

How the top one percent of American citizens think

by Lyndon H. LaRouche, Jr.

The following is the keynote speech to the conference of the Schiller Institute and International Caucus of Labor Committees, in Alexandria, Virginia on Jan. 17.

This will be, in content, an unusual two days. We will address subjects which have not been addressed before in any audience, not only in the United States. And, we will come to, I believe, an understanding of why we're here, and what the problem is that must be addressed.

Most of you were alive when President Kennedy was shot. Most of you were alive when Martin Luther King was shot, at a time when others were shot: a time of great trouble, and sorrow, and anxiety for this nation. And, among all the questions asked, and all the statements made, one prevailed: Where are we going? What does this mean? And now, about thirty years later, after the shooting of Martin, we find out what it did mean: It means Hell.

During the past nine months, approximately, there has been an unleashing around the world (concentrated in Asia, but it's around the world), of a process of disintegration of the existing world financial and monetary system. You think it's been bad so far? In the coming weeks, it is going to become worse. *We are now at the point that entire nations, as political-geographic entities, are in the process of disintegrating and vanishing from this planet.* The nation of Indonesia is on the verge of disintegration. Brazil, the largest country in South America, is on the edge of disintegration. Another nation in South America, Colombia, is already disintegrating. And, in the coming weeks, many of you will find it not an exaggeration to say, that the United States itself is faced with disintegration.

Look about us. Don't take one event at a time and try to explain it. Look at the process. What is happening to the government of the United States? The government of the United States and the leading political parties are degenerating and disintegrating. *What is being done to Clinton, President Clinton, is something that has never been done to this government before. This is not Clinton: this is the institution of the Presidency, which is being destroyed.* The Republican Party is ready to split. It's disintegrating, it's decaying, it's rotting. The Democratic Party is rotting from the head, from the top down. There still are people in the Democratic Party who are the activists, who are traditional Democrats, the kind of Democrats you would tend to associate with the name

Kennedy; but what is running the party, as in the Commonwealth of Virginia, from the top down, is a strange new thing. And if this thing continues to prevail, the Democratic Party will be disintegrating this year and next.

We are on the edge of the greatest financial collapse known in the history of European civilization since the Fourteenth Century, what was called the New Dark Age, part of a process in which approximately half the population of Europe was wiped out through disease and famine, and various kinds of insanity. The culmination of that, then, as today, was a collapse of the financial, banking system, the so-called Lombard banking system. During that period, half of the municipalities, the parishes of Europe, *vanished*. One-third of the population of Europe, in a fairly short period of time, vanished of disease, and famine, and strife. *We are on the verge of such things, not only in Asia, not only in South America, but here in the United States itself.* Not some time in the next century, but *this year*.

Now, it is not inevitable, because we are not animals. At least, we shouldn't behave like animals (apologies to my wife's dogs); we are human beings, and we have the power to change our destiny. So, the question before us, is: Are we capable of changing our destiny? Do we have the wisdom, or can we acquire the wisdom to do so, and can we find the *will* to abandon the ways which have led us to this catastrophe?

Many people will try to find "who is to blame" for what happened to us in the past thirty years. The conditions of life of the average person in the United States are far worse than they were thirty years ago. Freedom is a joke. There is no justice in the United States. Look at the records, the court records of the criminal justice system: even the guilty can't get an honest conviction! There is no justice. Our Department of Justice Criminal Division is a nest of outright racism, pure and simple racism, which hasn't been cleaned up yet. More indictments. Young is no hero of ours, this State Senator from Maryland; but, what was done to him was a racist act by a racist press, and a racist State Senate. This prevails throughout the country. The bad and the good are equally victims of racism, poverty, deprivation, injustice. This society is not the one we used to know when I came back from World War II. This is not the society that fought World War II. This is not the society of the World War II veterans. *This is something else!* This is not the United States of President Kennedy; this

is something else. We are degenerate.

This reminds me of the words of Cotton Mather, back in the beginning of the Eighteenth Century, speaking of the effects in the Massachusetts Bay Colony of that tyrant, called William of Orange, one of the worst mass-murderers in history, who foisted himself upon the English throne. The Commonwealth of Massachusetts, which had been one of the outposts of civilization internationally, was suddenly crushed. And many of the people of Massachusetts, who had represented this outpost of civilization worldwide, were not only crushed, but degraded and depraved. And Cotton Mather said, "We have shrunk, we are shrunk until we've become almost nothing."

Look at our school system. Think back to the educational system, bad as it was, full of Dewey-eyed teachers as it was, back in the World War II generation, or back in Kennedy's generation. There was something to go to in a school, then. You didn't have support groups, you didn't have OBE, you didn't have dope turning children into stupid creatures, Ritalin-addicted. You didn't have education that was worthless, then. We had a bad condition; we had a lot of room for improvement, a lot of shortcomings. But we had something. Now, we are almost nothing.

Formerly, we had a policy of pensions, we had a policy of Social Security; today, we have a policy of *killing* the Social Security recipients, of killing people who are over 65, because they are "no longer useful." Finding ways to hasten their deaths, depriving them of medical care, depriving them of things they need to live on. These are things that have happened during the past thirty-odd years. We are a civilization destroying itself.

And this destruction is not by a few mis-leaders at the top. What is destroying us, is what the overwhelming majority of the American people, of all strata, believe. We are being destroyed like Sodom and Gomorrah, and we have a descendant of Mrs. Lot in the Senate, leading us there.

So, the problem is, we must find the error in ourselves, not as guilty individuals, but as persons who participate in a culture which has lost the moral fitness to survive. As a by-product of that cultural degeneration, that moral degeneration, which has gripped this nation during a period of more than thirty years, we are now in the greatest financial, and monetary, and economic collapse this planet has ever known in all known history, in all archaeological relics of pre-history.

Because economics is not, "economics": Economics is man's relationship to nature, man's relationship to the universe, per capita. It's the ability of the individual to survive; it is longevity; it is cultural conditions of life; it is science; it is Classical art, that ennobles the spirit. This is what economics is. And we have taken that away. We are poorer, much poorer, than we ever were before.

What we'll do today, and tomorrow, and I'll open it up, is to present the concept. And then, in tomorrow's session on economics, in the afternoon, after Helga speaks in the

morning, we'll turn again to the question of economics, and look more closely at some of the facts and figures which help us to understand what we have done to ourselves.

Think of yourself as an angel

In order to do this, the first thing we have to do—and I'll just mention it now, but it will come up again, in the course of what I have to say—is, we have to stop thinking of ourselves as individuals with family responsibilities. What you have to do, is think of yourself as an angel; not a family member, but an angel. Because you were born, and you're going to die. You've got to think about that. Not about your pleasure in life, not about the money in the bank, not about the entertainment you receive, not about the neighborhood you live in; but you've got to think about *the coming and going of your personal life*, because you're coming into a period of time when that's all that really counts. Bank accounts will be wiped out for most people. Savings will be wiped out. If you sit there, and wait, and try to fend off the storms, and say, "What do I do with my money?," or all these kinds of things, *there are no individual answers to these questions. There is no safe place to run to, there is no place to hide.* The epidemics and the financial crisis will hit all.

We've got to change the situation. We've got to reverse the trend. We've got to undo the direction in which things were going for thirty years, and go back to something that is not as bad, and go on from there to something that is better. And we have to do it quick. We have to do it this year. We have to do it in the weeks and months ahead. And I hope that what I have to say now, will help to give you confidence in the fact that *it can be done.* Once you understand the problem, you can begin to understand the solution, and then you can begin to see what can be done, and then you can see what an angel might do to bring about these improved conditions.

What I mean by being an angel, is this: You're born, right? Well, did something happen before you were born? I mean, perhaps you were sent here? Perhaps you were an angel. But don't look for wings, because nobody gave you any. You don't have any magical powers, you weren't given any. You were only given Reason, the power of Reason. You weren't told what your mission was. You were supposed to figure that out when you got here. But what you've got to do, is you've got to find your mission, like the Good Samaritan found his mission; you've got to find the mission you've got to fulfill, perform a miracle, figure out how to do it, succeed, and then, when it comes time to pass on, people will say, "That was an angel who was here at the time that angel was needed."

In philosophical terms, this is called a world-historical personality. If we are well-educated and well-cultured, we embody, through the process of educational experience, the reliving of the discovery of great ideas from the past. We embody the greatest gifts, in terms of ideas that were given to us, by previous generations. Thus, we are the living representatives of the ideas of the past, which are beneficial to man-

kind. We are also the people who are responsible for creating the conditions which are necessary for the well-being of coming generations. We are an individual, like an angel, who comes, who is born, who develops, who finds a mission, does the mission, and we pass on. And you must find in that concept of oneself as an angel, a sense of happiness. And I'll get to that in due course here today.

This economic system is doomed

The subject on which you want to focus, is twofold. Primarily: What is wrong? What is wrong with the economy? Why is the international financial system, monetary system, and, implicitly, economic system, *doomed* to disintegrate, as long as the present policies of the United States, the present ways of thinking of the United States, and its government, continue? *It's inevitable: This nation will go down to a pre-science of doom, in the course of this year, if the U.S. government continues its present way of thinking, during the coming months.* It's inevitable.

Secondly: Why is this financial crisis not simply a crisis like that of the 1929-1931 period, and the '30s? What's the difference? We've had crises before, we've had depressions. And in modern European history, we've recovered from those depressions, with recovery programs, such as those of Franklin Roosevelt, which a good number of us have some experience with. It can be done, in a cyclical system. But, we've come to a time when that *can't* be done. *The system in its present form could never be revived. There are no lessons of organizing a recovery from the Roosevelt period, which apply to the present.* None of those things that you might learn from the history books, or schoolbooks, will do you any good, in solving this problem.

Why? Why is this not a cyclical crisis, not a boom-bust, boom-bust cyclical crisis? Why is this a terminal crisis? Why is this not an orbit around the Sun, with winter succeeded by summer, back to winter, and back to spring, and back to summer? Why is this economic system a comet headed directly for destruction in the Sun? And, from understanding the answers to these two questions, can we have an insight into the solution to the problem?

Five crucial points

So, there are five areas to discover. First of all, this, like the concluding session tomorrow afternoon, will be a pedagogical exercise. And we will, I hope, in the question periods, confine the discussions to the topics of the day, as we would in a classroom. Because our object here is to take citizens such as yourselves, who have highly varied knowledge, or lack of knowledge, as the case may be, but who are here because they are thinking citizens, at least by intent, who would like to know some of the answers to these questions, and would like to have an insight into the solution, and an image of what could be done to save this civilization, and cure it of its sickness. Therefore, the object is, by the time you

leave tomorrow, or finish these sessions, that you have learned concepts, as you presumably would, say, in a classroom: learned the concepts which are the essential part of the answers to the two questions I've posed; and, also, a concept of what the answer is, in terms of the possibility of solution.

Therefore, for reasons which will become quickly clear, I've organized my part of the presentation as follows. First of all, the first thing I shall address, is what's called an *ontological paradox*. The ontological paradox is the difference between those who say that you measure an economy in terms of money, or money prices, and those who say you measure economies in something else. What is the difference between those two kinds of things, and how is that expressed, and how does that relate to what's happened to the U.S. economy and world economy in the past thirty years? That poses the problem.

What's the answer? The evidence suggests two actually contrary meanings to this crisis, and once you have the problem so defined, then we can look at the answer.

First, what is the scientific approach to solve this paradox? The difference between the hard-commodity economy, which is based on things which are produced, things which are consumed, such as infrastructure, transportation systems, manufacturing, agriculture, and so forth; what's the difference between that, and money, an economy based on money? In other words, what's the difference between that, and an economy in which you're rich because you have a lot of money, but you can't eat, because you can't buy anything?

Secondly, the scientific approach will define a problem, including the most important problem for you to consider, the one problem which is never addressed in any economics class. What is the difference between an economy in which the employees are people, and an economy in which the employees are apes? Why are they monkeying around with our economy? That is, what is the principle of a human being that distinguishes the human being from an animal, which is the most essential thing about an economy?

Thirdly, how can we measure that? How can we demonstrate that?

Fourthly, what is the difference between a systemic crisis, or the terminal crisis we're in, and what was called a cyclical crisis of the type which we experienced, say, back in the 1930s, with the 1930s depression?

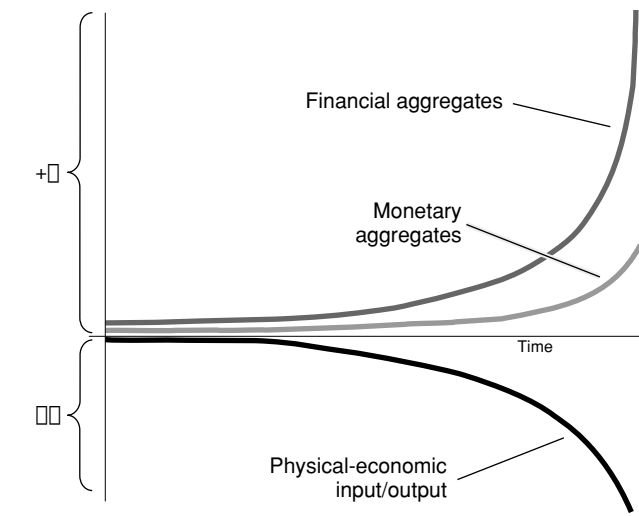
And then finally, what is the nature of the leadership which is required? Given the poverty of our politicians, what kind of leadership is required to get us out of this mess? Five points. So, let's proceed.

A paradox: the nature of the crisis

Let's start with the Triple Curve, because we always do that, don't we (**Figure 1**)? As you'll see at the end, there are several different curves that you can construct of this type, which will define different states of an economy. Again, go through this: The bottom line describes physical things: infra-

FIGURE 1

A typical collapse function



structure, improvements in land, improved transportation systems, urban infrastructure: all of these things that are required simply to make the land fertile for an economy, both urban society, rural society, land area in general.

And, the product that goes with that: things we produce, plus certain things which are not quite physical, in an ordinary sense, but which are absolutely essential to a modern economy. One is education, another is health care. These things are essential to maintain the population. And there are scientific services; without these, you couldn't have an economy function. Education, health care, and scientific services are as essential as physical objects of consumption for an economy.

Other things you can get by without: You could do without real estate brokers, you could do without mutual funds salesmen, you could do without Hollywood actors, especially. You could do without television programming; as a matter of fact, you'd probably think better without it. All of these things, you can do without. But, there are some things you can't do without and have a healthy economy. These things are physical things that you require, that have to be produced, or improvements in land area, and so forth, and things you require for household existence, and, also, health care, education, and scientific services. That's physical-economic output.

And, if you take, on the left-hand side of the chart, if you say that's the year 1966, then this curve, the bottom curve, represents, essentially, *the rate of change in per-capita physical output over that period*. That is, the change and rate of change, which is always downward. We've been going downward in per-capita physical output, net physical output, over the past thirty-odd years.

The second curve, is monetary growth. This generally

corresponds to what the economists and bankers call M3: an expansion in the money supply, or the equivalent of money supply.

Thirdly is financial aggregates.

So, this is a particular kind of economy, which is specific to this period, 1966-1997, 1998, in which *the economy operates on the basis of a shrinking of the per-capita real output, a rapid increase, an accelerating increase in the money supply, and a more rapidly accelerating increase in financial aggregates*, including pure gambling debts, like derivatives and other things, which have no equity in them. They're pure gambling debts, is what these are.

And, this is the problem, that we're into that kind of an economy, and we're on this side, on the right-hand side, we're at the point where these curves have become very steep. That is, the rate of collapse in the physical economy is very steep. The IMF is accelerating it, by the way. The monetary growth is accelerating; the financial aggregates are accelerating.

We're on the verge now, if things that I've proposed *don't* happen, we're on the verge of one or two alternatives: Either you have, coming out of Eurasia, a chain-reaction default of nations, which means that the whole world goes into a collapse, a sudden collapse, a very steep, sudden collapse, as a result of the chain-reaction default.

Or, as is now happening with the IMF conditionalities, in the attempt to postpone the inevitable, what do they do? They do what the German government did at the end of 1921, when they had French bayonets stuck in their rear end, and they had a war reparations debt being demanded of them. And they went to the printing press to generate money, to meet the war reparations debt, because the French said, "Otherwise, we'll come over, and we'll loot everything in Germany." The result of that, within 18 months, was the greatest hyperinflationary explosion in modern times. That ended approximately in September. In October or November of 1923, at the end, at the fag-end of this hyperinflationary collapse, General Ludendorff led Adolf Hitler in the Beer Hall Putsch in Bavaria, the beginning of Hitler's rise to power.

