

Rather than discuss the authors' proposed revision of social ethics which, because it is based upon their false understanding of the problem of financial speculation, cannot be correct, we must now systematically examine the false axiomatic assumptions which underlie this entire document. We do this not only for the purpose of countering the views expressed by the authors of this document, but rather also to lay an intelligible foundation for addressing the current crisis facing humanity.

As stated at the beginning of this paper, since the authors lack an understanding of universal history and of the science of physical economy, they falsely assume that the financial speculation of the last thirty years is an inherently good and progressive modern development.

If we look at universal history from the standpoint developed by Lyndon H. LaRouche, Jr., prior to the Fifteenth century, no less than ninety-five percent of the population of any society, including that of Christian Europe, was treated as anything other than serfs or slaves by a ruling elite. In the Fifteenth century, a revolution was effected which for the first time made it possible for Christian principles to become efficient with respect to an entire society.

The efforts of the Brotherhood of the Common Life, founded by Gerhard Groote, to educate poor boys, not through rote memorization, but rather through the replication of the great discoveries made throughout history, laid the basis for the development of both the modern nation-state and modern economy.

The two other developments in the Fifteenth century which consolidated this revolution were the Council of Florence (1439-1440), and the development of the first nation-state in France under King Louis XI, who governed from 1461 to 1483.

The emphasis which the Brotherhood of the Common Life placed on educating the population by developing the creativity of the sovereign individual, each one of whom is created in the image of God, the Creator, was crucial for two reasons. First, only the education of the population as a whole could lay the basis for government by the consent of the governed. Second, only such education could unleash in the population as a whole the necessary level of creativity for operating a modern economy, with its emphasis upon the development of technology.

In 1433, Cardinal Nicolaus of Cusa authored a book entitled *On Catholic Concordance,* in which he presented perhaps for the first time in history the notion that government must be based upon the consent of the governed. But the precondition for the success of such a form of government is the education of the population, such that its consent were based upon reason.

At the Council of Florence, the primary theological issued debated and affirmed was the *Filioque* principle. The Nicene Creed includes the statement that the Holy Spirit proceeds from the Father and the Son. (*Filioque* means "and the Son" in Latin.) The importance of this issue, from the standpoint of Christian theology, is that since Christ is both God and man, if the Holy Spirit proceeds from the Son as well as the Father, then all men, created in the image of God and possessing *capax Dei* (the capacity for God), through imitation of Christ have the capacity for *agapic* creativity. Thus, the concept of all men as creative sovereign individuals capable of sharing in God's work, was reenforced by the Council.

In his *Science of Christian Economy,* Lyndon LaRouche directly connected this concept of the *Filioque,* to the fact that economic science was developed by Christianity and perhaps could not have been developed except by Christianity: "The essence of this connection is expressed by the *Filioque* of the Latin Creed; only Christianity, through the view of Jesus Christ reflected in this feature of that creed, organizes society implicitly according to the principle of the sovereignty of the human individual . . . ." (p. 230)

The creation of the French nation-state under Louis XI consolidated this development. Never before did a nation-state exist on the face of the earth as the instrument of the promotion of the general welfare or the commonwealth. The nation-state was in direct opposition to both the landed oligarchy of the feudal baronies, whose power Louis XI reduced, and the financial oligarchy which was centered in Venice.

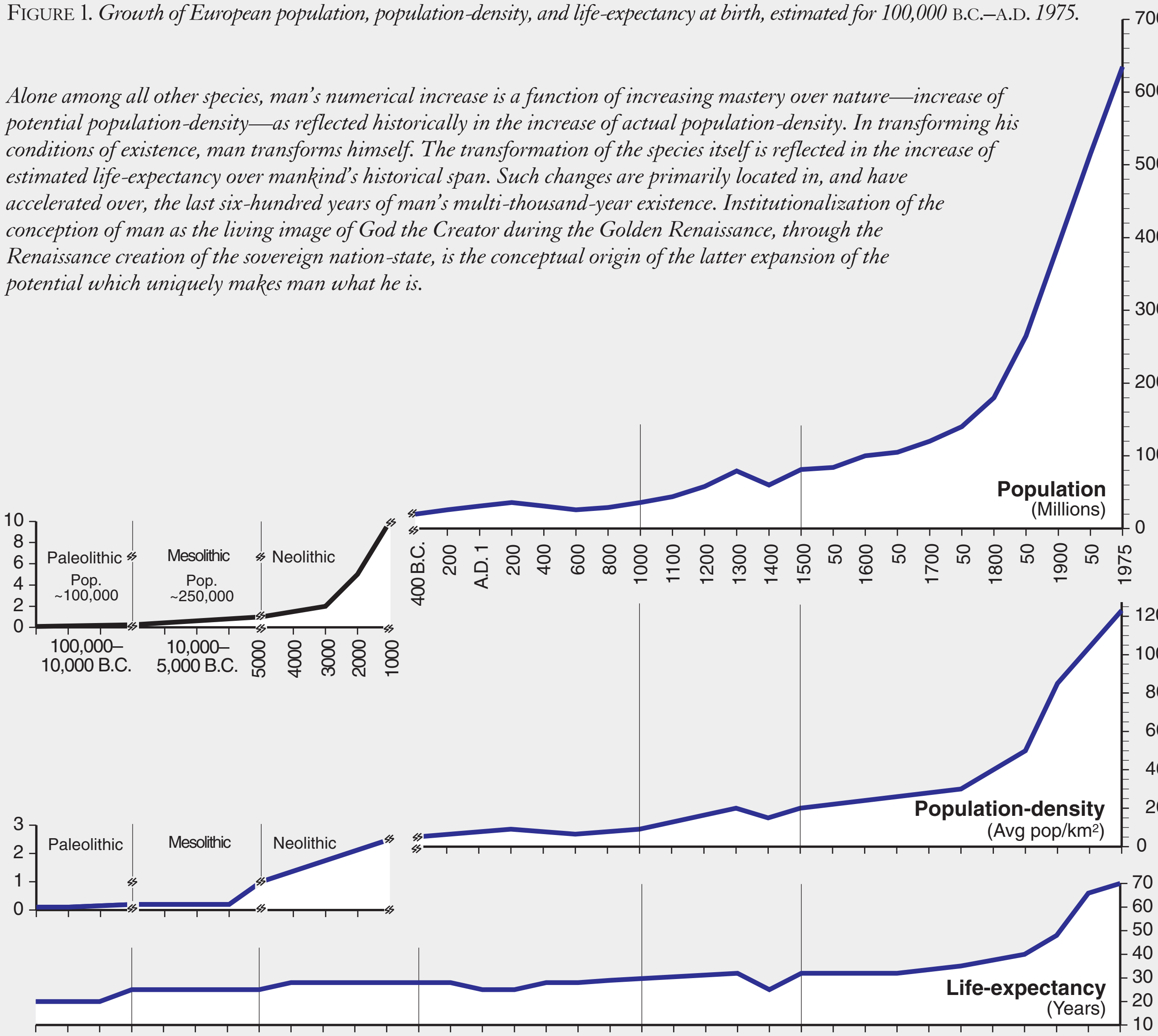
If one looks at the growth of European population, population-density, and life expectancy at birth historically, a hyperbolic increase in all three parameters occurs beginning in the Fifteenth century [SEE Figure 1]. This is the direct result of the institutionalization of the conception of man as the living image of God the Creator, and the Renaissance creation of the sovereign nation-state.

These developments mark the beginning of Modern History. At the beginning of the 1500's, the League of Cambrai, led by France's Louis XII with co-sponsorship from Germany, Spain, and England against Venice, was on the verge of crushing the Venetian financial oligarchy. However, Pope Julius II had pursued membership in the League not because he favored the notion of a family of sovereign nations in opposition to Venetian financial oligarchism, but rather because he desired to preserve the temporal power of the Church, by reclaiming lands which had been appropriated from the Papal State by Venice's conquests. Since this was his primary motivation, at the point that the Papal territories were returned, Julius II broke Spain from the League, to attack France on behalf of Venice, and later induced Spain to make an alliance with evil Venice.