That's the kind of situation we're dealing with. We're on the edge of coups throughout Asia and Southeast Asia, as a result of IMF policy. *In the meantime, the policy which the United States government, including the Clinton administration presently, by default, is conducting, is a hyperinflationary policy, which will blow up the value of money into nothingness, quicker than John Glenn can get into space*: through a hyperinflationary bubble, through the attempt to maintain financial aggregates by pumping in money fast enough to keep the aggregates going, under so-called bailout techniques, IMF bailout.

What does the IMF say? The IMF says: *Cut your production. Accelerate the cutting of per-capita output. Increase greatly the monetary output, in order to cover, and prime up, and pump up the financial aggregates, which are already skyrocketing. That means that, whereas it took Germany 18*

FIGURE 2

U.S. merchandise trade as percent of global dollar currency trading, 1956-70

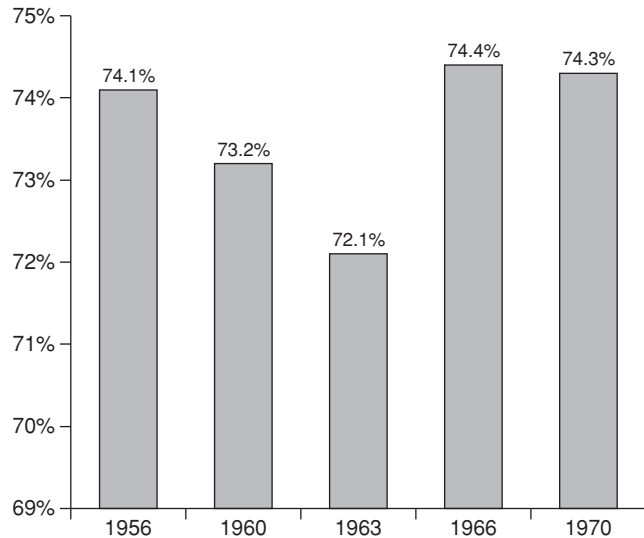
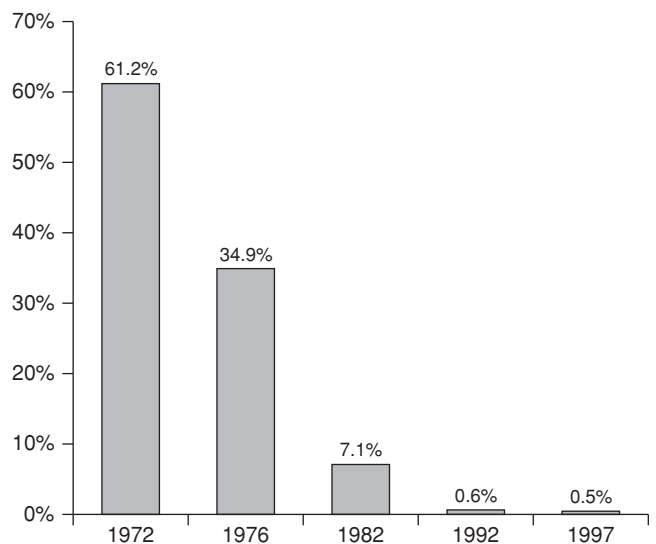


FIGURE 3

U.S. merchandise trade as percent of global dollar currency trading, 1972-97



months for the German Reichsmark to disintegrate—that is, they couldn’t print money fast enough to keep up with the rate of inflation, and they just took notes on paper, and the German Reichsmark was *dead*. And the only reason Germany came out of this, was because the United States stepped in with the so-called Dawes Plan, which took U.S. gold—the U.S. was the only creditor nation in the world at that time—and created a new Mark in Germany, which allowed the German economy to stumble along through the 1920s. That took 18 months, for that process to unravel.

Under present conditions, we’re talking about a matter of weeks, or months at most, if this policy continues. So, the present policies of the U.S. government, and the majority of the institutions, either by intent, or, in this case of the Clinton administration, by default—by its refusal to consider what it must do, it has bought into a hyperinflationary explosion of the U.S. dollar. If that continues, either they try to stop it, which causes a sudden default. Or, if they don’t stop it, it causes a blowout within a period of weeks, or months at most, globally, like the hyperinflationary explosion which occurred in Germany over the period 1921 through 1923. So, that’s what we’re up against.

So, let’s go on to some of these charts, to get beyond this.

Figure 2 explains itself. Take the total number of dollars turned over in foreign trade, that is, import-export, or foreign exchange turnover. Compare that with the imports and exports, against this dollar turnover. You see, essentially, from 1956, that 74 percent of the total foreign exchange turnover of U.S. dollars was accounted for in terms of imports and exports, so-called hard commodity turnover, which meant

you had a very strong dollar. Seventy-four percent of all dollar and related foreign exchange obligations corresponded to imports and exports. This continued at about that level until 1972.

What happened in 1972? In 1971, Nixon took the dollar off gold, and set up a floating exchange rate system. We no longer had a system of fixed parities. We now had—money was loose, loose from all constraints and regulation. You had a very rapid collapse, then, of the content of the dollar. You see that it fell from approximately 70 to 75 percent, during the entire period 1956 to 1970. In 1971, it begins to collapse. By 1972, it’s fallen to 61.2 percent; then, by 1976, to less than 35 percent. In 1982, after the Volcker measures of 1979-82, it had fallen to 7.1 percent. By 1992, it had fallen to six-tenths of a percent. Now, it’s less than half of a percent.

What is true of the U.S., is true of the world. This world economy is no longer based on trade. It’s no longer based on production and consumption of real goods: It’s based on hot air, on financial speculation. And you see that reflected again, in different terms, this way (**Figures 3, 4**). You take the content of the dollars traded, for every dollar of trade (**Figure 5**). So you get the picture: You’re going from less than five dollars, up to, actually, it’s about—it’s less than 70 cents per dollar. It’s going up toward, now, \$200 of foreign exchange turnover, for every dollar’s worth of trade. So you see what the nature of the problem is going to be.

This is Gross Domestic Product (**Figure 6**). Don’t trust Gross Domestic Product, but it’s an interesting figure to use. What’s happened? What is the percentile of the U.S. econ-

FIGURE 4

U.S. merchandise trade as percent of global dollar currency trading

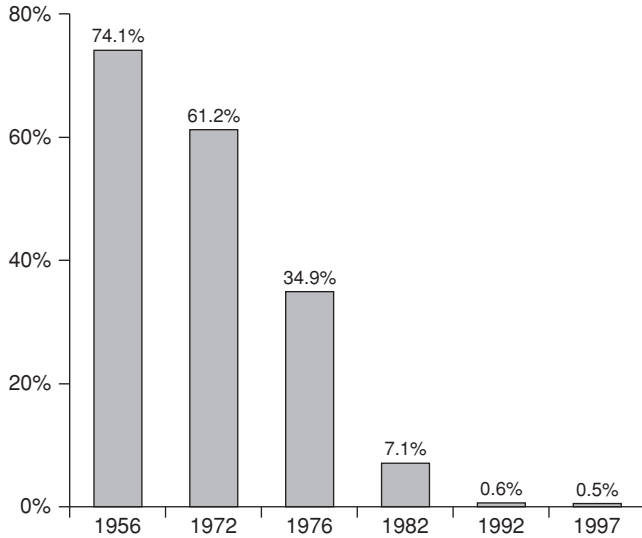


FIGURE 5

The U.S. foreign exchange bubble

(dollars of currency trading per each dollar of trade)

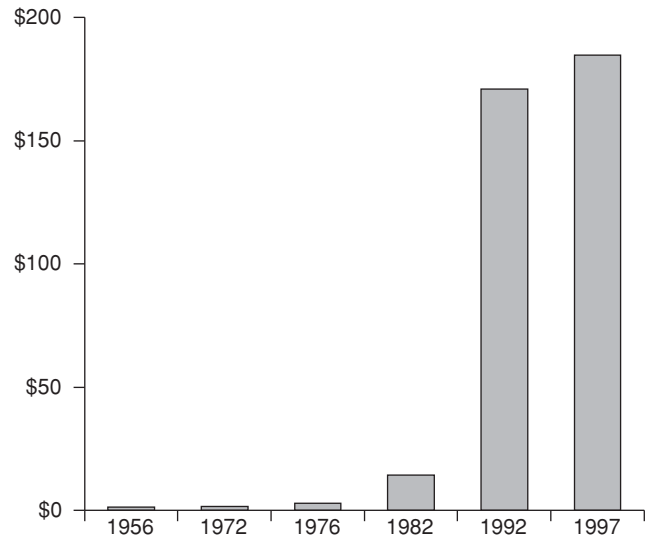


FIGURE 6

Goods-production portion of GDP as percent of total GDP

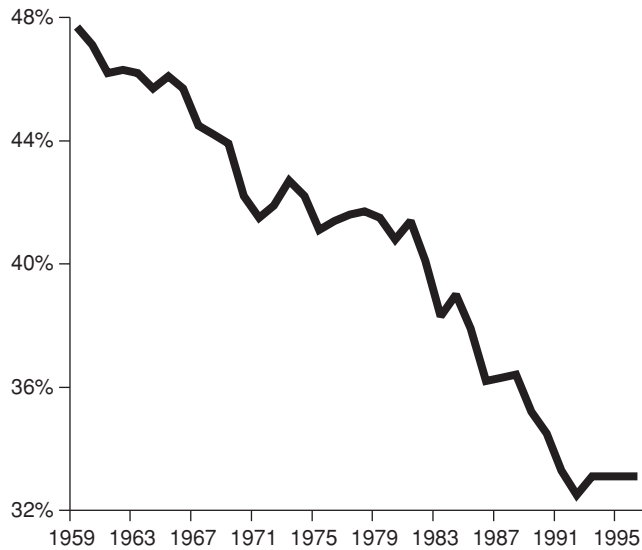
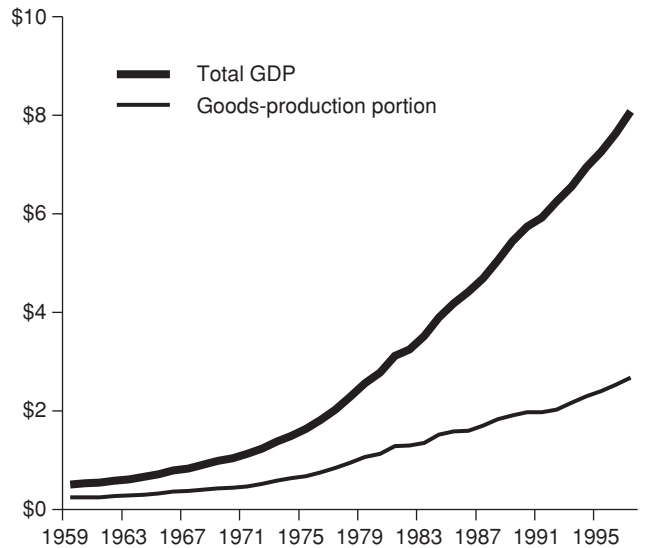


FIGURE 7

Gross domestic product vs. goods-production portion of GDP

(\$ trillions)



omy, of gross goods production, as a percentile of total GDP? In 1959: 48 percent. Today: 35 percent. What's happened? We've had a collapse in the content of the dollar. So, measuring, obviously, with dollars, doesn't mean anything. There are other things you have to consider in this connection.

Figure 7: Same thing. This is the goods production portion of GDP. You see the lower line here is the goods production portion of Gross Domestic Product, as accounted, against total GDP. You see the relationship: about \$2.50 in terms of

FIGURE 8

Bushels of wheat

(per capita, USA)

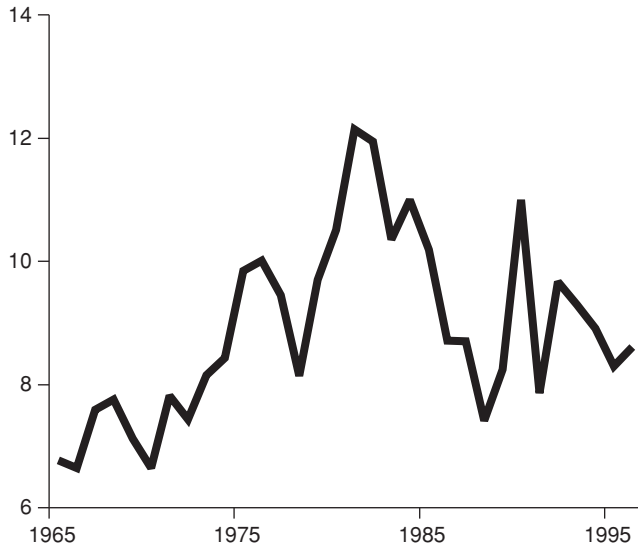
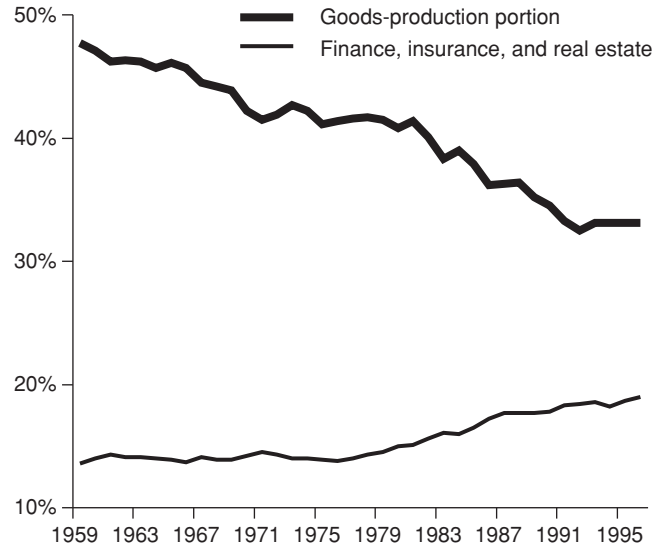


FIGURE 9

GDP, by component: Goods-production vs. finance, insurance, and real estate



equivalent of goods production portion, climbing up to about \$8.00, in terms of total GDP—which means that your total GDP is fake, which means that your dollar is worth a lot less, that your wage income from production, your income from production, is worth a lot less in buying power, than the monetary figures indicate. So it means the inflation is enormous.

For example, to maintain the income today of, say, a family of four: Take a family of four living in Birmingham or Pittsburgh, working in the steel industry in either of these areas, back during the last half of the 1960s. That family, if, say, the wage-earner, the principal wage-earner in the family was about 40 years of age, this fellow was on his way to assisting his children with a college education, at least assisting them, maintaining some kind of a standard of living.

Take the same person from the same family household, at whatever employment they have, in the same area, in the Pittsburgh area or the Birmingham, Alabama area today. What is the purchasing power of a single wage-earner in that household of the same cultural level and same employment skills today? As the fellow said when Clinton was bragging about the number of new jobs that the United States had generated, he said, “Yeah, I’ve got three of them.” Because you can’t get by on a single wage-earner’s income. It would cost you, probably, to maintain what a skilled industrial operative’s standard of living would be in the late ‘60s, would probably be about \$75,000 a year today. How many people do you know who have a \$75,000 income, on a single-income-earning-family basis today? So, that’s some of the things those figures mean.

It means that we are disintegrating, we’re degenerating. *Things are not better.* There has been no growth in the U.S. economy in the past 25 years. In point of fact, in each year of the past 25 years, the U.S. economy, in physical terms per capita, has shrunk by more than two percent per annum, each of these years. That gives you an idea of what’s wrong.

Now, look at some of the other things going on, on the finance and real estate. Or just wheat (Figure 8). Some of you who come from the farm area know what this means. You see that our production, in a world which is starved for food (and wheat’s not the worst); in a world which is starved for food, in which the United States used to be a primary food producer from World War II on, we were the food producer for much of the world. We kept the world alive, with U.S. food. Wheat was only part of it. Many other things as well: beef, and so forth.

We don’t do that any more. We still have grains. But, see what’s happened to our grains production. Then you want to look at something else: Look at what the farmer’s percent of parity price for production of a bushel of grain is. And you see, by looking at the income of the farmer, that we are destroying the agricultural sector. If you go out to the farm belt, you find that the farm belt is denuded. When people of my generation retire from farming, the farm is closed down. The next generation, if there is any, doesn’t farm. The land will go fallow, or go into cheap kinds of mass production, and that is part of the pattern.

The point here is: What happened (Figure 9)? Where is the money going to, where is the money coming from, if it’s

FIGURE 10

Hyperbolic growth of U.S. financial aggregate

(\$ trillions)

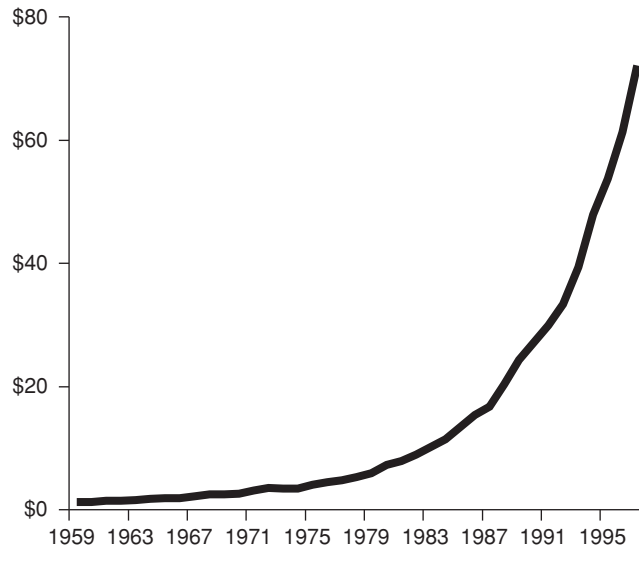
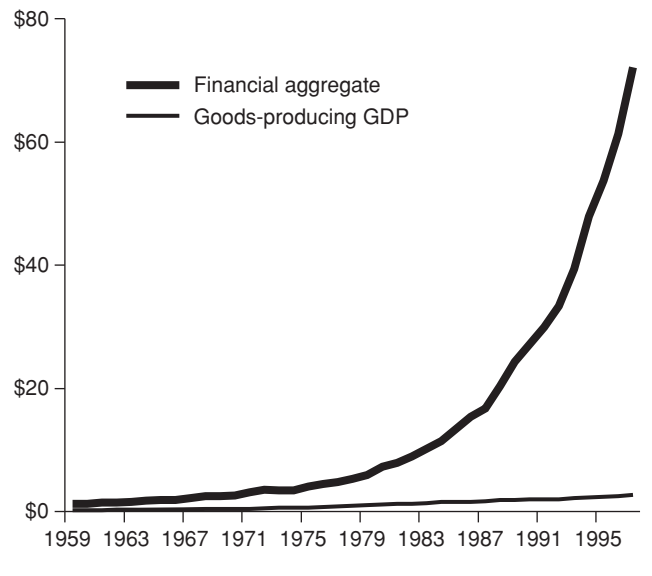


FIGURE 11

Financial aggregate's growth vs. growth of goods-production GDP

(\$ trillions)



not coming through production? Well, it's coming through what? You take the goods production proportion of income and output, as against financial and real estate income. For example, interest rates, other kinds of financial income, real estate profits on speculative real estate. That's where the money goes. That's what is called production. Just an increase in the cost of existence, in terms of additional finance and real estate charges, on every portion of production. And so this cost, which is nothing but a parasitical cost, with no useful productive significance, is simply piled on as an extra charge, and this is measured as output. It's output from your pocket, not output produced by the economy.

So, you get a picture of this, of what the U.S. financial aggregate is (Figure 10). And you remember, this corresponds to the chart we started with, which is the financial aggregate growth. A hyperbolic growth, in terms of the amount of financial assets and liabilities relative to anything else, while, at the same time, real production is collapsing per capita, and this is being fed by monetary expansion.

Figure 11: The same point, but just expressed in a different way. Take the bottom line, goods production, GDP: This is the absolute output of the economy in GDP—goods. Not per capita; in per capita, this is actually falling. But look at what's happening to financial growth. This financial growth is now, of course, demanding a yield, isn't it? Every piece of financial paper, every mutual fund, and everything else, demands a yield. It demands a competitive yield. Where does the competitive yield come from? What does finance produce? Did you ever see a dollar producing anything, say, on

the sidewalk? It may produce lust, but it doesn't produce any goods.

So, where does the money come from to pay the yield, these demanded yields on these "investments," so-called? It comes out of production. It comes out of taxes, which ultimately come out of production. So that this is a *parasite*, which John Hoefle referred to as a 300-pound flea on a 40-pound dog, which is what's happened to this economy.

Figure 12: The same thing. You get a picture: What is the multiplier ratio of financial aggregate as a multiple of output? Again, this has all got a charge to it. This is why you're getting poorer! You're producing less per capita. Fewer people are actually producing things. Generally, the productivity of people engaged in producing things has *dropped* in per-capita value. So fewer people are producing, but the bite on production is increasing. That's why your standard of living is deteriorating: because somebody has to pay to keep things like Morgan, J.P. Morgan and Company, and people like that, alive. Where do they get their money from? They don't earn it. They don't produce anything. And that's what's *killing* us, and that's what's happening.

And the same thing (Figure 13). This gives you some indication of M3. You don't have to bother with the details. But there's a primary money issue, then you have what is in effect money, which is the M2, a reflection of that, and M3, which is generally the thing you refer to, when you talk about monetary aggregate in the economy. It's what is called by the Federal Reserve M3. When we talk about growth of money

FIGURE 12

America's financial aggregate as multiple of goods-production GDP

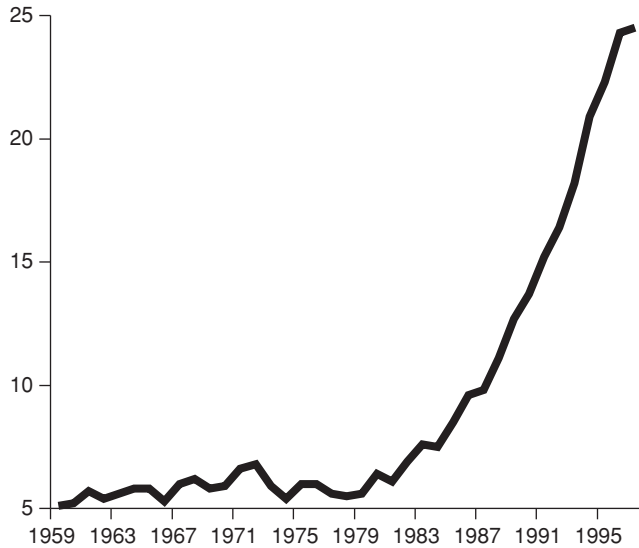


FIGURE 13

Money supply grows

(\$ trillions)

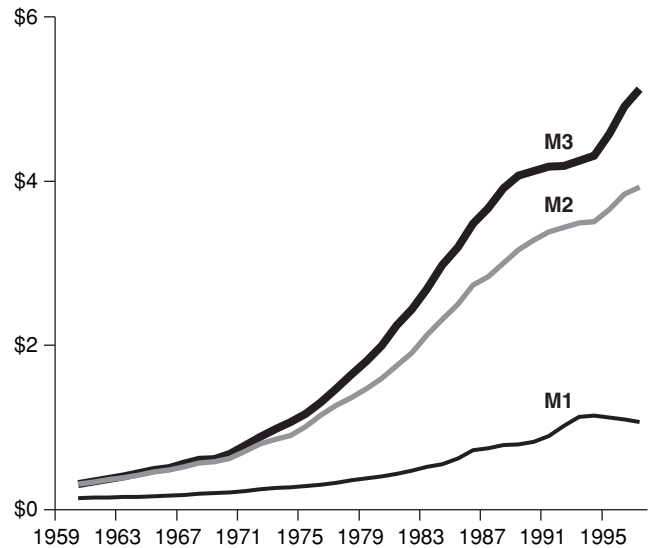
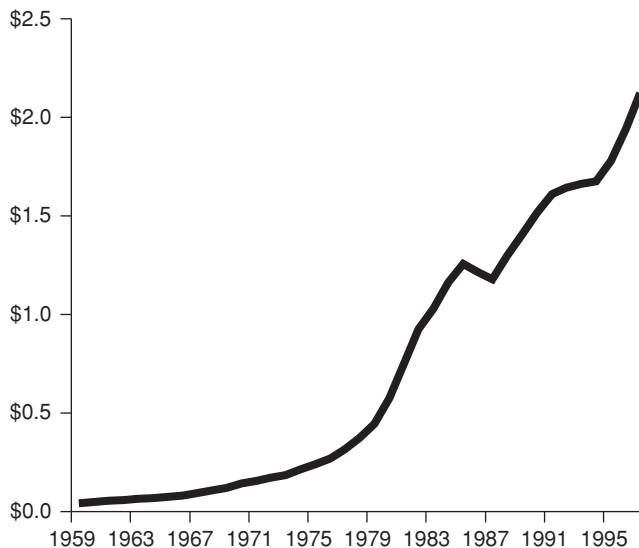


FIGURE 14

Loot extracted by property titles of U.S. financial aggregate

(\$ trillions)



supply or monetary aggregate, we're talking about, generally, M3.

Figure 14: A friend of ours, Richard Freeman, uses this type of language in titles. I suspect he may have done this:

"Loot extracted by property titles of U.S. financial aggregate." "Loot"! You see, Richard is thinking about these pirates, like Sir Henry Morgan, or Sir Francis Drake, who are coming in with their caravels with their little cannon, who are going to land by night, with their cutlasses and cut your throat, and steal all your goods, and what not. Well, that's what goes on in Richard's mind when he thinks about this. But, I must admit, it's a fair image. I didn't try to censor that. I agree with him, actually. But, that's what's happening. You see, the leverage is the 2.5 ratio in this.

Figure 15: Again, I suspect Richard Freeman had a hand in this: "Loot as percentage of real GDP." What's the tax on GDP from loot, from pirates, Wall Street pirates, similar kinds of pirates. That's what's happening to us.

Figure 16: Again, the same thing, a comparison of manufacturing, the line coming down, with the finance, insurance, and real estate charges going up. So, the output is going down, the requirement, in terms of financial charges, is going up. The same thing all over again.

Now, this opens up our next subject.

Monetarist insanity

So, what you see, is that, when you and I were younger, and I'm referring to those of you in the audience who are my age, or approximately my age, we thought in terms of production, we thought in terms of housing, we thought in terms of food on the table, we thought in terms of things in the household, we thought in terms of an education of the children. We had an idea of what that meant. We thought in

FIGURE 15

Loot extracted by property titles as percent of goods-production/real GDP

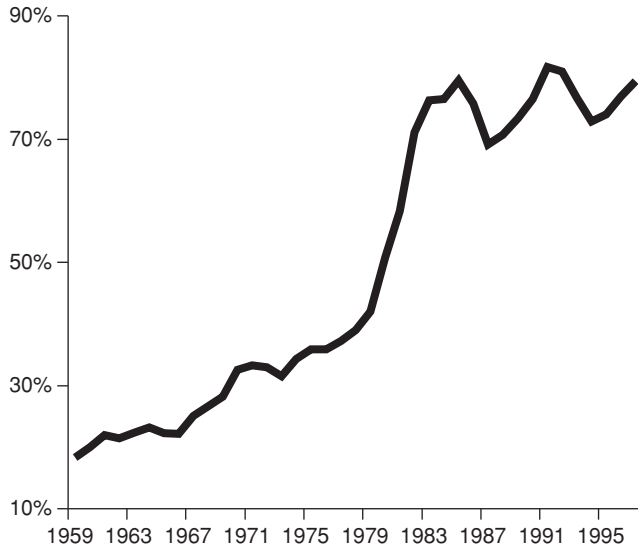
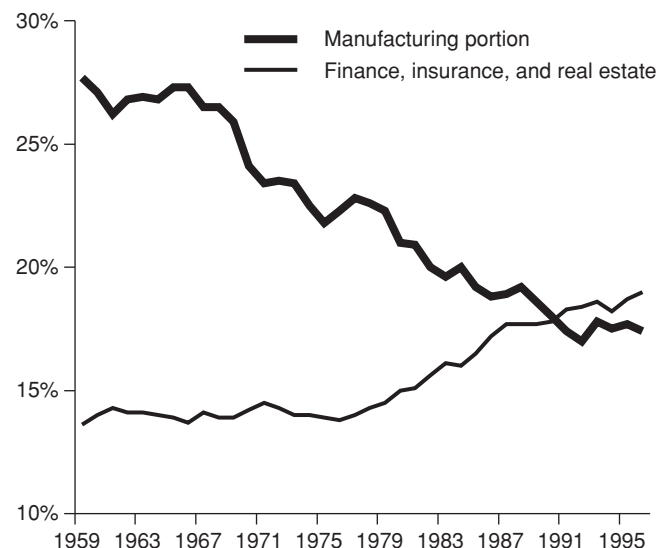


FIGURE 16

GDP, by component: Manufacturing vs. finance, insurance, and real estate



terms of an automobile. Simple things like that. We thought of the costs of production, we thought about the manufacturing plant where many people in town got a job, that sort of thing. That's the way it was.

So, when we thought about money, we assumed there was a correlation between *what was paid for the production of something*, and *what you paid to buy it*. You knew there would be a difference. You knew there was a profit involved, in most cases. But you knew there was a correlation, so that, in those days, we didn't worry too much about the kinds of things we're talking about now, because the problem didn't really exist then, especially coming out of the Depression. There was a relationship between *physical production* and the money economy. If you put money in the bank, you assumed it was going to buy something when you took it out of the bank.

That doesn't happen any more. You put money in the bank, you lose money on it. You have less purchasing power when you take it out of the bank, after all the interest has accumulated, than you had when you put it in the bank. So, we've now gotten into a system, internationally, where these things don't mean anything any more. It doesn't make sense any more.

For example, take the case of South Korea. South Korea was basically a producing economy. There was some speculation; they had Baby Boomers in South Korea, as they did in the United States. And, as we know, from having Baby Boomers, and having friends who are Baby Boomers—we even know a Baby Boomer or two—they tend to be crazy. And it's true in the '68-ers around the world, and also in Korea, or Japan. The young Japanese, who are now running

the industry—I think of them as young, anyway—are lunatics, compared to their parents, who used to run Japan's industries, who were manufacturing- and production-oriented, things like that. And, they believe in money. They walk around with their little calculators, and if you ask them for a moral decision, they'll put a financial formula into their calculator, and give you a moral decision at the other end, or something of that sort. It's all based on yield.

So now, we find that there's insanity. What happened in Korea, is a perfect example. Here's the won, the currency of Korea, which we would think of, before the crisis broke out, in terms of products which Americans buy, which are Korean-made. You think of things like automobiles, copying machines, various kinds of things like that: objects. And you paid a price for these objects. We presumed these objects in Korea were competitively priced, relative to products of the same type from Japan or places like that. And suddenly, because a bunch of speculators one morning said the won is worth a lot less than it was the day before, we are suddenly told that Korea, a nation which was exporting *more than enough* to cover the costs of its imports, is now no longer able to pay its bills, or cover the costs of its imports.

That's crazy: A bunch of guys in a gambling house in Las Vegas sit up all night and they begin to bet on currencies, and they come out in the morning and say, "We have reduced the value of a currency at our betting table by 50 percent, therefore, the country's got to pay twice as much, in terms of foreign currency, to pay its bills." It's crazy. Why do we allow a bunch of gamblers running the hedge funds, running a

gambling market, a casino, offshore, to speculate in a national currency, and come back to a country whose currency has been valued the day before, largely in terms of the value of the product it exports to the world market, the product which it exports in order to get imports, and why do we say now it's worth half as much? How'd that happen?

Obviously, it *isn't* worth half as much. *But somebody has enforced upon Korea the perception that the money markets, the so-called "free markets," or otherwise called "flea markets," have been able to impose this change on Korea.* Now the Koreans, who are still producing products just as valuable as they were last week, and the year before, suddenly find that they can't maintain their economy on the same level of production.

What happens? Well, food prices zoom, skyrocket in Korea. As a result of the policies imposed by the International Monetary Fund, and condoned by the United States government, you're going to get *probably over one million unemployed* in South Korea. You're going to get hunger as a result of food shortages, and accelerating, zooming, skyrocketing food prices.

Now, South Korea has been a military economy. That is, you may recall, South Korea was conquered by Japan in the 1894-96 war, in which Japan broke with the United States, which had been its ally up to that point, by starting a war against China. And in the process of the war against China, they stole Korea. And the Koreans didn't much like that, and they liked it less and less as time passed.

Then, in the infinite wisdom of the British, at the end of the war, we divided Korea into a North and a South: North Korea and South Korea. South Korea had been the food-producing area, predominantly, and North Korea, which is not necessarily an agricultural area, it's a mountainous area, had been the old industrial area, because of its proximity to mineral resources, and because also of its proximity to the great industrial region of China, which is proximate to the North Korean region.