When, as a result, in 1510 the League of Cambrai failed to eliminate Venetian financial oligarchical power

FIGURE 1. *Growth of European population, population-density, and life-expectancy at birth, estimated for 100,000* B.C.–A.D. *1975.*

*Alone among all other species, man's numerical increase is a function of increasing mastery over nature—increase of potential population-density—as reflected historically in the increase of actual population-density. In transforming his conditions of existence, man transforms himself. The transformation of the species itself is reflected in the increase of estimated life-expectancy over mankind's historical span. Such changes are primarily located in, and have accelerated over, the last six-hundred years of man's multi-thousand-year existence. Institutionalization of the conception of man as the living image of God the Creator during the Golden Renaissance, through the Renaissance creation of the sovereign nation-state, is the conceptual origin of the latter expansion of the potential which uniquely makes man what he is.*




All charts are based on standard estimates compiled by existing schools of demography. None claim any more precision than the indicative; however, the scaling flattens out what might otherwise be locally, or even temporally, significant variation, reducing all thereby to the set of changes which is significant, independant of the quality of estimates and scaling of the graphs. Sources: For population and population-density, Colin McEvedy and Richard Jones, *Atlas of World Population History*; for life-expectancy, various studies in historical demography.

Note breaks and changes in scales.

and to establish a family of nation-states in Europe and potentially throughout the rest of the world, a symbiotic balance of power was established between the institution of the nation-state and the Venetian financial oligarchy. The symbiotic relationship persisted through various permutations for four hundred and fifty years.

Thus, according to LaRouche in his strategic policy document "The Blunder in U.S. National Security Policy" (1995):

> Modern History is a continuing conflict between two ultimately irreconcilable sets of underlying hypotheses: The conception of man embedded in the modern sovereign nation-state republic, is pitted against the conception of man derived from Venice's model of rule of the world by financier oligarchies. The ruin and defeat of France by Venice and its Anglo-Dutch clones, over the interval 1667-1815, and the subsequent failure of the model of the United States of America to eliminate the model of Venice's British imperial clone, has created a world order dominated by a perverse accommodation between the two axiomatically irreconcilable currents of European civilization, the modern nation-state versus the modern

relics of ancient oligarchism. (p. 55)

In the post-1963 period, the Current History which began in 1945 with the end of World War II, entered a period of crisis through the introduction of the so-called "New Age" policy of "post-industrial utopianism." During this period, the Venetian oligarchical tendency centered in Great Britain, acting through such supranational institutions as the United Nations and the International Monetary Fund, has moved to eliminate the sovereign nation-state, and to parasitize the economic body under the guise of the ideology of post-industrialism and Malthusianism.

Lacking this understanding of universal history, the authors have adapted themselves to the purely parasitical paradigm shift which has been effected by the financial oligarchy over the last thirty years, and thus fail to realize that this shift unless reversed will lead to the disintegration of the global financial system and the descent of mankind into a New Dark Age.

## The Science of Physical Economy

The fact that this shift is destructive rather than progressive, as the authors falsely assume from within their goldfish bowl, would be clear to them if they did not also lack a scientific understanding of physical economy.

Such a scientific understanding of physical economy, or what the authors refer to as the productive or real economy, is uniquely available in the writings of Lyndon H. LaRouche, Jr., such as his *The Science of Christian Economy.* In this work, LaRouche develops a scientific concept of economics based explicitly upon the Judeo-Christian concept, as developed in *Genesis,* that man is created in the image of God. Thus, both the origin of all economic wealth is the creativity of sovereign individuals, and the end of all economic production is also the development in man of that which makes him *imago Dei,* the power of reason which constitutes his soul.

From that standpoint, LaRouche then develops a scientific metric for judging to what degree man is successful in carrying out the injunction in *Genesis* to be fruitful, multiply, and subdue the earth. That metric is the notion of potential relative population-density. Through the use of his creative intellect, man, as distinct from every other creature—of which none has this capability—has the capacity to generate scientific ideas, which may be termed "thought-objects" or hypotheses, which if valid, i.e., based on the natural lawful ordering principles of the physical universe, can be applied to the creation of new technologies, with which man can subdue nature and thus lay the basis for the multiplication of the human species.

In *The Science of Christian Economy,* LaRouche describes this as follows:

> The science of political-economy is premised upon the conclusive, empirical evidence of a fundamental difference which sets the human species absolutely apart from, and above all the animal species, as Moses specifies in *Genesis* 1:26.
>
> This crucial difference is mankind's power to increase the potential population-density of the human species as a whole by means of the voluntary generation, transmission, and efficient assimilation of scientific and technological progress. Mankind is capable of increasing, intentionally, the maximum size of the human population which could be self-sustained by its own labor, *per* average square kilometer of land area, while also raising the average physical standard of living.
>
> No animal species can accomplish this. The range of successful adaptation of an animal species is delimited, as if by genetic determination; mankind incurs no such limitation upon our population, nor the development of the individual members of that population. (p. 221)

To be a co-worker with God, the Creator, man must develop his creative potential so as to increase the potential relative population-density of the human species through the creation of new technologies which can overcome the apparent limits to growth inherent in the failure to develop new technologies which can redefine the resource base as defined by any fixed level of technology.

Thus there are two conceptions, which derive from *Genesis,* which are the essence of all economic science: Man's capacity for creativity, as opposed to mere sense perception or ratiocination; and the necessity of technological progress, not as an end in itself, but as the necessary mediation of the development of the human species as in the image of God, the Creator.

The science of Physical Economy was founded by Gottfried Wilhelm Leibniz (1646-1716), based upon the principles of physical economy which were implemented with increasing success by the French nation-state. As LaRouche emphasizes, historically, "the closest approximation of a form of political economy consistent with Christian principles is the so-called *mercantilist* form growing out of *Colbertism* in France, and the far-reaching influence of Leibniz. This outgrowth came to be known by the name given to it officially by U.S. Treasury Secretary Alexander Hamilton (1757-1804), 'the American System of political-economy.' This name came to be associated with the work of the U.S. economists Mathew Carey (1760-1839) and Henry Carey (1793-1879), and of Germany's Friedrich List."

This American System of political-economy is historically the primary alternative to the British system of liberal capitalism and its materialist offspring, Marxism, both of which are correctly denounced by Roman Catholic social doctrine as twin evils. (It is of interest in this connection that Mathew Carey was an Irish Catholic, who immigrated to the U.S. from Ireland under the sponsorship of Benjamin Franklin.)

Lyndon LaRouche has distinguished the various approaches to economics even more precisely, depending on how each defines profit. Historically, there are two qualitatively different families of economic thinking, and a total of five species of these two primary families.

The first family is the commonwealth, physical-economic or cameralist approach to profit. In this family, which has become known as the American system, profit is derived from the application of creative intellectual discoveries to the transformation of nature.

The second family consists of four species of oligarchism, all of which define profit as an epiphenomenon of some non-creative source of loot. The feudal aristocracy insists that profit is derived from the bounty of nature. This is the physiocratic theory of François Quesnay. The financier merchant oligarchy argues that profit is derived from the bounty of trade. This is the free-trade dogma of Adam Smith. The Marxist view is that profit is derived not from the creative discoveries, but rather from the physical sweat of labor. And, finally, today's computer technocracy argues that profit is derived from mere "information."