So somebody, in his infinite wisdom, got a war whomped up, between South and North Korea, between 1949 and 1954, especially 1949 and 1952. MacArthur was going to end the war, and they said, "No, you don't do that." Truman said, "You don't end that war. We're going to keep it going." So, in effect, in the name of peace, and in the name of Panmunjom, South Korea has been in a state of virtual war, or on the edge of warfare, from that time until nearly the present. So South Korea is an Asian society, with an Asian culture—a lot of Presbyterians there, but otherwise an Asian culture. And some good music going on there; it used to be, at least, I don't know what the music sounds like this week, after what happened recently. And, you're driving this nation to absolute desperation: You're doing to it what was done to Germany under the Versailles reparations conditions, and you're driving it, a society which has a large military component, you're driving it to the point of exasperation. Do not be surprised at getting

a coup and a military government, or something similar, as a result of these policies.

A similar thing has been done in Indonesia, which is an Asian culture with a somewhat different history and different composition. But you may recall, back in 1965, there was formerly a President of Indonesia named Sukarno. And, Sukarno was overthrown in a revolution, and at least 650,000 Indonesians were slaughtered, in the fratricidal slaughter of bringing about a new military coup. *Indonesia is being driven to the edge of that today, through a policy, an IMF policy, which is endorsed by the government of the United States.*

The Philippines, which has a different history, is being driven to its own version of similar responses. You had then, last spring, when somebody was trying to destroy the government of Myanmar (Burma), in the name of "human rights," run by those inhuman people in Britain, called the human rights association. The head of the human rights group in the British Parliament, the House of Lords, is the biggest backer of international terrorism. You can imagine what that means.

So, a British agent by the name of George Soros, a man of very unpleasant antecedents, in terms of his personal history and practices, together with a few other hedge funds, all centered around London, but largely operating on the basis of drug-money laundering, which is very big in this world, targeted Myanmar, and Thailand, and, also, Malaysia, as a part of the springboard operation against Myanmar. As a result of that, you had a crisis in Malaysia which was centered around a collapse of the Thai currency, the baht. You had a group of currencies, the Malaysian ringgit, the Thai baht, the Indonesian rupiah, all of which began to disengage from the dollar. They had been pegged to the dollar, previously. They were principally trading partners of the dollar, and of the dollar area, and they were largely financial areas associated with Japan. That is, Japan finances, credit, was pouring in, and the product out of these countries was generally traded with a dollar peg, and the currency was pegged to the dollar. All that stopped. The same group ran an operation against Taiwan. Taiwan was unpegged from the dollar. They almost succeeded in doing it with Hong Kong.

A hyperinflationary explosion

So, this entire region of the world is about to blow up, for no good reason: because we allowed a bunch of speculators, thieves like George Soros, with the blessing of our Secretary of State, who, between dances, does some other terrible things, other exhibitions. When she goes to Israel, she dances the Hora. It's called a "Hora show." So they got this Soros going. And, this goes on.

And the policy of the United States government is: "We can't do anything about it. We have to adapt to this, we have to deal with this, we have other priorities." What they're getting, by condoning, and bending over, and allowing IMF conditionalities to go ahead, what they're doing, by default, is, they are fostering a *hyperinflationary global explosion*,

which, in the matter of weeks or months, could blow out currencies, depending upon how it goes. And in the meantime, every government of East and South Asia is headed for major destabilization. The whole area can go into bloodshed. The day after that, Brazil is ready to blow up. Again, George Soros, with the help of the British, took over the major industries in Brazil, which destroyed Brazil's ability to defend itself economically, and the time they pull the latch on Brazil, Brazil will blow up. Argentina will be crushed. Chile will be bankrupted. Colombia will be finished off. Venezuela will go into crisis. Mexico's on the edge of crisis.

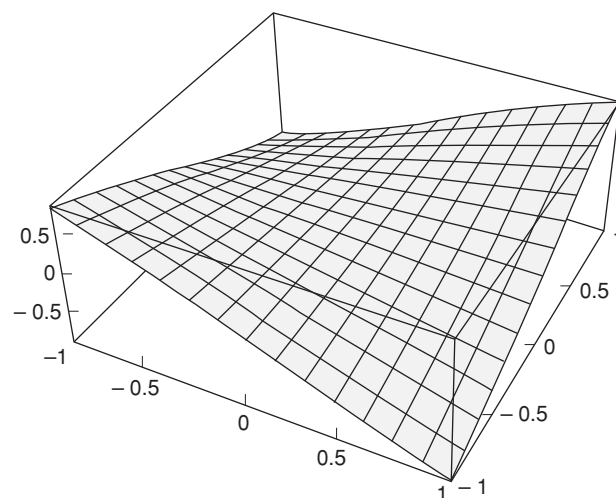
Now, you take all the U.S. investments which are tied to East Asia, all the U.S. investments tied to South America, not counting what's been written off in Africa: What happens? What happens to the U.S. dollar? Well, the biggest investors in East Asia are who? Are Europe. So, as this collapse occurs in Europe (this is happening now), this collapse will hit France, it will hit Germany, it will hit other European countries. It will hit the U.S. less firmly, on financial accounts, than the Europeans proportionately. But you add to that South America, which is British-dominated. That is, Central and South America: The British control 60 to 80 percent of the financial operations of all countries in South and Central America. Not the United States. The United States is not the great "Yankee imperialist." The British are the great — the jerky imperialists, not the "Yankee." And they control this area.

These things mean that, what we get from these markets, in terms of so-called outsourcing, with investments, with financial relationships and financial investments, it means that the whole world is in the process of blowing up. And all this business to try to say, "You've got to go with the markets, you've got to go with IMF conditionalities, you've got to stick with liberal economics, you've got to stick with free market economics, you can't use protectionism, you can't use exchange controls, you can't use capital controls," you can't do any of the things we did back in the 1950s to get the world out of the effects of World War II. You're not allowed to do those things any more. "That's against liberalism! You've got to have 'liberal free market economy.'"

Under conditions of continuation of toleration of liberal free market economy, we are talking about a blowout within weeks, a major new blowout, a new quality of blowout, like nothing you've seen before. So then all the rules, all the games, all you've been taught in the textbooks in economics, all you read in the financial pages in the newspapers and the magazines, and the talking heads shows on television: It doesn't mean anything any more. It's garbage, it's idiocy. I forecast these conditions. I've warned of this for years. We've been in this process for thirty years; I've been warning, for thirty years of this process. It's unfolded, it's happened. They said it couldn't happen, until after it happened. They're great prophets. But their hindsight isn't so good, either. They should be wearing spectacles on the back of their head. If it doesn't do any good on the front of their head, they should

FIGURE 17

A typical Cartesian image of space within time



wear them on the back of their head. It might help them improve their hindsight a bit.

So, this idea that you can make a simple mathematical model of an economy, that you put prices over here, and you construct curves, you take statistical trend lines and so forth; all of that, the Cartesian image of space-time: that doesn't work. *It never did.* But, it's like the magician's show, and the trick you thought he did. And then, one day, the magician died, and the trick didn't work any more. So, that's what we're dealing with.

The alternative to Cartesian thinking

We're coming into this area: What is the scientific approach to this matter? Let's get to the next slide, a typical Cartesian image (Figure 17). What's the alternative to that kind of thinking, that Cartesian thinking that's done, where you get these statistical reports, these chartists, and so forth, financial chartists, the *Wall Street Journal*, and all this kind of stuff. What's your alternative?

Well, I can tell you that the known alternative to that kind of thinking, is at least as old as a civilization which existed in Central Asia between 6000 and 4000 B.C., long before the Semites learned how to wear clothes in Mesopotamia. And, what they did is this. The first evidence we have of scientific thinking of this type, is in astrophysical solar astronomical calendars, in which these calendars would not only take the solar year, because they knew the Earth orbited the Sun, and they were solar astronomical calendars; they also had a cycle of somewhat less than 26,000 years. It's called the equinoctial cycle (Table 1 and Figure 18). One of the things that happens in the heavens, as the Earth shifts in its position: The constellation in the heavens which appears at the Vernal Equinox in

TABLE 1

Mean angular change of three astronomical cycles of rotation

Cycle	Total period (years)	Mean angular change per microsecond (seconds of arc)
Earth's daily rotation	0.0027	1.5×10^{15}
Earth's yearly orbit of Sun	1	4.10675×10^{18}
Equinoctial	26,000	1.57952×10^{12}

the Northern Hemisphere, this comes at different points. For example, a long time ago, it became Leo, then it became [Virgo], and so forth, and so on.

At a time when the solar— This was in Orion, which was a period between 6000 and 4000 B.C., the people who lived in that area, in Central Asia, who are the ancestors of the so-called Vedic civilization, developed a calendar which had many features, including estimates for the cycle of the shift of the pole. You know, the Earth wobbles, and so the geodetic pole shifts its position. The magnetic pole also shifts its position. And, there's a cycle which is a compound cycle, which is when both the magnetic and geodetic pole come back together again to the same position. Another cycle.

But they measured this one cycle, which is the equinoctial cycle, which is less than 26,000 years: That is, in less than 26,000 years, about 25,200 years, the Vernal Equinox comes back to the same position it did 25,200 years before. So, when you have a Vedic calendar which is based on these kinds of considerations, you know something about the mentality, the thinking, and so forth, of the people who have the calendar, because you know how you can do these things, how you can measure these things. So, at that point, you can see that the ancient Vedic civilization already had a sense of how this worked.

For example, imagine you're standing on a point on the Earth, and you think that you're observing the sunset to sunrise (Figure 19). You think you are. Actually, you're not; because the Earth is rotating. And if the Sun isn't moving, you're moving. But the Sun *is* moving, but that's another story. So, you think, it appears to you, if you're just a naive person, that the Sun goes in a circle around the Earth. And you get from sunset to sunrise to sunset, in a circle. But, while you're observing, the Sun is actually moving, the Earth is moving: it's moving *around the Sun*. So, it gets more complicated. Because, now, you're observing not merely a circular motion, an apparent circular motion, you're measuring a circular motion on an ellipse, an elliptical orbit.

The same thing applies to this (Figure 20). We have here, three—in the Triple Curve that we started with, we had three things: We had the relationship between a downward trend in production aggregate, the physical production aggregate; we

had an upward trend in monetary aggregate; we had a zooming, skyrocketing trend in financial aggregate. Now, it happens that the three curves are just like an astrophysical relationship: They're interrelated. That is, in order to increase the monetary aggregate, you must *decrease* the production aggregate in the system. That is, you have to tax, in a sense, discount, tax, real production, shrink it, to get some assets to pump up the monetary system, because the economy's not growing. And therefore, how do you get a profit out of an economy that is shrinking? You can get a profit out of an economy that's shrinking, only by looting it. So, therefore, you have to loot the physical economy, sell off assets, don't maintain it.

For example: Washington, D.C. or New York sewer systems and water supply systems. How old are they? Fifty, sixty, seventy, eighty years old. They haven't been maintained. So, by not maintaining these systems, you defer payment to maintain an existing system, which means you're looting it. Because when the time comes for repair, you haven't repaired it, and the system breaks down, and you've lost the system.

The same thing: Union Pacific Railroad. One of the main problems on wheat deliveries and other problems in the U.S. economy, is the delivery rate, that is, the number of ton-miles, tons per mile per hour, moved by the Union Pacific Railroad, has *decreased*, because it's cut its facilities. This is causing a *catastrophe* in the U.S. economy, including the rotting of grain throughout the Midwest, because there are no trains to move it. Again: This results in more profit to the company that owns the Union Pacific—by looting it! By not paying the bills, by not maintaining that. By closing down the hospitals, cutting the schools, cutting the pensions, killing people, in order to save money on hospital expenditures for insurance recipients, beneficiaries.

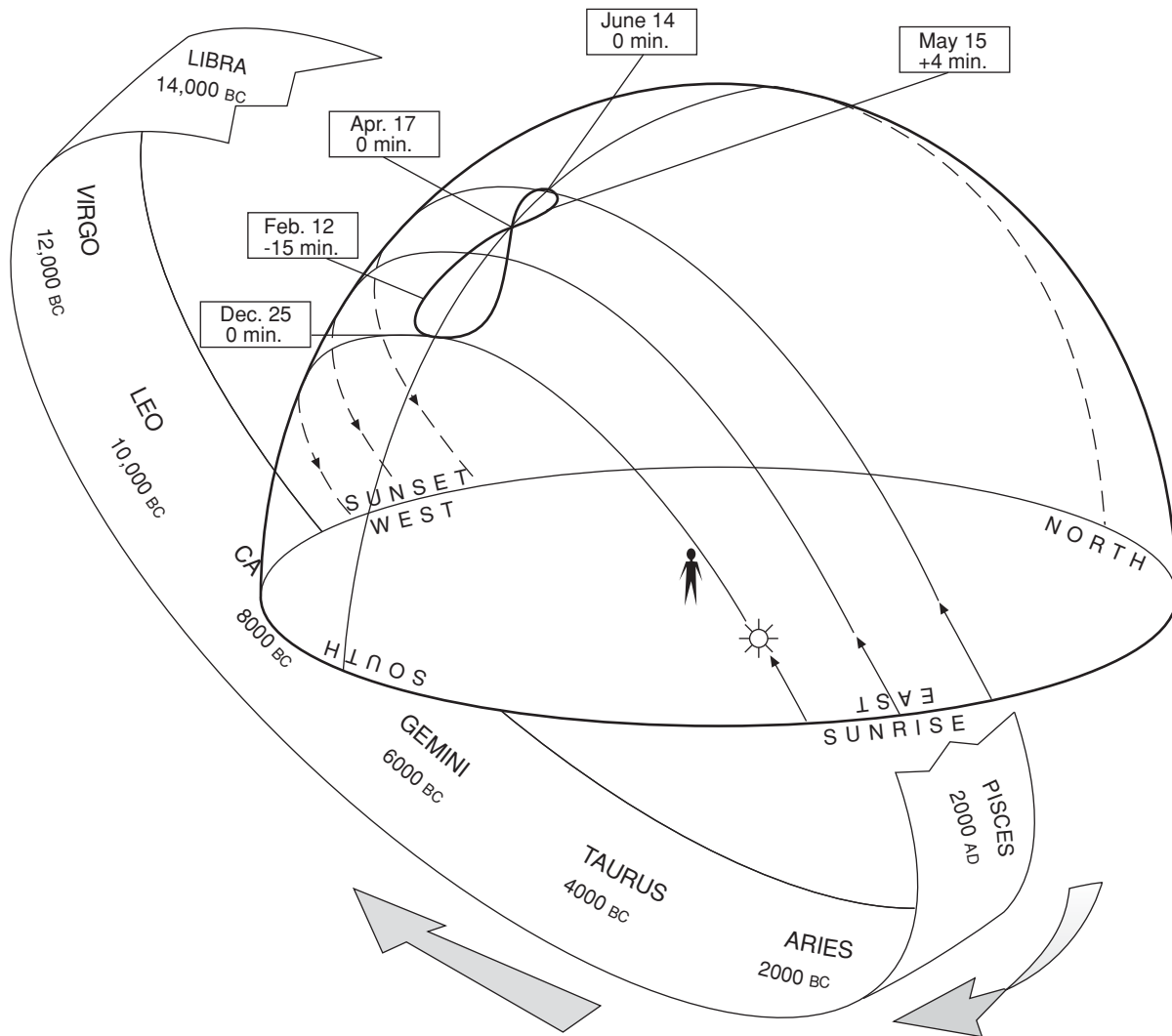
Money supply and economic growth

So that in order to *increase* the monetary supply, you have to *decrease* the payments to the real economy, by discounting. Therefore, there's a relationship between the source of growth of money, and shrinking of the economy. Without shrinking the economy, money supply can't grow. *Therefore, the contraction of the physical economy is related functionally to the growth of the monetary output.* The financial output is based, not on profit, because there is no real profit in the economy. None at all. You have a shrinking economy. You don't have a profit, if the economy as a whole is shrinking—not a real profit. You have a fictitious profit. Therefore, where does the money profit come from, on financial instruments? It comes from speculation.

How does it work? You don't buy a building for what it takes to build the building. We saw this in the real estate system in New York City years ago. The price of a building was generally determined as a multiple of the annual rent. If you could increase the rent of the building, while letting it go to hell by non-maintenance, you would increase the value of

FIGURE 18

The apparent motion of the Sun, relative to an observer on Earth



This diagram shows the sky and horizon visible to an observer in the Earth's Northern Hemisphere. The apparent path of the Sun reflects three astrophysical cycles, each with its own curvature (actually, there are many more, but we limit ourselves here to three):

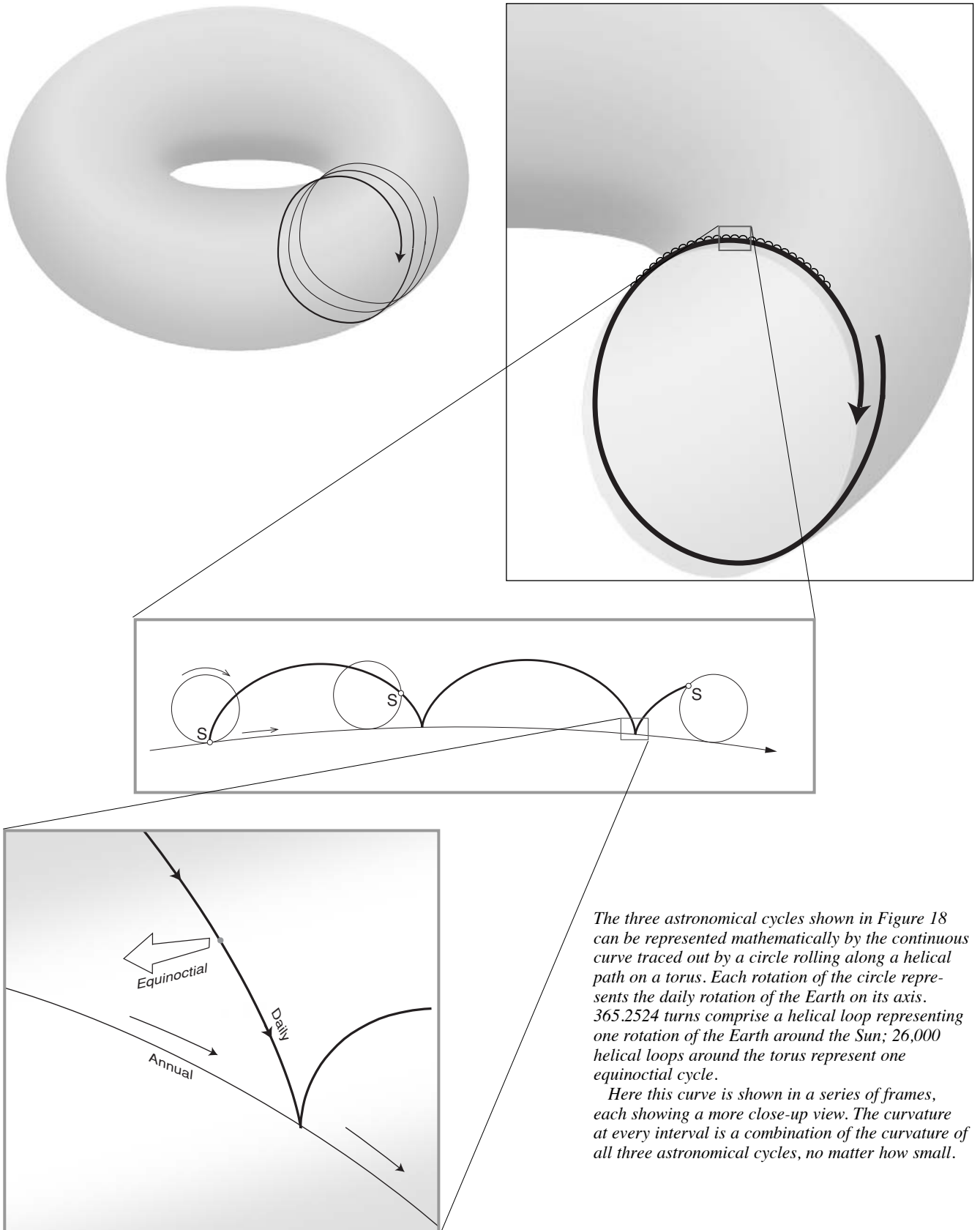
1. The daily, approximately circular rotation of the Earth on its axis. The observer sees this as the Sun rising in the east, traversing an arc in the sky, and setting in the west.

2. The annual elliptical orbit of the Earth around the Sun. This is reflected in the observed change in position from day to day, of the position of the rising and setting Sun and the arc between them. Over a year's time, an observer sees the Sun travelling low in the sky at the winter solstice (the southernmost of the three daily paths depicted here), climbing each day higher, through the vernal equinox, and reaching its highest point at the summer solstice (the northernmost of the three paths), then descending again, day by day, to the autumnal equinox, and back down again to the winter solstice. These seasonal changes reflect the fact that the Earth's axis is tilted 23.5°. The figure 8 (or "analemma"), drawn here on the meridian (noon) line, is a reflection of the ellipticity of the orbit, among other factors. It shows the displacement of the Sun from the actual meridian on a given day at noon, standard time (adjusted for one's position in the time zone). The fact that the Sun is sometimes ahead of the clock, and sometimes behind, in reaching the sky's mid-point (as much as 15 minutes either way), reflects the fact that the Earth travels faster, in its elliptical orbit, when it is closer to the Sun.

3. The equinoctial cycle, or "precession of the equinoxes," is reflected in the observed change in the constellation in which the Sun appears to rise. This is shown here by the apparent rotation of the band of zodiacal constellations. (Currently, the Sun is rising against the background of the constellation Pisces). As the Earth rotates on its axis, the orientation of the axis itself rotates, in a cycle of about 26,000 years. Thus, the North Pole Star is now Polaris, but about 13,000 years ago, it was Vega.

FIGURE 19

Curvature of the astronomical cycles 'in the small'

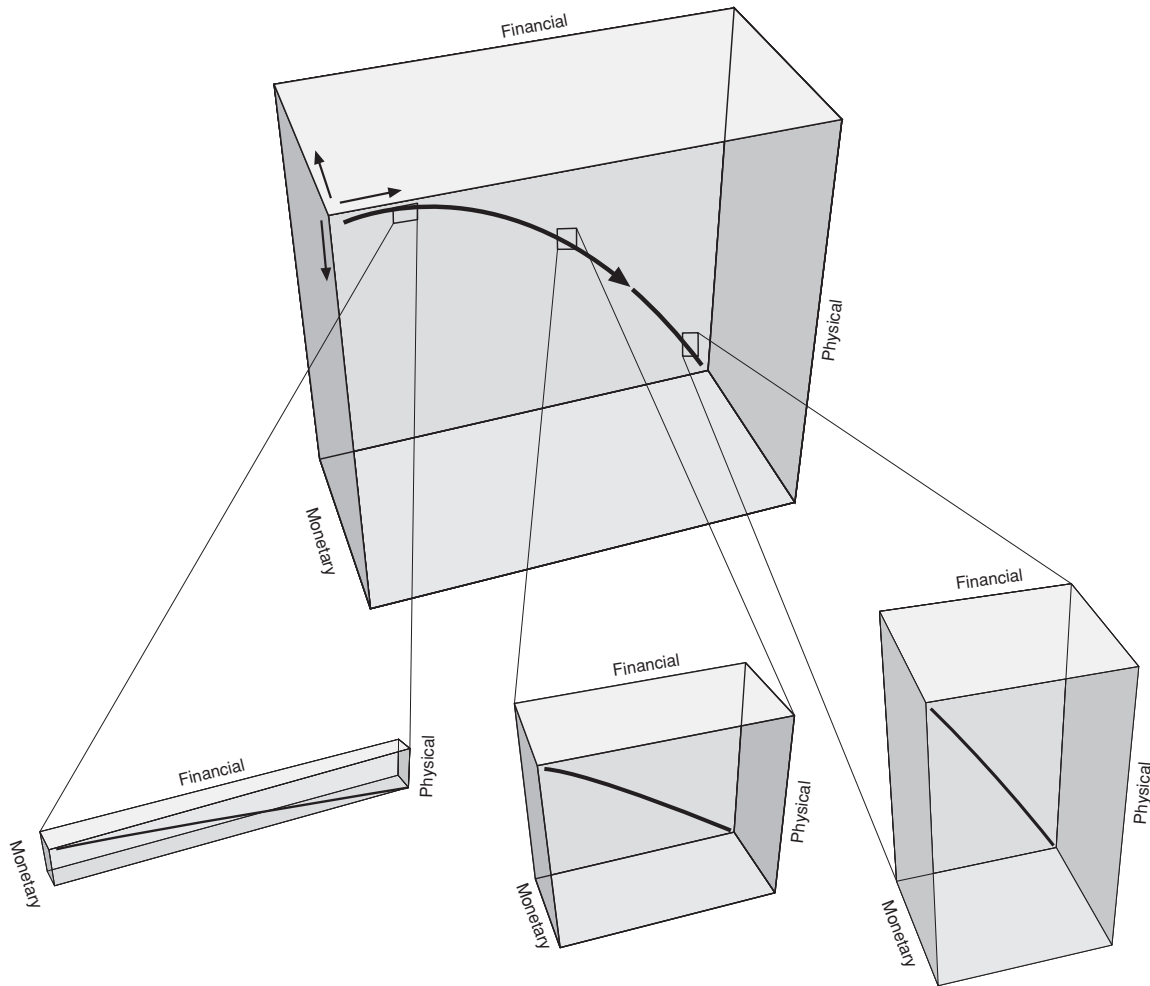


The three astronomical cycles shown in Figure 18 can be represented mathematically by the continuous curve traced out by a circle rolling along a helical path on a torus. Each rotation of the circle represents the daily rotation of the Earth on its axis. 365.2524 turns comprise a helical loop representing one rotation of the Earth around the Sun; 26,000 helical loops around the torus represent one equinoctial cycle.

Here this curve is shown in a series of frames, each showing a more close-up view. The curvature at every interval is a combination of the curvature of all three astronomical cycles, no matter how small.

FIGURE 20

Three-way curvature of the 'typical collapse function'



When the three curves of Figure 1 are plotted on one three-dimensional axis, a curve is generated which combines the curvature of all three. As in the case of the astronomical cycles, the combination of all three curvatures is present in every interval, no matter how small.

the building. Therefore, the value of the building was the profit you could extract from it as financial profit. Therefore, if the building gave you a 10 percent yield, then the building was worth 10 percent, based on 10 percent of the yield, a multiple of that. So, you would buy the building based on buying the annual rent. In other words, for 10 percent, you would expect, for \$10,000 annual rent, you would pay \$100,000 for the building, or for that portion of the building.

So, even if the place was collapsing, that is how you got a system where buildings in Manhattan, in central Manhattan and lower Manhattan, which were functional in their condition, would have much lower rent than a housing unit in Harlem, which was decaying, and degenerating. Because the nature of the turnover is the rate of profit; or the rate of yield on the rent of the Harlem building was much greater, even though the place was disintegrating. And that's the way the system

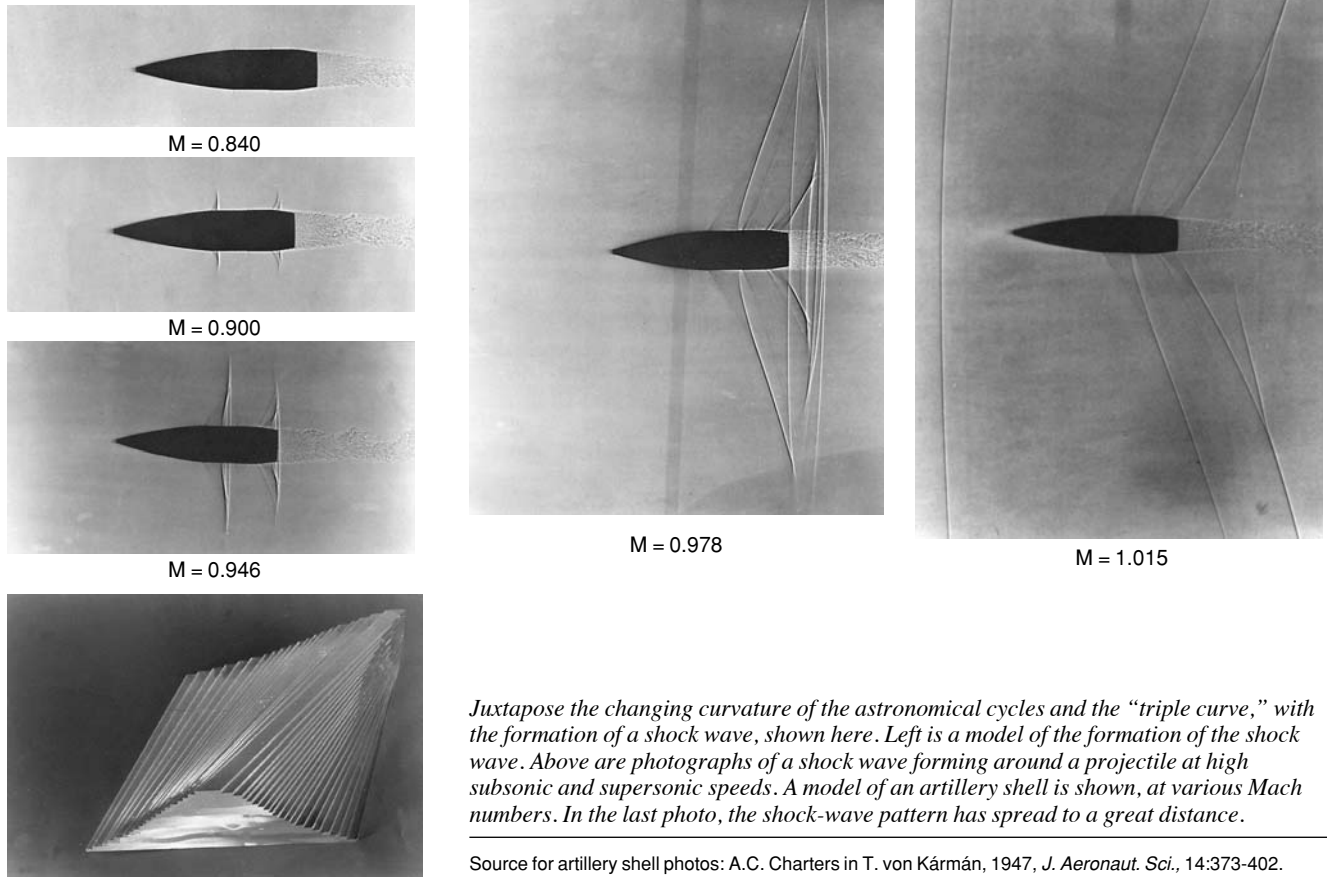
works. It's called *financial leverage*. It's called a *price-earnings ratio*: The capital value of the asset is a multiple of the price or the earnings you expect to get. The price is a multiple of the earnings.

What happens, therefore, is that what you're doing, is maintaining the system, by what? There is no increase in real income in the economy, there's only an increase in nominal profits, which are called fictitious or financial capital gains. So, people are buying into financial capital gains, which means that you have things that have no relationship to any real value, real physical value; these things are zooming in price. And, in order to maintain that system, you have to have a buyer for the earnings. If you don't have a buyer for the earnings, then the asset collapses. Therefore, you have to keep pumping money into more and more of these fictitious assets.

For example, a few years ago, one of the spectacular

FIGURE 21

The formation of a shock wave



Juxtapose the changing curvature of the astronomical cycles and the “triple curve,” with the formation of a shock wave, shown here. Left is a model of the formation of the shock wave. Above are photographs of a shock wave forming around a projectile at high subsonic and supersonic speeds. A model of an artillery shell is shown, at various Mach numbers. In the last photo, the shock-wave pattern has spread to a great distance.

Source for artillery shell photos: A.C. Charters in T. von Kármán, 1947, *J. Aeronaut. Sci.*, 14:373-402.

cases: You had companies that were buying up, forming corporations to do business in collecting uncollectible credit-card debt. These companies would then issue stock in the company whose business was to collect uncollectible credit-card debt. They would go to a credit-card company, buy up its accounts, like a credit account, to collect on the uncollectible balances. They created a corporation, for which they floated stock, for that business. On the basis of the expectation of the earnings on the stock of that company, the stock would then acquire a price-earnings value. And they would sell that stock on the market. And then you would get complications beyond that.

So, what we’re dealing with, is largely hot air. So you have three functions here. The financial growth is dependent upon the monetary expansion; the monetary expansion is based on the decrease of the physical expansion: The three things are related. It’s just the same thing, is that in the very small, when you’re comparing a one-day observation of the Earth’s rotation, you’re looking at one-year orbiting of the Earth around the Sun; you’re looking at 25,200 years of the Earth going through an equinoctial cycle. And all of those things are happening to you, on the place you’re standing, when you think you’re watching the sunrise to sunset.

Curvature in the small and in the large

Take this area, the middle figure here (Figure 19). The curve on the bottom represents the ecliptic. This is the elliptical path of the Earth. So, on that, you have a curve, which is called an epicycloid, which is the image of the Sun appearing to orbit the Earth. But, instead of being a cycloid on a straight line, it’s a cycloid on an elliptical orbit, which makes it a more complicated curve.