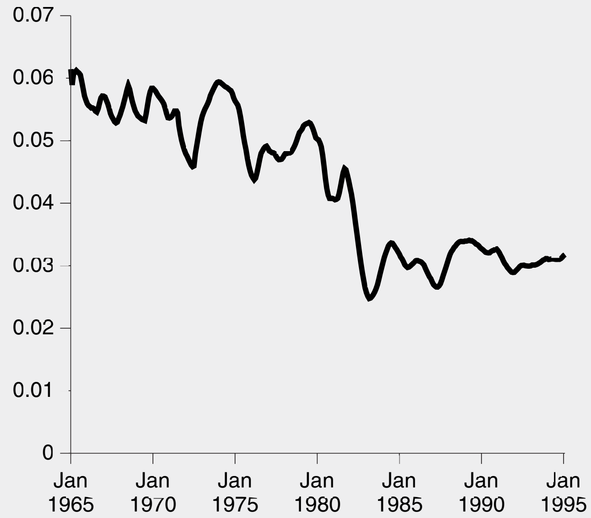
The authors, lacking a conception of the science of physical economy as represented by the first family, have in large part succumbed and adapted to the propaganda campaign in behalf of the perspective of the second family and especially of its fourth species. This is the viewpoint of what Alvin Toffler and Newt Gingrich refer to as the "Third Wave" or the "New Information Age," which has allegedly rendered the production of tangible industrial and agricultural physical goods obsolete.

## The Effects of 'Post-Industrial Utopianism'

This leads the authors to their second false axiomatic assumption, that industrial production is no longer essential. This assumption is at the root of the authors' rejection, in effect, of the Church's teaching respecting the priority of labor in respect to the developed sector nations. As a consequence of this false assumption, they do not even examine the degree to which production has been parasitized by so-called financial services over the past thirty years.

Lyndon LaRouche and his associates, on the other hand, have studied in detail the effects of financial speculation on the "very soul of production," both in the developed nations and in the Third World over the last thirty years. We shall first examine the effects in the United States as representative of a developed nation and return later to its impact on the Third World.

FIGURE 2. *Per capita U.S. steel production, twelve-month moving average (tons per capita)*




After the assassination of President John F. Kennedy in 1963, a paradigm shift took place, through which the symbiotic relationship between the nation-state and its commitment to agro-industrial development, and the parasitical financial oligarchy, was replaced by a purely parasitical looting of the physical economy by finance capital. The paradigm shift was spearheaded by a propaganda campaign in behalf of post-industrialism, ecologism, Malthusianism, and supranationalism.

This propaganda campaign laid the basis for a series of concrete events and decisions which effectuated the shift to the purely parasitical mode, beginning with the installation of the post-August 1971 "floating exchange-rate monetary system." This was followed by the "oil hoax" in 1973. In 1975-76 the New York Council on Foreign Relations called for the "controlled disintegration of the economy," a policy which was implemented beginning in October 1979 by Federal Reserve Chairman Paul Volcker's usurious interest rate policy.

In the developed sector, this process was accelerated during the 1980's by "asset stripping" and financial deregulation. After the October 1987 New York stock market crash, the parasitical trend was yet further accelerated by the introduction of so-called "derivatives" trading.

FIGURE 3. *U.S. productive workforce (goods-producing production workers as percent of labor force).*

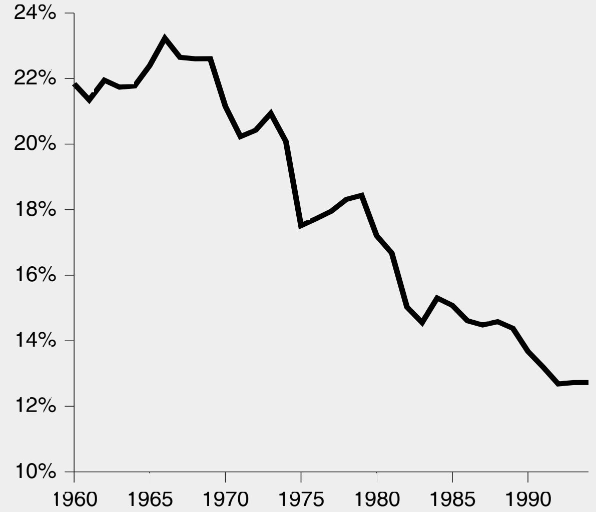



FIGURE 4. *Distribution of per-household consumption (tons).*


A series of graphs produced by the economics staff of *Executive Intelligence Review* (*EIR*) demonstrates the devastating impact of this parasitical shift, both in respect to the productive economy and to the labor force [SEE Figures 2-4].

Figure 2 shows the decline in *per capita* U.S. steel production from 1965 to 1995. U.S. *per capita* steel production is now around one-half what it was three decades ago. The reflects both the collapse of demand for steel, as the U.S. economy has been "deindustrialized," and the shutting down of one-third of the United States' steel production capacity in response.

Figure 3 shows how the U.S. productive workforce has collapsed during the same time period. As the massive bubble of financial speculation and usury grew, U.S. factories and mines were closed. High-paying jobs for industrial operatives disappeared to be replaced by low-paying service jobs. The percentage of goods-producing production workers—that is, the non-supervisory people who actually operate machinery in mining, construction, and manufacturing—declined as a percentage of the total labor force, from a high of 23.2 percent in 1965 to a low of 12.7 percent in 1992-1993.

Now let us see how this decline in productive capacity and output and decline in the productive workforce is reflected in the standard of living as shown by the distribution of market-basket inputs.

Figure 4 shows the decline in consumption, the decline of the productive part of the workforce, the increase of the non-productive workforce, the decline in non-working adults, the decline in the number of children, and the increase in the aged.

## The Coming Disintegration of the Financial Markets

Let us now look at the growth of the speculative bubble. This leads us to the third false axiomatic assumption made by the authors of *Modern Development.* Owing to their failure to recognize that the expansion of financial speculation has taken place at the expense of the economic body, they fail to understand the inevitability of the financial disintegration of the global monetary system, unless the system were placed into bankruptcy and reorganized by sovereign nation-state governments to restart production.

We are not now dealing merely with endemic forms of speculative activity within markets. While the authors would have us believe that there is a risk of the development of a speculative bubble, they assert that such a bubble can be administratively prevented. In this estimate, they fail to understand that we have progressed beyond a mere ballooning of speculation. The speculation has now reached such proportions that it can only sustain itself by parasitizing its host, the economic body, because the speculative gains are now based upon leverage against the real economy.

Lyndon LaRouche has described the process in his 1995 forecast of the near-term disintegration of the global financial and monetary system, as follows:

> As in the case of a heroin or methadone addict, the habit of looting the real-economic basis must be fed to prevent a collapse. Feeding the habit prevents the immediate collapse by hastening the date of total collapse. The addict-

ed state is destroying the basis upon which it feeds to sustain itself. . . .

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

Let us now examine the cancerous growth of the speculative bubble over the last thirty years [SEE Figures 5-7].

Figure 5 shows that the rate of profit in the U.S. economy peaked during the Kennedy administration, but has fallen since. If a ratio of 1.00 represents economic breakeven, then Paul Volcker's interest rate increases drove the economy below breakeven. Calculated using 1967 as the base year, $2.50 is now lost for every dollar that is invested in the U.S. economy. Yet, three dollars in debt service are demanded for each dollar of profit. There has not been any even ostensible "profit" in the U.S. economy since 1979.

Figure 6 indicates that there is a stupendous growth in the rate of change of interest debt service sucking out wealth from the physical economy. In 1951, the interest on the debt was $17 billion. For every $1.00 of manufacturing value added, interest on the debt made a claim of 16¢. In 1967, the interest on the debt was $91 billion, and for every $1.00 of manufacturing value added, interest on the debt made a claim of 34¢. By 1991, the interest on the debt was $1.725 trillion; now, for every $1.00 of manufacturing value added, interest on the debt made a claim of $1.29. To measure the rate of change relative to 1967, *EIR* took the ratio of interest debt service to value-added in 1967—which was 34¢—and set it equal to an index number of 1. By 1991, the index is five times higher than its 1967 level.

Figure 7 shows that before the 1971 shift to floating exchange rates, between 60 and 80 percent of the U.S. foreign exchange turnover was attributable to imports and exports of actual merchandise. Since then, foreign exchange has become entirely dominated by pure speculation. In 1976-77, about 23 percent of all foreign exchange was accountable in terms of merchandise trade. After the Volcker measures it dropped to 5 percent. By 1992 it had dropped to about 2 percent. Today it is below one-half of one percent.

What these graphs show is, that the rate of financial obligations is skyrocketting, hyperbolically, relative to the ultimate security for repayment of obligations, which comes out of actual real production, i.e., physical assets. This means, that the global international financial and monetary systems of this planet, are hopelessly bankrupt.

Under these circumstances, the only alternative to an eventual collapse of the speculative bubble is to put the financial system into bankruptcy receivership. The only institution capable of doing this is the sovereign nation-state acting under its constitutional authority to minimize the damage and restart the economy in order to protect the population from the murderous effects of continuing to feed the cancerous bubble.

FIGURE 5. *The better it grows . . . the more surely it's doomed (indexed to 1967=1.00).*

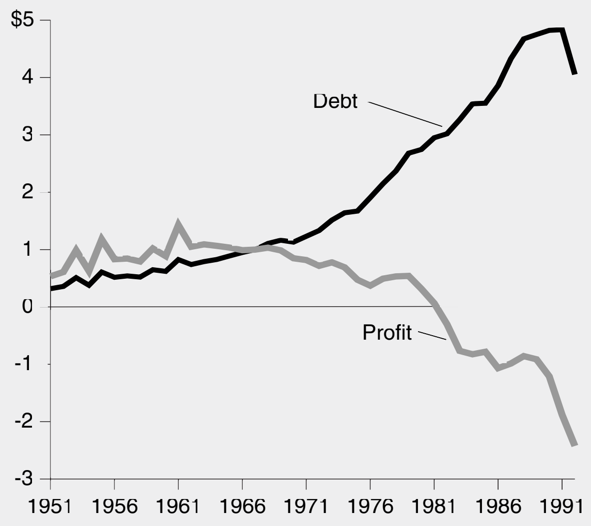
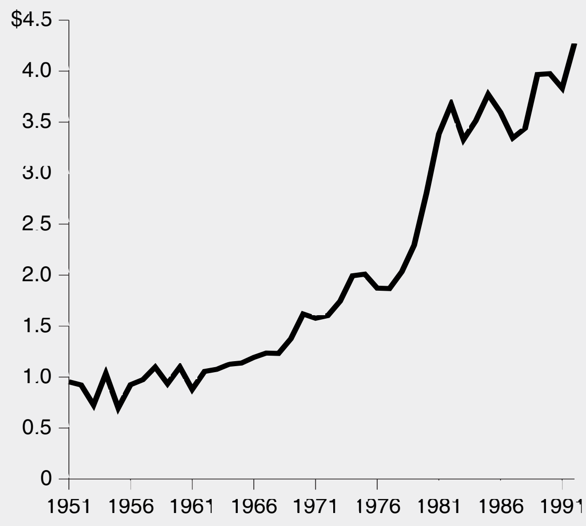



FIGURE 6. *Debt service per dollar of profit (indexed to 1967=1.00).*



## The Role of the Nation-State In Promoting Economic Development

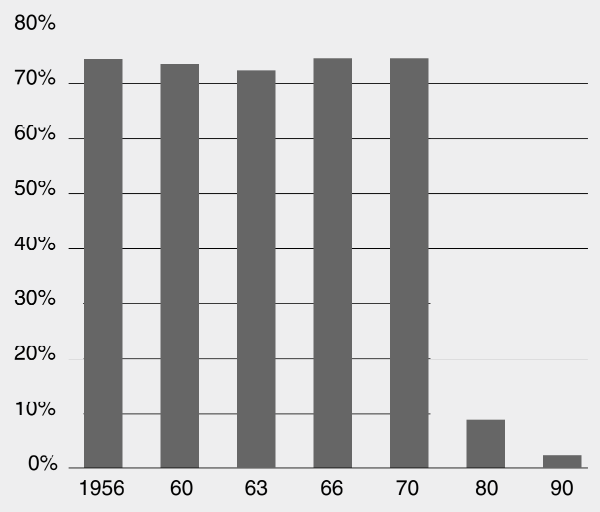
The fourth false axiomatic assumption of the authors of *Modern Development,* is their failure to appreciate the power and responsibility of the sovereign nation-state to promote the general welfare through the generation of credit. This is especially ironic, since the authors are themselves French and the first nation-state ever to exist was that of France under Louis XI.

As stated earlier, the authors note in their introduction that real economic power has "shifted from public and democratic authorities to uncontrolled and anonymous financial markets." But they do not propose to remedy this deliberate undermining of public constitutional authority, as is clearly required.

Lyndon LaRouche, on the other hand, has proposed to deal with the crisis that the authors hysterically deny to exist, by restoring the constitutional authority of the sovereign nation-state. In the case of the United States of America, the U.S. Constitution clearly states in Article I, Section 8, that "the Congress shall have Power to lay and collect taxes, duties, imposts and excises, to pay the debts and provide for the common defence and general welfare of the United States."

Moreover, at the birth of the United States, the administration of President George Washington created the National Bank of the United States under Secretary of the Treasury, Alexander Hamilton. Despite the enormous Revolutionary War debt, the National Bank succeeded in rapidly restoring the public credit of the nation, by directing credit to the promotion of manufacturers and basic infrastructure.

FIGURE 7. *Merchandise trade as percent of foreign exchange.*




What Lyndon LaRouche proposes, based upon this constitutional authority and historical precedent, is that the President of the United States nationalize the bankrupt Federal Reserve System and make it an institution of the U.S. government, the kind of bank that the National Bank of the United States represented under President George Washington. LaRouche writes: "This bank would be a means, not for emitting currency, but for putting Federal currency, legal tender, out as loans at very low interest rates to get the economy moving again."

The interest rates on such loans would be between 2 and 4 percent, to cover administrative costs. The credit would be extended for public works, and for private-sector investment earmarked for real physical capital investment, production, or transport of tangible wealth.

LaRouche proposes that new, long-term, low-interest credit in the amount of approximately $1 trillion be issued annually. As long as such credit serves to create new productive wealth, it will be non-inflationary. It is estimated that this could provide as many as six million new jobs. This means that the Treasury would receive more than the initial monies laid out, through increase in the potential tax-revenue base of the government.

The general point to be made is that, contrary to the false assumption of the authors, there is an alternative to the "devouring usury" of the last thirty years. That alternative is to reestablish constitutional public control over the generation of credit. The extension of such credit for productive purposes through a national banking system is both morally consonant with the principles of Christianity enunciated in the Church's social doctrine, and also scientifically coherent with the laws of the physical universe.

## Third World Debt and the Structures of Sin

The fifth false axiomatic assumption made by the authors is, that the debt crisis of Third World nations is not the result of the liberal capitalist policies of such institutions as the International Monetary Fund. Thus, they ignore entirely Pope John Paul II's identification of the "structures of sin" with the imperialist tendencies of the Manchester school of economics. Consequently, they do not join Pope John Paul II in either his call for reforming the international monetary and financial system and trade system, or his call for drastically reducing or cancelling outright the debt of Third World nations.

In fact, the authors take an entirely opposite approach.

On the one hand they acknowledge that "the growth in financial services is a major cause of the new economy of debt in which we live." On the other hand, they effectively blame the Third World nations themselves for their indebtedness. They write: "[I]n many Third World countries both increased consumption and more rapid economic development have been pursued simultaneously, leading to massive debt levels at a time when the resources available from the sale of raw materials have begun to decline in relative terms."