Then you have, going back to Figure 18, you see the figure eight there, up there between the curves? This is the kind of motion in the very small which is determining how you are actually moving.

In short, if you know how something is working in the very small, can determine its curvature, the complexity of its curvature in the small, then you can estimate the nature of the system in its overall characteristics.

Let’s go on to **Figure 21**. What you’re seeing here, is a Riemann curve. It’s called the shock-wave curve of Riemann, 1859. This shows the effect of that. What Riemann did, was to, say, take an open chamber filled with air, a cylinder of indefinite length. Take a projectile inside the cylinder, and accelerate that cylinder up toward and past the speed of sound. And what do you get? So Riemann defined what’s called a

shock wave, which we're very familiar with from the days of supersonic jets. Or a bullet: You hear the crack of a bullet. If the bullet is supersonic, then you will hear a sharp crack from that bullet, because it's supersonic. This is an example of the curve. The figure down below is an example of the kind of curvature of this Riemann wave.

If you can find the characteristics in the very small of something, you can then determine what the characteristic of it is in the very large. For example, how could a people in a Vedic culture, living in Central Asia between 6000 and 4000 B.C., how could they determine a 25,200-year cycle as the equinoctial cycle? They estimated it at about 26,000 years. But how could they do that? Did they observe it for 26,000 years? Did they observe it for 25,200 years? No. But by observing things *in the small*, if you measure them accurately enough, you will find, in the curvature, something that tells you what the process looks like in the large.

What is an idea?

We have an example of this in the transition from Egyptian to Greek Classical art. In Egyptian art, the statues of that period—and Egypt was a mother culture for much of the Classical Greek culture; that is, much of Greece obtained its foundations of its culture from Egypt, Archaic Egypt. Now, if you look at the sculpture in Archaic Egypt, you will see the sculptures are based on tripods. The figures are fixed. They look like tombstones, bad tombstones. They're rigid. They seem super-stable. When you get to Greek Classical art . . . you see the figures are off-balance. They seem to be off-balance. They're not on simple tripods. What they force you to do—The Greek Classical art, unlike the Archaic art, Archaic Greek or Archaic Egyptian art, forces you to see an *in-betweenness*.

For example, take the case in modern, or relatively modern Classical art. Leonardo da Vinci did a famous painting, "The Virgin of the Grotto," in which there are two sources of light depicted in the painting. One is the light of the sun; there's another light, equally strong. And, therefore, in understanding this, when you look at this painting, the mind is forced to say, "How do I reconcile what Leonardo did?" It's like a world of two suns: one light, the sun; another light. And the two lights are defined in a very ingenious way.

You find the same thing with Raphael Sanzio, in the Vatican Apartments, where he painted these famous frescoes. And you find that you have to stand in two positions to see the fresco. You see one thing when you stand close to it at a certain distance, and if you go another discrete distance away from it, to see the thing as a whole, you see a different picture. The mind must put these two contradictory images together. You see the same thing in the museum, with the so-called "Transfiguration" of Raphael Sanzio. If you look at it closely, you get one image; if you stand back, you see the transfiguration, a completely different image. The mind must put the two things together. This is called *ideas*, and that's what we want to get to here: *ideas*.

FIGURE 22

Sense-perception vs. ideas

Anything which can be described as a fact experienced by means of the senses is not an *idea*.

Ideas are principles of nature, whose validity is proven by those methods which are typified by a successful scientific demonstration of an efficient physical principle. There are two classes of such ideas: The first are ideas corresponding to validated principles of physical science; the second are ideas corresponding to a proven principle of cognition.

I've written it out, and put it on this form (Figure 22). What the Greeks mean by an idea, and the difference from the Archaic art, is that the Archaic art represents a sense-perception. The Greek Classical art, or the paintings by Raphael or Leonardo da Vinci, represent *ideas*. There's a difference. One is an image based on the senses, which is what you get on television, isn't it? Television entertainment is based on no ideas, but sense-perception: blood, violence, and sex. You see it, you feel it, you sense it: "Man, that's *real!*" But it's not.

Whereas, an idea is something else. The term "idea" means a principle. For example, the common case of a principle is a scientific principle. The idea of gravity. Did you ever "see" a gravity? Did you ever actually *feel* one? No, you didn't. You may have thought you did, but you didn't. Did you ever see a principle of nature? Did you ever shake hands with it, smell it, lick it, touch it, sniff it? No, you didn't. But, these are ideas, and they are valid, and they tell us something. They tell us that principles control the universe. Something you can't smell, you can't see, you can't touch. You can't lick it, you can't taste it, and yet it controls the universe. It's called a principle. It's called an *idea*. All art, great art, is based on ideas, which have nothing to do directly with the senses. *Artistic ideas come from contradictions in the senses, as Classical art comes from dissonance, from contradictions, from the development of forcing you to find an idea, to find an irony, a metaphor, an idea. Scientific principle: ideas.*

This is where we get to the part about the difference between monkeys and people.

Next, the four steps of cognition (Figure 23):

Step 1: Posing an ontological paradox (metaphor)

Given, for example, an established mathematical physics. Some newly considered array of physical evidence is shown to exist, but which should not exist if the established mathematical physics did not contain some crucial falsehood. Since, in the normative case, both the established old mathematical physics and that newly considered evidence which refutes the old physics, are equally well premised in the faculties by which we determine empirical evidence, the contradiction

The four steps of cognition

Step 1: Pose an ontological paradox (metaphor).

This is representable.

Step 2: Discover a validatable solution.

This is not representable.

Step 3: Identify the principle of solution.

This is representable.

Step 4: Design a proof-of-principle experiment.

This is representable.

between the old physics and newly considered evidence represents what we term an *ontological paradox*.

In the domain of Classical art-forms, the same quality of paradox is identified as a Classical *metaphor*.

This first step of the process is representable to relevant onlookers.

Step 2: The discovery of a validatable solution

Through intense concentration, the mind of some individual who has been confronted with the ontological paradox, generates a newly discovered idea of a principle of nature, together with an ensuing preview of the means by which this newly discovered principle might be validated.

This second step of the process occurs behind those opaque screens which hide the cognitive processes of the individual from the sense-perceptions of onlookers. *The efficient action within this step of the process is not directly representable to the onlookers.*

Step 3: The argument for the principle

On the basis of completing Step 2, the individual who has discovered a validatable quality of new principle identifies that principle in terms of both the ontological paradox referenced, and the proposed tests by means of which the notion of the principle might be validated or needed corrections indicated.

This third step is representable.

Step 4: The design of the validating experiment

Step 3 leads toward the process of successive designs, as if recursively, of experiments, or equivalent forms of observation, by means of which: (a) the proposed new principle is demonstrated to be an efficient one in the universe, and (b) additional characteristics of the new principle's relations to other principles may be adduced, and, hopefully measured to the desired degree of refinement.

This Step 4 is representable.

There are four steps to forming an idea, and I've reduced it to the form which occurs in science. In science, you have, as we have this contradiction, this ontological paradox, this

difference between the image of an economy, from the standpoint of money, from the standpoint of financial accounting, which is fraudulent. But they still collect bills on that basis. Then you have the other conception of economy, which is based on physical production, and things which are essential to physical production, such as education, health care, and science services. So, you have two images of economy. The fact that the two somehow intersect, means that there's an *irony* here, there's a contradiction, there's a metaphor; and you've got to explain that metaphor, to understand how an economy works.

Or, there's another thing, which is that you have a principle in so-called physics, or mathematical physics, called *entropy*, which says, in effect, that any mechanical system will run down. If an economy is a mechanical system, and all financial accounting is based on mechanics, the principles of mechanical interaction, how can you have a financial system which generates profit? How can it? Every system, mechanical system, if it continues long enough, runs down. Now, if something runs down, how does it produce more? Every mechanical system always produces *less*. Therefore, by definition, no economy which corresponds perfectly to a financial accounting system, could possibly have a profit.

And yet, if we look at the history of mankind, we find that mankind, whose potential population density on this planet, as approximating that of an ape, was never more than 3 million people on this planet; if mankind were an ape, which is what Prince Philip claims to be, then at no time could there have been more than several million living human individuals on this planet, in the past two million years of the ice ages. *At no time*. That's the ecological potential of an ape, or an ape-type species.

How did we get to several hundred million people, living individuals on this planet, during the medieval period? How did we get to 5 billion people on this planet recently? Obviously, we're not apes. Obviously, we grow. This growth in population depended upon technological progress of various kinds, also artistic progress. Man's increased power over nature depended upon the growth of income, standard of living, lessening morbidity rates. You can't educate a child to the age of 25 if the parents are dying of morbidity rates, at the age of 30-35, can you? You can't maintain such a society. Therefore, there had to be more. There had to be improvement, there had to be increase. This is no entropic system; this is no mechanical system; this is no financial accounting system. It doesn't explain anything.

There's some source of some increase of man's power over nature, which intersects the process of production, which accounts for this progress. And, that's what we're dealing with. Man can do something that no animal can do: Man can discover science, technology, and art, can invent and discover ideas and principles, can apply these principles to human behavior, including production, and can increase man's power over the universe.

How does that happen? It happens in the small, as in this physical business. It's like the people in Central Asia, who, by observing small aberrations in the very small, discovered an equinoctial cycle in a fairly short period of a few generations, by measuring very small changes, and came up with an estimate of about 26,000 years for the equinoctial cycle, which is not bad, considering the methods used, available at the time. Small things.

We find there's something missing, something missing in what we believe. What we believe is not true. There's something else going on here. And we can measure, we can see, we can *see*, like this contradiction between financial accounting [and reality]. In financial accounting, if you're consistent, you can prove that it's impossible for any economy to have a profit. Impossible! But we do; and real profit. We've had growth of mankind, increase of life expectancy, improvement of family relations, increase in population, increased productivity per capita. This is *more*. Mankind can produce *more*, human economy can produce *more*, and that is the real physical source of profit. *More*. Better. We used to understand that: more and better, more and better, more and better. That's what we used to think.

Now, how do we get that? We get that—by what? By technology, essentially, on one side. By discovery of principles, such as the principle of the equinoctial cycle, which, in a span of a few generations, is a very, very small difference in observation, particularly when you're using sticks and stones to do astronomical observations. But somebody *discovered* that, in the small, and discovered there was something wrong, in the way in which the universe was being considered, and recognized a principle, and came out of that with a new cycle, the equinoctial cycle discovery.

And, by those methods, mankind has discovered many things. And, by absorbing these things we've discovered, we change man's relationship to nature. We increase our power over nature. And then someone says, "Is that what you mean by man in the image of God?" Yes. *Every person is born with the cognitive ability to make these kinds of discoveries*. Not only original discoveries, but discoveries original to them.

And a good educational system, what does it do? In a good educational system, what does the child do, as a student? A child, preferably in a class size of not more than 15 to 17 students, is presented the opportunity to re-enact an act of discovery made by some person, say some Greek, 2,000 years ago, or more. The child re-enacts that discovery. The child is then very happy, when the child has made that discovery. And the child's education, if done in that way—it's the way you teach music, isn't it? You re-enact discovery, you re-enact compositions. You rediscover. Humanist education: this re-discovery of ideas, so that when a child becomes mature, gets out of secondary school, goes on, the child now knows many of the original discoveries. *The child has, in effect, re-lived the mental processes, the act of discovery in the mind of some great genius 2,000, 2,500, or hundreds of years ago, so that*

the child knows the inside of the mind of that person—and that person by name, usually, better than they know their next-door neighbor, or members of their own family, in many cases. "I can understand Galileo, I can understand Archimedes, but I can't understand my mother." [Laughter.] And the mother says the same thing about the child.

So, this re-enactment. That's what we're dealing with here. So, you pose an ontological paradox. You present an impossible situation. You say that what we have believed, is obviously wrong. Why? Because the basis of evidence on which we believed it, shows us that that doesn't work that way. There's something else working. So, now we set out to solve that paradox, to change what we believe about the universe, to introduce a new principle.

We go to Step Two. So, you take the little kiddies, 15, 17 kiddies in this classroom, and you take them a problem which they're prepared to understand. They're prepared to recognize the nature of the ontological paradox, such as the paradox between the accounting system, the financial system, and the physical system. And you say, "What's the difference? How can you get more showing up in an accounting system, when an accounting system can not generate more, an economy based on accounting can not generate more. It's only entropic. There must be something else here." Yes, there is. The "something else," is Step Two.

The minds of those little children, presented with that problem, if they're encouraged to do so, those children will re-enact the discovery of a principle. And the faces of two or three of them will light up: They've understood something, they've recognized something. They're not quite sure what it is yet, but they know they see, they think they see the answer. They begin to talk about it. Then they discuss, well, do they agree? "Hey, we have the same idea," they say. "*We have the same idea.*" They can't describe the idea yet. They can't describe how they got it, but they know they have it. Something went on in their head, and they've discovered something. They think they see something. One looks at the other: "Yeah, I see! I see what you mean!"

Then they begin to figure out, how can they describe the effect of what they think they've seen to the others. Then they say to the teacher, "Well, how can we prove this? How can we test if we're right? Is this the solution?" Then, the step of solution.

So first, you pose the problem, the crisis. Secondly, you take these little minds, which are encouraged to do so in a class that's not too large, so you can have a lot of interaction among the pupils, and you get them involved in the act. One, two, or three of these dozen or so students, begin to think they *see* something. And it gets sorted down to where some of them have actually seen something, with a teacher who's intelligent, who doesn't over-intervene, but encourages them to really discover something on their own. Once they think they've discovered it, and two or three of them think they've got the idea, now you go to Step Three, which is to try to get

the child to understand a way of expressing what they think they've discovered.

How do you do that? Well, they go back to the original problem. They say, "I think I see how this problem can be solved. Because I think what there is, is there is this here." And so the teacher says, "Well, what would you do? How would you prove whether that's true or not? How would you test it?" And that comes to the question, for example, of experiments, doesn't it? And you design an experiment. And what do you demonstrate? You demonstrate that in nature, there is a principle operating, which produces an effect which is *undeniable*, which is *consistent* and *undeniable*, but which you didn't know existed before. It's an idea. The same thing as in art.

Classical tragedy: the case of Hamlet

For example, let's take the case of Shakespeare, Shakespeare's *Hamlet*, which I've used often. What is Hamlet? Hamlet is a swordbuckling macho. He's stabbing people, runs his sword through the curtain, doesn't even know who it is behind the curtain, and he runs his sword through Polonius. He just stabs him, kills him. Out there chopping heads off in war. He's not a Laurence Olivier. He's a real actor. He's not a mumbler.

So, he comes into a situation, and, in the opening scene, a ghost tells him, apparently, what happened. And the ghost is right. But he becomes — He thinks he's heard voices, he's getting all kinds of mysterious messages, and so forth, and he's going through this terrible thing, like these swashbucklers do. They're terrible mystics and gnostics, if you give 'em a chance to do that. Chopping throats, chopping off heads, and so forth.

But then, he begins to see; in the second act, he begins to see where his problem lies. "O what a rogue and peasant slave am I!" That he has no *passion* for a cause. Then he gets into this business with the play: "The play's the thing, wherein I'll catch the conscience of the king."

Then the next act comes in. He comes wandering in. "To be or not to be. That is the question." What is he saying? He's saying, "I could react to this situation in my customary way. If I were to do so, I would probably die, and be doomed. *But*, if I were to act in another way, I would be acting in a way with which I'm unfamiliar, with unpredictable, unforeseen consequences. It's better to die my way, than to risk that."

This is like our government right now: *The Clinton administration is Hamlet in reality*. Yes, they're not stupid, they're not as stupid as many people are. They know that they're in a big crisis. They know they're in a systemic crisis. They know this is not a cyclical crisis. They know this is doomsday stuff. But they say, "Yes, but we are *unwilling* to attack this problem by methods which are unfamiliar to us. We have to find a situation where we can act *according to our standard*, not some strange standard to which we're unaccustomed."

Metaphor, isn't it? All tragedy is like that, all Classical

tragedy. What does it do? It presents a problem in which man is going to fail. Why is he going to fail? Because of his existing culture, and habits, and belief. But then the tragedy presents — which makes it a great tragedy — the tragedy reveals that there is an alternative, and this character, or the people involved, are confronted with the reality of this alternative. And they invariably *fail* to act upon it, and they invariably are destroyed. By what? By their own immorality, by their own customs, by their own habits. Which is what's destroying the United States now. We are being destroyed by what we have become accustomed to believe, what was called "mainstream thinking," otherwise known as the sewer pipe, the sewer pipe that leads directly to the cesspool of history.