Unconscionably, the authors totally ignore the fact that Third World debt was massively increased by the simultaneous reduction in the price of raw material exports, which reduced their export earnings with which to repay the debt, and the usurious interest rates under Paul Volcker's regime at the U.S. Federal Reserve, which they were forced to pay to refinance their debt.

Instead of questioning the morality of such obvious financial neo-colonialism, the authors write:

> The bankruptcy of some countries encouraged by the blindness of certain leaders has increased the burden on the forced generosity of taxpayers from other countries. This is not an expression of charity which we should carry out together. . . .
>
> In considering the Third World, there are two temptations to which the richer countries tend alternatively to succumb. On the one hand, a resignation which leads to the ending of the transfer of capital, and on the other, an excessive laxity which allows for the massive transfer of resources without discernment as to their use, simply as a form of conscience money. Both should be rejected. In the light of the massive transfers carried out in vain towards the Third World over the past thirty years, intellectual honesty requires one to acknowledge that to be useful these resources must respect a certain loan conditionality in terms of reform of the economy and of the results obtained. But this conditionality only makes sense—and can only succeed—if it comes from a real dialogue with the beneficiary countries and is translated into real social solidarity in those countries.

While paying lip service to "social solidarity," the authors in fact reject the duty of solidarity and hysterically deny the existence of an imperialistic "structure of sin" in the West, as if colonialism never existed and the only problem is the blindness of certain Third World leaders.

The solution they propose is more "efficient" implementation of the same International Monetary Fund "conditionalities" policies, which have already resulted in genocidal conditions of impoverishment throughout the Third World.

Let us look at what is actually being done to Third World nations, for example, the nations of Central and South America. As Lyndon LaRouche writes in "The Blunder in U.S. National Security Policy," two demands are made on such nations:

> (1) Submit, without making any concessions to any of your nation's political opposition to this, to the austerity demanded by I.M.F. 'conditionalities'; (2) Do this democratically, preferably by governments elected by what international agencies of the O.A.S. and U.N. are prepared to certify as "free elections."
>
> The economic measures which those governments have been ordered to carry out, under the terms of the I.M.F.'s post-1971 floating exchange-rate system, feature the following:
>
> 1. Allow the London market to employ speculation to lower the price of your national currency on private financier-controlled markets. Do not employ those traditional protectionist regulatory measures, which could be used to defend your currency, if those protectionist actions might be construed by the London crowd as interference with the operations of their London-centered international thieves' market.
> 2. Drop the value of your currency to the levels determined by such markets, when ordered to do so by the I.M.F. and/or World Bank. However, do not raise the monetary denomination of the prices of your exports to reflect their world-market prices prior to the devaluation of the currency. Pay your foreign financial debt in full, in the earlier domestic selling prices, as denominated in your now drastically, arbitrarily devalued national currency.
> 3. Do not make long-term productive capital investments in technologies, especially not capital-intensive or power-intensive modes of production in agriculture or manufacturing.
> 4. Do not make any long-term investments in developing the basic economic infrastructure upon which *per-capita* and *per*-square-kilometer productivity of your nation depends.
> 5. Cut domestic investments and household incomes drastically, to generate an added income-stream of payments to designated foreigners.

LaRouche summarizes the effects of these measures: "In the calculations of the insurance actuary, that complex of policies is a recipe for greatly increased death-rates and sickness-rates, for lowered life-expectancy, and for acceleration of rates of unemployment, misery, and of epidemic and other disease. In short, it is a policy of mass-murder by means of the bureaucrat's strokes at a PC keyboard; it is, thus, Nuremberg-Code criminality." (p. 54)

## Let Us Declare the Jubilee!

The sixth false axiomatic assumption made by the authors is their failure to demand moratoria or outright cancellations of illegitimate, usurious Third

World debt. In contrast to the authors' acceptance of the "economy of indebtedness," Lyndon LaRouche has joined Pope John Paul II in calling for a Jubilee. Since April 1975, LaRouche has been the principal author of leading proposals for use of debt moratoria as a part of general monetary reform, within the Non-Aligned Nations organization (1975, 1976, New Delhi 1983) and the Western Hemisphere ("Operation Juárez," August 1982). As he explains: "In each case I have proposed debt moratoria, this proposal has been made as an integral feature of proposals creating a new international monetary system, to replace the self-doomed, I.M.F.-dominated, global system which is now in the process of an early and unstoppable general collapse into a state of official bankruptcy. In all instances, my proposals for such general monetary reform have been premised upon the successful precedent of the system of national banking established by U.S. Treasury Secretary Alexander Hamilton under President George Washington.

"In Christian nations, there is no acceptable objection to my views on debt moratoria. Similar law on the subject of usury is found in Hebrew Law, as in the doctrine of the Jubilee, and in Islamic Law. Even among the rational heathen, similar views are found."

In his letter *As The Third Millennium Draws Near,* released on Nov. 14, 1994, Pope John Paul II called for a Jubilee, specifying that the Law of Moses not only provided for the freeing of slaves, but also for "cancellation of all debts." He writes that, "The words and deeds of Jesus thus represent the fulfillment of the whole tradition of Jubilees in the Old Testament." Moreover, he writes: "The social doctrine of the Church, which has always been a part of Church teaching and which has developed greatly in the last century, particularly after the encyclical *Rerum Novarum,* is rooted in the tradition of the jubilee year."

To be specific, Pope John Paul II then writes:

> How can we fail to lay greater emphasis on the Church's preferential option for the poor and the outcast? Indeed, it has to be said that a commitment to justice and peace in a world like ours, marked by so many conflicts and intolerable social and economic inequalities, is a necessary condition for the preparation and celebration of the Jubilee. Thus, in the spirit of the *Book of Leviticus* (25:8-12), Christians will have to raise their voice on behalf of all the poor of the world, proposing the Jubilee as an appropriate time to give thought, among other things, to reducing substantially, if not cancelling outright, the international debt which seriously threatens the future of many nations.

The failure of the authors to once raise the necessity of debt reduction or cancellation in the tradition of the Jubilee indicates to what degree they have failed to understand the social doctrine of the Church in its fundamental aspect.

## Ethics vs. Morality

As a consequence of the aforementioned errors, the ethical norms the authors propose in the concluding section of their document, "Implications of Financial Ethics," are not truly moral, but rather an accommodation to evil.

Any system of personal ethical guidelines, which accepts rather than challenges the "structures of sin," is based upon the sin of omission and the sin of partiality. As Pope John Paul II writes in *Centesimus Annus:* "This duty [of solidarity] is not limited to one's own family, nation or state, but extends progressively to all humankind." (51)

The authors caution the individual that he not engage in unproductive hoarding and therefore should seek to limit as far as possible investment in gold and precious metals. The individual is also advised to "avoid a clear misuse of funds." In this respect they cite the fact that "certain investment countries and some financial intermediaries are known to pay little regard to the origin of their finances, whether deriving from drug money, corruption in the Third World, from elsewhere or from tax evasion."

The financier is told that he should act "against obvious abuses, such as funds with a doubtful origin, tax and customs' evasion, or clearly unproductive and unnecessary investment." He should not, for example, engage in insider dealing, because it involves the betrayal of confidence.

The managers of companies should put into practice the priority of labor over capital, according to the authors. The authors endorse "take-over bids," but stipulate that they should not involve "the simple asset stripping of a company in pursuit of a purely financial object." They even go so far as to suggest that the parable of the dishonest steward (*Luke* 16:1-13) may be applicable to the company manager who resists a take-over bid.

Finally, the authors discuss the role of public authorities as the "ultimate guarantors of justice." They write: "A race has begun between the spontaneous development of financial activities and the States which cannot accept that market forces deny democratic political or social choices."