So, that's what we're dealing with. We're dealing, in art, with ontological paradoxes. The *function* of art is to give us *passion*, *passion over these issues of ideas*. It gives us morality, by giving us *passion for truth*, *passion for justice*. Without art, we are as nothing.

We had a Polish scientist who was at a conference at Bad Schwalbach, and we were just talking, and then he popped out with something which was very familiar to me, but he just popped it out, and said, well, his creativity, his scientific creativity, has always depended upon Beethoven. And anyone who's done scientific work knows that. Without Classical music, you don't get great modern scientists, scientific discoveries. It's impossible; because you have to mobilize. To concentrate to solve a scientific problem, you have to mobilize, within yourself, a *passion* by which you can sustain the concentration to solve the problem, like the little kiddies, the little kiddies in school, before they're destroyed by support groups and whatever.

These little kiddies: The trick is, when they make a discovery, is what comes over their faces, is *happiness*. The light turns on. You can practically see the light from within shining out from inside them. And they look at each other, they see the light shining out. It's the great joy of people who like to teach children, is to *turn that light of happiness on in that little mind when it makes a discovery*, has an insight, a human insight or a scientific insight, or the equivalent. And that's what the point is.

Take the paradoxes which challenge our existing belief, the belief that will *destroy* us, if we don't rid ourselves of it and overcome its limitations. And take that, and reduce it to a form. Mobilize the passion to do that, and say, "I'm going to think this through, until I see the solution. I am going to *concentrate* and think this through." The ability to mobilize the mind for an extended period of time to work on that problem until the light comes on in the mind; and then go to work on it, what you've got: the insight.

That's what you do with tragedy. You get the audience involved in a great Classical tragedy. You get them involved. Their passions are aroused. They're concentrating on this business. They understand. When the great calamity occurs at the end, they understand what this is. And they associate

this with other things in their own life, and they say, “We must change.” The way Schiller developed tragedy. He saw the French Revolution, and he saw that the reason for the French Revolution’s atrocity was that the French people were so *immoral* that they could not produce a healthy change in their own society. *Because the people were immoral.* And the basic thing is *to make the people moral. It is the people who bring about their own tragedies, not a few bad leaders.* And the people have to discover morality in themselves. They have to get rid of bad habits, bad entertainment, bad art, bad education, and get these conceptions. First step. And once a child has understood that, or even an adult has understood that, *the joy of discovering the truth*, which is what Plato called *agapē, the passion for truth and justice*, which forces us to attack existing belief when existing belief causes us to depart from the way of truth, the way of justice. Passion for truth and justice.

The happiness of creative discovery

When the little kiddie is given a good education, and the light turns on in the child in the small classroom of 15 to 17 students; when the light turns on— Remember, some of you had classes like that, where the class was good, because the light turned on in your mind, and in the minds of many of the other students. And you carried that through all of life. Despite all the bad teachers, and the bad classrooms you had, you had these experiences, where the light turned on. And you knew that was happiness. And you achieved the happiness by doing this, by solving problems, by concentrating on problems, when you would say, “I’ve solved it! I’ve solved it! I’m happy! I’m useful! I belong to this universe!” And so, that’s the first step.

And, to get to this second step—once you’ve got the habit of getting to the second step, which is what the real function of education is, you’re almost there. Now, if you can socialize that, and turn the insight into a form where it can be tested: proof of principle of experiment. The same thing is true in science, the same thing is true in art.

Some of you worked for a living, I presume, some time in your life. I mean actually worked. And, most work had an aspect of drudgery, or it had something which frustrated you, something that made you unhappy. It had to be fixed. “This is wrong. This is not the way to do it. There must be a better way to do it.” Right? And you worked on those problems. And you had fun.

You used to find, in the old days, back even in the postwar period, the suggestion boxes of the factories, especially where you had fairly skilled people working in these places, the suggestion boxes were filled with some very ingenious ideas, which were worked out by people largely in their spare time, who were ordinary working people, who actually would go through, with their friend and so on, and they’d work through, and they’d really work through a problem, and they often would come up with something quite valid, in the application

of technology. That is the essence of the matter. And you would find that the workman who did that, was a happier person, and a better person to know, as a thinking American. A better person to know, because they had morality, because they believed in making things better. So, that’s that. And the other part is the art.

So, what we’re dealing with here in mankind, is that the basis of economy is what? It’s discovery, discovery of ideas in this sense. Two groups of ideas: One, the ideas we associate with science and technology. On the one side, principles of nature, the discovery of a principle of nature, which is like the discovery of an equinoctial cycle. A new principle which enables you to understand and master the universe in a new way, the kinds of things John Glenn has to know if he’s going to get into space safely. Then the other thing is technology. You keep applying these principles. You know a principle, you see a situation: “Hey, this principle applies here.” So, you have the application of technology to make things better, a known principle. It’s called technology. That’s the one side of the matter.

The other side of the matter is this thing, this Step Two, this uncanny, unutterable thing. When you’ve made a discovery, a real discovery as I’ve defined it, like a discovery of principle, re-enacting a great discovery from the past, for example, discovering, how did some Asian Greeks estimate the distance from the Earth to the Moon, and the Earth to the Sun? There’s a discovery involved in that. You’re re-enacting that. So, you experience that, in that and in similar ways. So, you know about this.

Can you describe the process which went on in your mind to produce this act of insight, whether it’s a scientific insight or an artistic insight? Can you describe that, in terms which can be represented? Of course not. Because words, language representation, uses sense-objects. And this takes you beyond sense-objects. You can’t communicate it, because you can not peek into somebody’s head and see thinking going on—especially in some heads in the Congress. But generally, that’s the case: You can’t see the mind working, doing that. You can *know*, because if you could experience the same thing, you know somebody else did the same thing. So, you have a kind of idea-object in your mind.

But you know that this difference is what makes you human. This is what makes you happy, as opposed to pleasure. *This is what gives mankind the most productive relationship to mankind, one person to another.* And thus, you find that Classical art is placed in a position above science. Why? Because Classical art deals with the question of how human minds interrelate in the process of discovery, including scientific discovery and artistic discovery. It’s through art, and Classical forms of art which deal with this question, with mankind’s morality, as you see in the whole history of art, in the emergence of poetry and all of these forms which we call art. You see the struggle of mankind to do this, in which he always finds a metaphor, or the equivalent of a metaphor,

poses it, and develops an *idea*. Not a sense-perception, not “just the facts, ma’am.” Not Sergeant Friday, but a real conception of an idea. And man then has an understanding of how you can bring together people, around ideas; because society, man’s ability to act together, is based on *acting on ideas*, not on suggestions, not on formulas, not on programs, not on recipes, but ideas. And thus, art is the highest form of science, because it is art which pertains to the mechanism by which we understand one another, by which we’re able to work together to collaborate, to apply science and its development to the mastery of nature, for man’s benefit.

The essence of economy

And, that is the essence of economy. It is the accumulation of these kinds of discoveries. On the one hand, discoveries which pertain to physical principles, the principles of the universe. And God has so organized the universe, that when we make one of those discoveries, the universe has to obey us. It’s called dominion over the universe. *We’re in the image of God, we’re made, each of us, in the image of God.* There are no races among human beings. There’s only one human race, which all has this one thing in common. We are made in the image of God by virtue of this power, which no other species has. *And, by this power, when we make a valid discovery, which we can validate, the universe is obliged to submit itself to our will, to obey us through that discovery.* Isn’t that beautiful? And, that is man; *that is man.* That is man’s relationship to the universe. And it is from that, that economy springs.

And you have people who say, “Well, we don’t want to educate people above their station. We want to educate people for practical purposes. We want to know what they’re going to *do* in life, and then we’ll give them that kind of education. We don’t want to educate them as human beings. We don’t want to educate them to know what it is to be a human being, in the sense of understanding science, of understanding art; to understand man’s relationship to man, man’s relationship to the universe.” Give me people who understand that, up to the level of art and science as we’ve known it so far, and you’ve got everything. You’ve got an educated person, you’ve got a civilized person, who can do all kinds of things; which we don’t have any more. We’re *destroying* them in our education system.

And yet, there are those who say we can economize on education, those who say it’s right to have both parents working two to three jobs in the family, to deny the children the nurture which comes from the relationship of ideas within the family. The family is the most important and first educational institution. And it’s the relationship, the agapic relationship among parent and child within the family, which is an essential part of the development of the moral character of the child. Not moral in the sense of “do’s and don’t’s.” You can print those on a blackboard. *But a moral sense of what it is to be a human being, a moral sense of why one generation does things for another generation.*

They say it’s not important to maintain a family standard. The White House says it’s fine for people to have three jobs to work. More jobs, the economy’s better off. *But who’s at home, minding the children?* What do you see in the hellholes in our ghettos of our cities, where people are being dehumanized, because there are no family relations? What do you see in marriages that don’t stick, because there’s no happiness in the marriage, there’s only pleasure? We’re a pleasure society, not a happiness society. The happiness of discovery, the happiness of beautiful things is denied to us.

So we have to look at the *totality of man, the totality of man’s relationship to man, and to nature. That’s economy.*

Remember, you’ll recall this (**Figure 24**) from the year before last. Laurence Hecht, who is reposing in prison for having done nothing wrong—that’s, I guess, the biggest crime you can commit these days. If you didn’t do something wrong, you really are bad. You’re not “with it,” shall we say, in this day of techno-dancing. For some years, he concentrated on this work of Gauss and Ampère, and Weber, Wilhelm Weber, which is something which had been brought to our attention some years ago, back in 1975, ’76, by a fellow who was later deceased, Professor Moon from Chicago, who, among other things, worked on the first Fermi pile in Chicago. And we were having a big fight with a lot of people then about inertial confinement. And I said, “It’s crazy, it’s absurd, it’s formalist.” And he said, “You’re right. You’ve got to look at Ampère, the Ampère principle.” So we got into this thing. And what Laurence did later, was to, with the help of Jonathan Tennenbaum and others, track down the exact work of Gauss and Weber on Ampère’s work, to demonstrate that there’s a principle in electrodynamics, which is not included in formal electrodynamics instruction today, which is called the longitudinal force, or the angular force. And to measure that precisely.

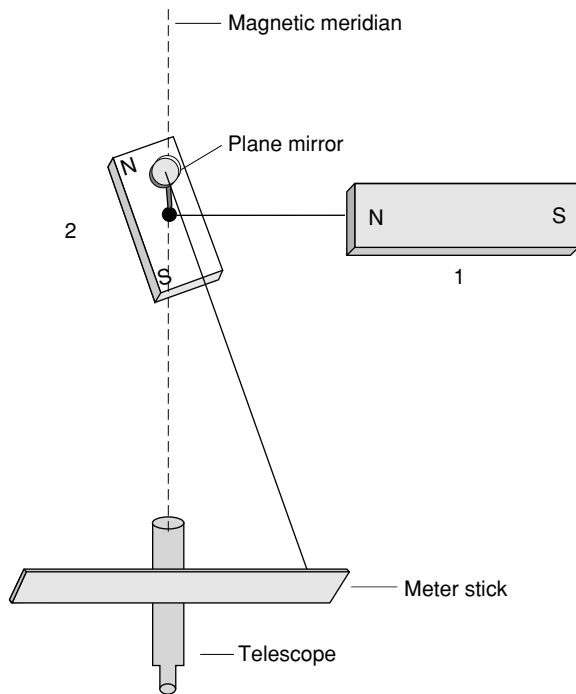
The education of ‘little angels’

So, this is what we’re talking about in economics (**Figure 25**): more personal time expressed in terms of what? Of the application of ideas to sense-perception. In other words, the ratio of idea-content to sense-perceptions, in your experience, is a measure of your cultural development. What does that mean? That means that if you’ve had, for example, a historically oriented humanist education in the history of science, mathematics, and so forth, a historical sense of the history of Classical art forms, an understanding of history from the standpoint of the history of ideas; and that if you’re looking at each thing that confronts you in life with that knowledge, proximate to what you’re doing, then *you have thereby increased the ratio of the density of ideas, that is, actual ideas, to sense-perceptions.* Whereas, an animal has—what? An animal has no ideas, and lots of sense-perceptions. Above that is a rock star, who has almost no ideas, and lots of sense-perceptions, until they burn the senses out of him.

So, that relationship: *more years devoted to education.*

FIGURE 24

Gauss's measurement of angular force



Source: 21st Century Science & Technology.

The 1830s experiments of Carl Friedrich Gauss and Wilhelm Weber, to test A.-M. Ampère's electrodynamic theory, led to the conception of the electron and the atomic nucleus, more than 50 years before their empirical confirmation.

Shown here is Gauss's mirror and telescope apparatus, which permits very precise measurement of the angular deflection of one magnet by another (Ampère had demonstrated that such an angular deflection occurs using two electric coils, thereby validating his hypothesis that magnetism is generated by an electrical current). A mirror is attached to the axis of the compass needle (2). A telescope is placed with its optical axis in a line with the magnetic meridian. In rest position, when the axis of needle 2 is aligned with the magnetic meridian, the mirror reflects the mid-point of the meter stick into the telescope. When the presence of needle 1 causes an angular deflection of the second needle (pictured), the resulting rotation of the mirror causes it to reflect a more distant part of the meter stick into the telescope. The very small difference registered is not admitted by the British school of James Clerk Maxwell.

More density of ideas means education. It means a certain kind of education. It means that the first thing in your program of economy is an educational system, and the educational system must give the human being a sense of being an angel. The little child must become an angel. The mother suspects that, but nonetheless, you've got to make it real.

A little child becomes an angel—how? By becoming a person who is visiting Earth to do a job. And they're visiting Earth from all time. They don't come from "some place in

FIGURE 25

Personal development expressed in inequalities

MORE personal time expressed in terms of development and application of ideas, relative to the time expressed in terms of sense-perception.

MORE years devoted to education.

A GREATER portion of time spent on social relations devoted to ideas and their development and application.

MORE leisure-time in the household devoted to ideas.

GREATER rates of new discoveries of principle of physical science and Classical art-forms.

time," they come from all time. To Earth. God says, "You're leaving Paradise today." "Oh, yeah? What am I going to do?" "You'll find out." [Laughter] "You're going to be born, and you're going to live a temporal life, but only for a short period of time. And you're going to perform a mission. But you'll find out what that is. And you're going to solve a problem. You're going to find out what that is, too. Then you're going to come back."

So, what do you do? You educate the child in that sense: The child must, to the degree possible, have a sense of being a person in all history, in the sense of *mankind as a process of development*. They must think of a link among all people who have made contributions in the past, whether in the invention or development of language, or whatever, as coming into the time that this child is going to come into this—that this little angel is going to descend into this temporal existence. And the child wants to come in with the sense, "Ah! I come from history!" How do you do that? You give the child an exposure to ideas, which represent discoveries of important ideas in the past in history. "I come to you from history." "What are you coming here for?" "Oh, to help future history. So I've come here to fix up the present from history, for future history." That's the first thing you require.

Now, the little angel knows that they're going to come and go, going to be born and die. But the little angel is happy, because that's what a little angel is supposed to do. He's supposed to come here, figure out what his mission is, make his own wings, if he's going to have any. Find out what the problem is, fix the problem, and leave. And the little angel is happy to be a little angel. So, the first thing you want to do, is you want to educate our children to be little angels by that method. The first requirement of economy.

Secondly, you want to increase the magnitude and the power of this little child, as it becomes an adult. More years of education. That means the parents have to live longer. If

you have a very short life expectancy, as you have in poor societies, you can't educate children for 15, 25 years of age. You have to have a long-lived, healthy population. You've got to develop the population. You've got to decrease the amount of time that you have to spend on menial labor. You have to devote more time to ideas, and their application. That's what human beings are all about. You don't want to learn how to do the same thing your grandfather did. That was your grandfather's business. That was *his* joy. You're supposed to do something else, something better. What, was he wasting time, that you're going to repeat what he did? No. So, you've got to devote more to ideas, to improving society.

You've got to have more leisure time in the household, or in equivalent parts of social relations, where people can be people, be human. You've got to increase the rate of discoveries and their application to society. Why do you go into space? Because it's there. Not because Hillary's there, but because it's there. Because you have to keep finding the new frontiers, you have to find out the new things that you haven't found out before, because mankind will need these things. So, if they're in front of you — if the mountain's there, you climb it; if the sea is there, you cross it. If the discovery is there to be made, you make it. And you're all happy because you did it. You don't have to know what the purpose is; you know the purpose is to make discoveries to make life for human beings better. And that's economics.

The inequalities of extended reproduction

How do you measure this? **Figure 26** is from an old textbook some of you remember. Now, we have a certain productivity per capita, per square kilometer. That involves a cost: You have to have a certain level of education, you have to have a certain level of culture, you have to have certain tools, and so forth. This divides itself into two costs: the cost of maintaining the individual person, and the cost of providing the development, the environment, the tools, and so forth, which are needed to enable that person to have that level of productivity.