To deal with this problem they propose the absolute necessity for international cooperation. However, they then acknowledge that unless the "interdependence" involved in such cooperation "is placed at the service of a higher goal," it "may only lead to the return of aggressive national tensions."

In conclusion they argue: "The development of the financial sector has made this [acting morally in economic life] more complicated, but since it also helps to produce economic development, it can create new possibilities for justice and for personal security."

As we have demonstrated, it is absolutely not the case that the financial speculative bubble of the last thirty years has helped to produce economic development. The so-called *Modern Development* has been an unmitigated moral and economic disaster. Unless this is recognized and concerted action is taken to replace the "structures of sin" with new mechanisms which will be more just and in conformity with the common good of humanity, then morality is reduced to its opposite, an Aristotelean form of hypocritical self-justification in the face of an accommodation to evil.

## The Rights of Nations vs. Nationalism and Supranationalism

In his recent address to the United Nations on the occasion of its fiftieth anniversary, Pope John Paul II noted that "even after the end of the Second World War, the rights of nations continued to be violated. . . . The Universal Declaration of Human Rights, adopted in 1948, spoke eloquently of the rights of persons, but no similar international agreement has yet adequately addressed the rights of nations."

He specifically cited the relations between the "North" and "South." "For the emerging countries, the achievement of political independence has too frequently been accompanied by a situation of *de facto* economic dependence on other countries; indeed, in some cases, the developing world has suffered a regression, such that some countries lack the means of satisfying the essential needs of their people."

Pope John Paul II said: "A presupposition of a nation's rights is certainly its right to exist: Therefore no one—neither a State nor another nation, nor an international organization—is ever justified in asserting that an individual nation is not worthy of existence."

The concept of a "family of nations" which he proposes is therefore in contradistinction to both a supranationalism, which denies the right of nations to exist and to provide for the general welfare of their peoples, and an aggressive nationalism, which sees its self-interest in violation of the rights of other members of the family of nations.

The basis for a charter of the Rights of Nations as Pope John Paul II suggests by his reference to the discussion at the University of Salamanca in regard to the peoples of the New World, is natural law.

In his *The Science of Christian Economy,* Lyndon LaRouche identifies the axiomatic features for developing such a concept of a family of nations based upon natural law:

> 1. The essence of good modern statecraft is the fostering of societies, such as sovereign nation-state republics, the which, in turn, ensure the increase of the potential population-densities *per capita* of present and future generations of mankind as a whole, and which societies promote this result by the included indispensable, inseparable means of emphasis upon promoting the development and fruitful self-expression of that *divine spark* which is the sovereign individual's power of creative reason.
>
> Here, as elsewhere, the definition of *sovereign power of creative reason* is exemplified by, but not limited to, indispensable, successively successful, valid, revolutionary scientific progress in advancing *per capita* and *per* hectare potential population-density, by means of increasing capital-intensive, power-intensive investment of productive resources in scientific and technological progress.
>
> 2. The *anti-oligarchical* form of *sovereign nation-state republic,* itself based upon the nation's self-rule through the deliberative medium of a literate form of common language is the most appropriate medium for the development of society. . . .
>
> 3. We emphasize that such anti-oligarchical, sovereign nation-state republics are *almost* perfectly sovereign. This sovereignty is to be subordinated to nothing but the universal role of what Christian humanists, such as St. Augustine, Nicolaus of Cusa, and Gottfried Wilhelm Leibniz, have defined as that natural law fully intelligible to all who share a developed commitment to the faculty of creative reason.
>
> 4. As the statesman Charles de Gaulle, for one, has argued for this point, a truly sovereign nation-state republic finds a sense of national identity for each of its citizens, in a general spirit of commitment to the special mission which that republic fulfills on behalf of civilization as a whole.
>
> What we must establish soon upon this planet, is not a utopia, but a *Concordantia Catholica,* a family of sovereign nation-state republics, each and all tolerating only one supranational authority, *natural law,* as the classical Christian humanists recognized it. Yet, it is not sufficient that each, as a sovereign republic, be subject passively to natural law. A right reading of that natural law reveals our obligation to co-sponsor certain regional and global cooperative ventures, in addition to our national affairs.
>
> The division of humanity's self-government among respectively sovereign nation-state-republics, is not a partition of the world's real estate, but a most preferable arrangement, by means of which all of humanity governs itself as a whole. (pp. 301-303)

## The Civilization of Love

The transition from the Second to the Third millennium will not be smooth. In fact, it will necessarily be characterized by an historical discontinuity, which Lyndon LaRouche has fruitfully compared to the transition from the "sonic" to the "supersonic" domain. We are at the end of Modern History, as that has been defined above, and must reach a new, higher order of civilization to supersede the doomed civilization collapsing around us.

That new, higher order of civilization will necessarily be based upon the principles of the Golden Renaissance of the Fifteenth century, freed from the old oligarchical traditions of feudal Europe reflected in the Enlightenment, which have held the global history of European civilization in their parasitical grip since the defeat of the League of Cambrai in 1510.

It is the hope of this writer that this response to the authors of *Modern Development* will contribute to a more fruitful discussion both among the public at large, and within the Roman Catholic Church, both as to the nature of the crisis facing humanity at this juncture, and to the necessary solutions. The failure to resolve these issues through discussion now, before the full magnitude of the crisis has struck, would result in further untold suffering on the part of millions of human beings throughout the world.

In the interests of our posterity, it is crucial that this debate be joined.

## Appendix

# Social Reproduction As a Unit of Economic Value

The following exchange of letters, excerpted here, took place between Father Richard T. McSorley, S.J. and Lyndon H. LaRouche, Jr. in April 1995. At Father McSorley's request, and with Lyndon LaRouche's permission, it has been made available to *Fidelio* for publication.

Father McSorley was born on Oct. 2, 1914 in Philadelphia, Pennsylvania, and has taught at Georgetown University in Washington, D.C. since 1961. He is currently the director of the University's Center for Peace Studies.

Father McSorley began to protest segregation when he was the pastor of a "mixed race" church in southern Maryland for six years. He founded the Dorothy Day Center-Catholic Workers Center in Washington, D.C. in 1980, is a board member of the Catholic Worker, and was a national board member of Pax Christi for six years. He is the author of eight books, including an autobiography to be published in May of this year.

Father McSorley's letter asked, "*What is the unit of measurement used by physical economists?*" The reply by Lyndon LaRouche was entitled "Social Reproduction As a Unit of Economic Value."

### Father McSorley to Lyndon LaRouche:

*I don't have a clear understanding of the unit of measurement used on the physical economy. I know it has something to do with the population density related to labor. But it has to be more definite than that. Something about a certain amount of labor related to a certain amount of land that is required for both of those. . . . I remember that when you measure in inches, your answer is in inches, and if you use meters your results are in meters. It depends on the unit of measurement, and so it's important to find out what that unit of measurement is. . . . What is the unit of measurement used by physical economists?*

### Lyndon LaRouche Replies:

I believe that I have recognized the nature of the conceptual problem which you have posed in your query. If I have understood you correctly, the question you pose is deceptively simple; on closer inspection, it is more profound. I should say, the underlying question embedded in the query is of an epistemological, rather than arithmetic nature. I shall attempt to answer it adequately, and promptly, with as much economy as the nature of the epistemological implications permits. The point of clarification with which I begin, is: My units of economic value are measured in terms of change, rather than as simple ratios of scalar magnitudes. The measure of the relative success, or failure of the economic policy of practice of societies, must be in terms of the changes in the quality of life of individuals and the family households which reproduce those individual persons. What is to be measured, must be stated in terms cohering with the notions, in Nicolaus of Cusa's Latin, of *imago Dei* and *capax Dei.* In terms of *Genesis* 1:26-30, of the increase of man's assigned dominion, and corresponding accountability, over all lower creatures, and other things on Earth. In terms of Philo of Alexandria's reading of *Genesis* 1, we must focus upon that which shows each individual personality to be in the living image of God: the redeemable potential of creative intellect, given to each individual.

Thus, taking into account the relationship between the fruits of man's labor, and the measurable demographic characteristics of the life of that family household which creates, and nurtures the new individual person, we must measure the performance of the labor of a society in terms of the benefits supplied to those circumstances of life of the typical family household.

The second consideration to be addressed in defining a measure for economic value, assumes the form of the question, how might we measure the way in which such changes in the demographic characteristics, of the typical family, are ordered?

Man's performance on this account, differs absolutely from that of the beasts, all of which are each limited, according to their species and variety, to a fixed range of adaptability. Were man a beast, his potential relative population-density, in persons *per* square kilometer, would never have allowed a living human population of more than several millions persons, an achievement comparable to man's putative biological gifts, those of a higher ape. Man, through an ascertainable correspondence between cultural progress, and effectively increased productive powers of labor, has increased the potential relative population-density of the human species, so far, by more than three decimal orders of magnitude above that of any hypothetical potential for "aboriginal" culture. From this point onward, I believe that the nature of my designation of measurement of economic value is rendered transparently comprehensible, by considering summarily the historical highlights of the steps by which I came to define it.

## The Kernel of the Argument

My discoveries in this matter were originally elaborated during the 1948-1952 period, prompted initially as my attack upon the radical-positivist dogmas of both "information theory" and "systems analysis." In the course of this, I found myself going significantly beyond the earlier teachings I had learned from the man who had had the greatest influence on my development, Gottfried Leibniz. My study focussed upon the cohering implications of both scientific discovery and creativity in the Classical art-forms, for the increase of the potential relative population-density of society. My guide in this attempted extension of Leibniz's own notions of a science of physical economy, was the observation, that the effects of valid fundamental discoveries of higher principle in physical science, typified a demographical distinction, between man and the beasts, as of the same formal type as the distinction between living and ostensibly non-living processes generally.

Initially, I approached this matter according to the views I had developed during adolescence, in posing to myself the issue of proof of the absurdity of those views, on the subject of "synthetic judgment a priori," which were the putative foundation for the attacks on Leibniz's *Monadology, Theodicee,* etc., in Kant's famous *Critiques.* My argument on this point was (and remains) the following: that, from a formalist standpoint in mathematics, every valid discovery of a superior principle of nature has the same effect as the proof of a non-Euclidean geometry has upon an Euclidean one. Certain among the set of formal axioms and postulates must be superseded; this defines an insurmountable formal discontinuity, a formal discontinuity which absolutely prevents one from proceeding through means of deductive/inductive method, from the prior mathematical theorem-lattice, to the superseding one.

Hence, I have often quoted Riemann's summing up of his famous discovery, in his 1854 habilitation dissertation: "This leads into the domain of another science, the science of physics, into which the nature of today's proceedings [on mathematics as such] does not permit us to enter." It was finally, in 1952, that my concentrated attention to Cantor's *Beiträge . . .,* and a re-reading of Riemann's habilitation dissertation, equipped me to provide an adequately rigorous conception of the discoveries in economics which I had made up to that point.

Accordingly, since that time, I have insisted always, that the term "creative" ought not to be employed, except for those cases in which a valid discovery has occurred which, from a formalist's standpoint, has that specific, *axiomatic-revolutionary* character. In mathematical physics, this is more readily shown. It is in the domain of the Classical art-forms (as opposed to the Romantic or Modernist viewpoints), that the deeper meaning of "creative" blossoms with all its inhering, *agapic* beauty. The examples I used, back during the 1948-1952, were the relationship between the role of Classical metaphor, as it defines the essential subject-matter of any true Classical poem, and the corresponding treatment of such poetry by the methods of Classical motivic thorough-composition (the methods which Wolfgang Mozart, Friedrich Schiller, Beethoven, Schubert defended, for the setting of Goethe's poetry, against the opposing faction of the Reichardt who was defended, ironically, by Goethe himself).

The understanding of metaphor in the light of its formal comparability to valid axiomatic-revolutionary discovery in mathematical physics, leads to the needed generalization of the efficient relationship between the individual creative intellect and the increase of the productive powers of labor *per capita, per* household, and *per* square kilometer.

## The Role of Science in Productivity

Exemplary, in the simplest illustration of this connection, consider the ironical, initially startling fact, that the highest rates of growth in the standard of living in European civilization, during the past two centuries, have occurred commonly during and after major wars. The most comparable other cases are, large-scale infrastructural undertakings organized by the modern nation-state, and the powerful impact of President Kennedy's mission-oriented acceleration of the manned, Moon-Landing aerospace "crash program" of the 1960's.

We remember the period 1949-1952, during which popular opinion was misled by a faulty interpretation of the combined experience of economic recoveries from both the 1930's depression and the 1946-1948 recession. It was widely believed, until after the 1968 "Tet Offensive," that military mobilizations prompted by preparation for war were key to full employment and economic recovery. The absurdity of the notion, that vast material waste and ruinous bloodshed could be a contribution to the general welfare, seemed to be overlooked by these dupes of simple-minded *post hoc, ergo propter hoc!*

Those war-time and analogous circumstances, which have been considered esoterically anomalous, by most economists and others who have studied such periods, are readily understood from my vantage-point; this illustration is key to appreciating why the measurement of economic value, if it is to be competent, must be made in the manner I propose.

First, consider the impact of science and technology upon agriculture and industry, and, then, the impact upon the potential economic fertility of land-areas, of development of basic economic infrastructure.

Since the middle of Europe's Fifteenth century, the common feature of modern warfare's industrial basis, has been the decisive role of scientific and related progress upon the *per-capita* capability of military forces. The technological revolution in warfare introduced, during 1793-1814, by Lazare Carnot and his friends in Monge's Ecole Polytechnique, is only exemplary of this point. Thus, the industrial basis of modern military science and forces depends upon the rapid translation of high rates of scientific progress into the form of those improved machine-tools which enhance the relative mobility and fire-power of military forces. The same principle is manifest, with greater force, in "crash program" forms of space-exploration development, as the U.S. 1960's Moon-Landing mission illustrates this fact.

The expenditure of warfare is vast economic waste of life and materiel. The irony is, that we might have had the apparent economic benefits gained from war-time periods during any time of peace; the point is, that the prospect of war has too often been the only incentive sufficient to prompt certain powerful financier interests to tolerate large-scale investment in high rates of technological progress. It is not the war which prompts the economic benefit, but rather the spill-over of high rates of investment in scientific and technological progress into the economy more generally. We might have had the same benefit, and more, under peace-time conditions, had we the political will to defeat the relevant financier interests opposing such a peace-time policy. The success of the 1960's U.S. space program, and of periods of accelerated development of large-scale infrastructural improvements, illustrates the point.

This obliges us to examine the paradigmatic form of the connection, between insertion of scientific progress into the machine-tool sector, and general increase of the productive powers of labor. In the case of an axiomatic-revolutionary quality of discovery of a less-imperfect scientific principle, the duty of the scientist is to explore and demonstrate this discovered principle by aid of either a proof-of-principle experiment, or observations of the same significance. The successful perfection of such explorations, leads to adapting the relatively perfected form of experimental design to an applicable form of improved machine-tool principle. The incorporation of that latter principle into product designs and capital equipment, then, in turn, fosters both the increase of the *per-capita* productive powers of labor in production, and new qualities of products.

As technology of production and product-design advances, there are required increases in density and capacity of what we term basic economic infrastructure. This is typified by increases in the required supplies of liters of usable water, power, ton-miles-hours of transport capacity, and urban infrastructure, *per capita* of labor-force, *per* household, and *per* square kilometer of combined land-area directly or indirectly in use. This also includes improvements in what might be termed essential "soft" infrastructure, without which improvements neither the population as a whole, nor production as a whole could sustain net increases in productivity.

The costs of maintaining households, infrastructure, and production, should be measured in terms of physical products plus three essential services: science (including Classical arts), education, and health-care services. These are the "functionally necessary" components of the required bill of consumption for households, for productive enterprise, and for maintenance and development of basic economic infrastructure. Everything else is "non-productive overhead."

The quantities of goods and services of those bills of consumption, of functionally necessary elements, are counted in market-basket units, as the quantified lists of types of goods and services which are the required content of those three categories of market-baskets: essentially, Household market-baskets, Infrastructure market-baskets, and Production market-baskets. The types and quantities of physical goods and services increase, *per capita* (of labor-force), *per* household, and *per* square kilometer, as the level of productivity increases, as the level of technology is advanced.

Thus, when measured in the *per-capita* market-basket costs of living of households, infrastructure-development, and production, *per capita* (of labor force), *per* household, and *per* square kilometer, the absolute costs of existence of society, as measured in quantities of physical goods and essential services, increase with time, and with the rate of advancement of investment in improved technology. *They also increase under conditions of technological retrogression or stagnation.*

The corollaries are: (1) Without technological progress, society is doomed to a downward-spiralling average standard of living, life-expectancy, and so on. Higher death-rates are then inevitable, and also cultural and moral decline. (2) Retrograde trends in technological progress are inevitably genocidal in their tendency. (3) A rate of technological progress, above the minimum rate needed to neutralize the "entropic" decay inherent in zero-technological growth, is the precondition for the survival of a culture, or the nation of any culture.

Thus, we are obliged to base measurement of economic value upon the old cameralist notion of "rate of reproduction" of a population, to a relatively equal or better quality of demographic and cultural characteristics. We must compare the necessary costs of production, in physical-economic market-baskets (not prices!), with the rate of production of the goods and services of which those market-baskets are composed.

There are some additional considerations to be noted, and, for actual measurements, some further refinements of the identified parameters must be employed, but the effect of adding those considerations here would not contradict any among the relevant conclusions which are presented here.

Thus, using crude, conventional thermodynamic analogies: the costs of reproduction of the society at the existing level of technology and productivity, corresponds to "the energy of the system"; the output of production, less this "energy of the system," defines the apparent "free energy" of the process.

Accordingly, three empirical considerations must be brought together to arrive at a meaningful determination of "economic value." First, the correlation between the existing level of technological development and the "energy of the system." These measurements must be made for the society taken as an individual whole, and also in terms of *per-capita* values (respecting the total existing potential labor-force), *per* household, and *per* square kilometer. Second, the ratio of "free energy" to this "energy of the system." Third, the correlation, between increases in the ratio of "free energy" to "energy of the system," and identifiable notions of technological progress.

## The Demographic Parallel

The analogous case in demographic studies is helpful illusration of the concept here: How much must we increase the life-expectancy of adults, in order to sustain an increase in the life-expectancy of adults? In order to increase the level of technology, and productivity, we must increase the school-leaving age up to and beyond secondary levels, and university levels. This appears to reach, as if asymptotically, toward a modal mean level of about twenty-five years.

Already, to sustain the youthful segment of the population at modal levels of school-leaving of between sixteen and twenty-five years, the technological requirement for present-day industrial economy, we can not tolerate a level of average expected mortality of adults at between forty and fifty years of age.

Next, in order to sustain educational levels required by modern technology, we require an expected modal retirement age of wage-earners of households of not less than between sixty and seventy years. That implied condition of healthfulness of adults, means an adult life-expectancy reaching into somewhere between eighty and ninety years of age.

To sustain continuously the retired-age population so defined, requires a corresponding "social security" baseline within the extended-family household and within society at large. If a lowered rate of net births, or increased rate of infant mortality *per* household causes such a population to become increasingly "demographically aged" (as lowered net birth-rates in Europe today have already increased the "demographic aging" to the point of threatening extinction of language-groups during the next century), we are faced with a disaster, like that threatening mainland China over the course of the coming generation.

The two studies, of productivity and demography, are complementary. What ought to concern us, is a rate of social reproduction of society, with some rate of technological progress as a minimal acceptable condition. Therefore, what we must measure is not some linear ratio among persons, land, and so forth, but, rather, the necessity for rising "levels of potential" which express an interdependency between the present level of "energy of the system" and also a rate of advancement of society in terms of ratios of "free energy" to "energy of the system."

That is expressed by the notional parameter which I have introduced to the science of physical economy: potential relative population-density. "Relative" signifies, in that setting, the fact that potential population-density varies not only with the technology practised, but also with the relative level of improvement of land-areas referenced. Exemplary is the case, in which large-scale desalination would, over approximately a decade, transform many desert areas into increasing fertile regions of highly productive agro-industrial development. The success of economic development for peace in the Middle East depends absolutely upon such programs of desalination: otherwise, the total water-supply in the region of Israel, Palestine, and Jordan is not sufficient to permit decent life among those populations.

Algebraically, all of the preliminary statistical measurements required for such useful national-income-accounting approximations by policy shapers, can be expressed in terms of linear inequalities. (As I have done in my textbook and other locations.) Such statistics provide us a context in which to address those critical additional matters of policy which can not be expressed in linear terms, such as those of so-called "systems analysis."

In former times, poor immigrants came to the United States in search of opportunities. Immigrant parents often labored hard, under most difficult circumstances, without significant immediate rewards, except their joyful confidence that their children would enjoy a better education, and opportunity in life than they had had. Such was the commonly expressed moral backbone of such families as I knew them back during my childhood, youth, and early manhood, during the 1920's into the 1950's. In that respect, those families already understood the moral foundations for a sound science of physical economy. They were a happier people, more justly confident of the future, more confident of the value of their personal lives, than has emerged in the new generations of the population of our nation during the countercultural shifts of the recent three decades.

## Science and Classical Culture

Everyone who has reexperienced that act of discovery which was contributed to mankind by some person of ancient, or modern history, has experienced *Agapē* in the moment of realization of that discovery. Those among us who have made one or more genuine such original discoveries, have known a stronger sense of that same quality of *Agapē.* It is the beauty of creative discovery which drives a person to create more, once the joy of that kind of experience has been tasted. True discoverers create not for profit, but for love: *Agapē, Caritas.* (I know; I could not have survived my curious life-history, over these past decades, had I been driven by any lesser motive.)

The most immediate and natural expression of this connection between creativity and *Agapē,* is great Classical art. Although it is perhaps far easier to secure from the members of a classroom, the acknowledgement that there is a relationship between science and technological advances in the productive powers of labor, the progress of mankind has depended no less upon advances in great Classical art, than upon what the Twentieth-century classroom would recognize readily as scientific progress.

As for Classical forms in plastic art, a close study of Leonardo da Vinci's *Virgin of the Grotto,* or standing before the originals of Raphael's *School of Athens* and *Transfiguration,* were experiences sufficient to remind me, how the principle of metaphor in great Classical paintings generates the sense of *Agapē* in a manner one might describe as "tears of joy." Great Classical tragedy, great Classical poetry, and great Classical musical composition, have the same kind of power imparted by means of metaphor.

Science and Classical art are two aspects of the same meal for the creative intellect. They must not be viewed as different professions, they are interdependent aspects which must be united for the nourishment of the creative intellect. History comprehended from this combined standpoint, is the inspiration of the great achievements in constitutional improvements of society, improvements which provide the indispensable moral sense needed to guide man successfully to the nourishment and employment of the benefits of technological progress.

Indeed, unless one has examined creative discovery in mathematical physics, etc., from the standpoint of the principle of metaphor embedded in all great Classical poetry, one could never master the principle which underlies the successful generation and employment of axiomatic-revolutionary advances in such domains as mathematical physics.

Very truly yours,
Lyndon H. LaRouche, Jr.