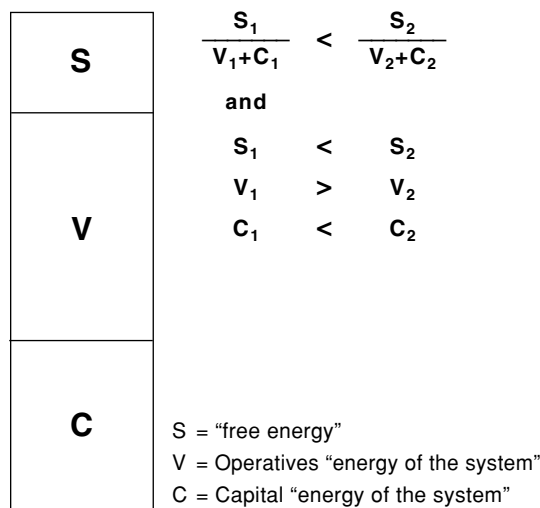
So, these are two things. These are called "energy of the system." One is operatives, the people who produce, who require a certain standard of living, culture, and conditions of work. They require certain conditions in society: transportation, infrastructure, agriculture development, land development, factories, all the things that go with it. So you have these two elements of cost: *V* and *C*. This is what it takes to produce at a certain level of productivity at the present time.

We want more; we just said we want more. So we have to produce more than we consume, to maintain that level of productivity, in terms of people, in terms of conditions of production, society in general.

There are going to be some changes. The changes follow a certain form, which I call anti-entropic. These are things that don't happen in mechanical systems. You have the surplus, or the free energy, the ratio of that to the combined costs. That's

FIGURE 26

Anti-entropy expressed as inequalities



the top line. And as you go from one cycle to the other, you must either increase, or at least maintain that ratio, because if it declines, your society is going to deteriorate. And you have certain conditions in that, inequalities we call them, that the surplus, or the free energy in the second state must be greater than it was in the previous state. The amount of labor required to produce the same result must be less in the later state than the earlier state. And the total amount of improvement which is required to make this possible, in terms of improvement of land, infrastructure, investment, energy density, all these kinds of things, will increase.

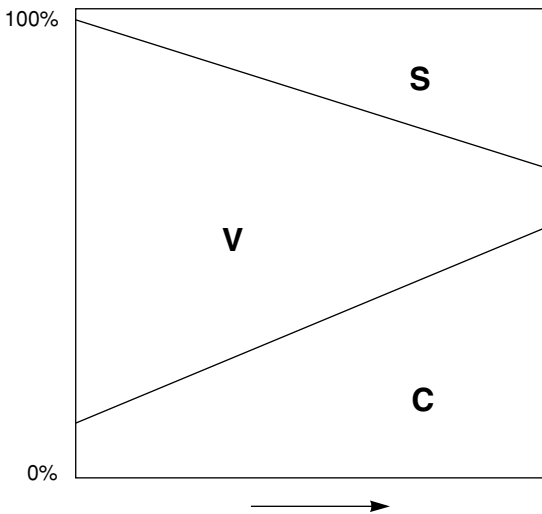
Now, in a closed system, which is of an entropic or mechanical form, this does not occur. The only place this occurs outside of society, is in living processes generally, that is, in the biosphere, biological processes in general, in which you have the same form. That's the nature of economy. And therefore, we invest, or we plan economy to produce that kind of result. That's our goal; not some amount, not some dollar amount.

In other words, you get a figure like this (**Figure 27**). Just historically, to put this in linear terms: Of 100 percent of the total inputs and outputs of society, the improvements in society, land improvements, capital improvements, are constantly increasing per capita. The amount of labor required per capita to produce the result, the same result as currently, is always decreasing. In order to maintain the ratio of free energy to energy of the system as a constant or improving, that has to grow. These are the requirements which an economy must satisfy, in order to have a true profit and true growth.

Modern society is really rather young. Until some hundreds of years ago, about the Fifteenth Century, the condition

FIGURE 27

Anti-entropy expressed graphically



of man, as far as we know it, throughout this planet, about 95 percent of the human race, in all stages of known, archaeologically known or historically known society, 95 percent were serfs, slaves, or, as under the Aztecs, worse. The condition in which man, the individual in society, was treated as human, because they were human, is a very recent condition, and one which has not been realized in full to this day. In former society, you didn't have nations. A nation in ancient society was not a nation in the sense we mean "nation" today. Nation essentially meant something like ethnic group or race, or language group. It didn't mean nation in the sense of nation-state.

The imperial model

In most empires, most societies we know of, from the past 8,000 years in particular, these societies were all imperial societies. The word "imperial" has a very specific meaning, which is not out of the Marxist lexicon; but the original meaning. "Empire" essentially means *an oligarchy lording it over a bunch of cattle called human cattle*. These human cattle were composed of so-called nations, or cultures, subjects. They lived as serfs, or they lived in some other indentured form. They were not treated as fully human. They did not have souls; not truly.

The societies were administered by a pagan pantheon. What they would do, is assign each person, each group of people, a legalized religion. I specify legalized religion: It's like legalized dope. In which they would say — There was no constitution in any ancient society, as in Britain today. There is no constitution in Britain; there never was. Never existed. The constitution in Britain is the Act of Settlement, where the oligarchy, under that tyrant, William of Orange, conferred the

monarchy upon the House of Hanover. It's called the Act of Settlement. That's the British constitution. Otherwise, Britain is a perfect empire, in the sense of Babylon. Just as the early Christians referred to Rome as "the new Babylon," so you can refer to Britain as "the new Babylon," or "the new Rome." It's in an empire, because it's based on a pagan pantheon, like Rome, like the Cult of Delphi at Greece, like the pagan pantheon of Babylon, in which you had groups of pagan gods, each one generally assigned to some group of people which constituted a nation or a culture.

The one thing the emperor must not do, or the tyrant, or whatever title he had, is, he must not offend the oligarchy, because he is the executive agent of the oligarchy. Therefore, he acts in their interests. Secondly, he must show respect for custom.

What is custom? It is the legalized aspect of pagan religion. That is, each pagan group is entitled to have their own ethnic religion, just as William James of Harvard, that pig, describes religion in *The Varieties of Religious Experience*. You create and synthesize a legalized religion, which is shaped and adjusted to manage the people. But you must show respect for that religion, just as the Romans did. The Roman emperor, and the Roman tribunes for him, had to show respect for the customs, the religious customs.

And that's what Britain is. It's an empire. It administers different classes of people, subjects. There are no citizens, they're all subjects. It lords it over a British Commonwealth which consists entirely of subjects, which is still under the British monarchy, the British Privy Council. They have legalized religions, which are administered by the Church of England, which is the first division of the Privy Council, the first division of the empire. The World Council of Churches, for example, is a branch of the British Church of England hierarchy. It's the one world government branch. It might be called the "William James Branch," because what it does, is to adjust religions, legalizes religions to determine what forms of religious belief are acceptable to this imperial system. And it tries to bring about changes in every religion it touches, to make it conform to this one-world standard, imperial standard.

So, that's what the world was like, and that's what Britain is like today. But Christianity was different. Christianity was the first case in which, in actuality, the individual, human individual was regarded in actuality as *each and all made in the image of God*. And the Christian apostles spread this idea, but there was a lot of resistance to it, naturally, from the various Roman empires and Byzantine empires.

And so, it was not until the Fifteenth Century that this idea actually began to assume political form: the idea of a nation-state in which every person was equally moral, in the sense that it was considered that each was made in the image of God. The power of cognition. That each should be educated, that each should have the opportunity to express themselves as, as I was saying earlier, an angel.

The first country in which this was actually practiced, in

approximation, was France under Louis XI. And, out of a long process, they came to the United States, because in Europe, the European oligarchies were so strong, both the landed aristocracy and the financier aristocracy, that the people of Europe, even the great patriots, could not successfully build a nation-state. The first nation-state, true nation-state established on this planet, was the United States, by a group of people around Franklin, who used the advantage of being remote from the aristocracy of Europe, including the financial aristocracy, to found the only nation-state on this planet which, so far, was founded upon a principle, a principle which is stated, that is, the principle of Leibniz, as stated in the Declaration of Independence, and the principle of the welfare clause, which is in the Preamble of the U.S. Federal Constitution. It's an instrument which is to be understood as Abraham Lincoln understood it, and as Martin Luther King understood it, understood Lincoln. *This is the first nation-state which, as its heritage, has a commitment on principle to form a state based on the principle that every man and woman is made in the image of God, by virtue of the power of cognition, and must be educated, and must be given the circumstances of life, political circumstances of life, which accord with that.*

In Europe, for example, you don't have real nation-states. Oh, you may have approximations of them; but they're not real, because you have parliamentary government. What is a parliamentary government? A parliamentary government is like a pagan pantheon. It's an accommodation between the representatives of the suppressed peoples, called the Parliament, and the executive, which actually runs the joint. So, what you have, is a compromise, under which the suppressed people are saying, "These are our ancient customs, O Overlord. You must let us have the rights to these ancient customs."

American exceptionalism

We in the United States, not merely because of the power of the United States, despite our wrecked condition today, but because of our tradition and heritage, have a unique responsibility, a moral responsibility on this planet. We're the only nation-state thus far which was formed and founded and dedicated to this principle, that every man and woman is made in the image of God, and that we must have a system of social relations, and law, which is based upon that as the fundamental governing principle of the nation-state. That is what the nation-state properly exists to enable.

Despite the fact that we have turned rotten at many times in our history; as we saw as the case with Lincoln's leadership during the middle of the last century, we see that, embedded in us, we have this heritage, this legacy, which we have found it possible to summon forth from within us, in certain times of crisis. It was decades from the time the United States had a patriotic government, until Lincoln was elected. From the time of the end of the administration of John Quincy Adams, we had no patriotic government of the United States. The Presidency was occupied by fools and traitors: Jackson and

Van Buren; the worst of them, of course, were Pierce and Buchanan, and, of course, our dear friend, who made the war with Mexico.

But, in Lincoln's time, decades after that, after all this evil that occurred, Lincoln was able to call forth the principles upon which the republic was founded, in a time of crisis, to rebuild the nation. Then we were corrupted again: We got Grover Cleveland. Grover Cleveland was a spawn of the Confederacy, a thoroughly evil man. And the fact that he could be elected, indicates that evil had taken over the country. Teddy Roosevelt was a spawn of the Confederacy. He was our first Jim Crow President, and he fully deserved that name. He was a filthy character, an evil man, who got his job by assassinating his predecessor, or having it done for him. Woodrow Wilson, who, while President of the United States in 1915, *refounded the Ku Klux Klan in the United States, personally, from the White House.* Calvin Coolidge, who was no better. Hoover wasn't so bad, he was just a Republican, and that wasn't too good.

Then you had Roosevelt, who, in a time of crisis, was able to call forth from those of my generation, that same dedication as from Lincoln's time. As a matter of fact, you recall: If you studied in the northern states, in particular, how many of you of my age, or approximately that, say, in the eighth grade, learned the Gettysburg Address? How many of you went to war with the image of Lincoln in your mind? How many of you in that time looked at what we saw overseas, in the world around us, through the eyes of memory of Lincoln? How many of us identified our patriotism with Lincoln? And that began to end in about 1963, with the assassination of Kennedy.

The civil rights movement was energized—why? By my generation coming into the White House, in the form of Jack Kennedy. And Jack Kennedy, with whatever else he was, represented a *revival* of our commitment during the war, to deal with evil as we saw it in the world, the evil which Truman had allied us with, and the evil which Mr. Eisenhower did not want to deal with, because he had two loyalties, the United States and the British, and he was always conflicted on those issues.

So, we have this within us still. And I would hope that those of you who sometimes feel weakened because you're in your seventies, or sometimes older, realize that you are extremely important, and you have a resource in the fact that you have embedded in you, the ability to call forth that legacy.

For example, let's take my case in particular. I had a great-great-grandfather, who was born about the time of Abraham Lincoln, who became somewhat notable in the civil rights movement of the time, in running an underground railway station, north of Columbus, Ohio. This was a strong figure, who was associated with Henry Clay and others during his time, who was the dominant topic of the dinner table of any meeting of the family on the maternal side. So, from that time in the 1920s, when I was a boy, I had embedded in me a

knowledge of this man and his history, and the kinds of things that were done in his time and afterward; so that, today, as I approach the end of the century, in my own family, through my own internal family traditions, I span personally about two centuries, in terms of personal knowledge. I don't look that old, but I do span that, in terms of my childhood experience.

And if you think of yourselves, those of you who are older or younger, you can apply the same lesson: that you *do* have a recollection, you do have a knowledge of changes, cultural changes in this country. And therefore, you can reach back, somewhere in the process of your educational experience, you can reach back and tap, and find out, particularly if you've travelled abroad or dealt with foreign countries, as I have. You can compare. You can say, "Hey, we have something here, which we have betrayed, we have lost. If we call it forth again, it's a great power among us, and we have to do that, for the sake of humanity, at this time."

The grip of the financier oligarchy

What's the problem in Europe related to this? As a result of our isolation and weakness, we developed among us a treasonous crowd, which formed an American oligarchy, a financier oligarchy, chiefly, which consisted of Boston and Connecticut drug-runners, who became the so-called blue-blooded families. They couldn't get any red blood, so they had to get blue. Then you had the Manhattan bankers, who were typified by Aaron Burr, who were deliberate traitors to the United States. Burr, for example, Morgan, the House of Morgan, and others of that type, were outright traitors to the United States. And they still are so inclined to the present day. Then you had the southern slave-owners. And they were a real pack of things. I mean, a yellow dog would look down on them. A yellow dog wouldn't use them for messages, not a self-respecting one. This was evil.

But then, you look abroad at what was supporting these British types, these pro-British types in our country: the oligarchy. Look at Europe. Europe was never able to develop a pure nation-state. Why? Because they were never able to get rid of the relics of the old feudal oligarchy. They did somewhat diminish, over the course of time, the power of the landed aristocracy, but they never got rid of the financier oligarchy. And the financier oligarchy was able to constantly impose its power upon the governments of Europe, so the governments of Europe became quasi-nations, which had a financier oligarchy of the Anglo-Dutch type, squatting on top of them, sucking the blood out of them, with this financial usury of various forms, while, underneath, you had people in Europe who were struggling to develop a nation-state form.

So, what you had was a two-phase nation-state: You had a symbiosis between the host and its parasite. The parasite, the financier oligarchy; the host, the national economy, the people who produce things, the real inventors, the investors, the producers, the farmers, and so forth.

In the United States, we had a form of government which was not oligarchical, which reflected an *anti*-oligarchical tradition, a government of principle; whereas in Europe, you had people who were struggling, and sometimes heroically, to create a nation-state, but failing, where the form of government itself was unprincipled, and which represented nation-state economy, but with oligarchical topmost characteristics.

The business cycle

This relationship is the reason for the so-called cyclical form of the business cycle. What you would have, is, you would have a form in which production, up to a point, would grow (**Figure 28**); but the financier element would tend to constantly increase. And you would get a crisis, in which the monetary system would tend to collapse, which was called a cyclical depression.

Now, as long as the production element was considered essential to society—and this was particularly notable in cases of war. When people were going to have a war, nation-states were going to have a war, they had to get the economy cranked up, they had to get production cranked up. That's what kept us from collapsing before, was war production. Otherwise, we'd have collapsed into hell a long time ago. It was the military arms production, which kept this economy from collapsing over a long period of time. So then, you would have a threat of war, or some other crisis, so people would say, "We've got to get production going again," and they would put checks on the financial excesses, they would bankrupt a bunch of financial creatures, and what not, and get started again.

So, you would have the business cycle crisis, the boom-bust cycle, where you would have growth for a period of time, but then the cost of the parasitism of the usury would depress the economy. You would have a collapse because of the great growth of financial assets relative to production. You'd have a collapse of the economy, and then somebody would say, "Let's get it going again, because of this danger of this war or that war," and we had the business cycle.

The healthy economy would be of a type like this (**Figure 29**), where this is the American System, as Hamilton and others defined it, where the growth of production aggregates has to be the highest rate of relative growth in the economy. You must manage it so that you have efficient monetary circulation, but you must set the rules so that the growth of financial aggregates is contained. You have to have financial aggregates; you issue stock, for example, to float private companies, things of that sort. *But you have to regulate it tightly, so you do not get a financial cancer becoming a bloodsucker on the economy.* In Europe, you couldn't do that, because the bloodsucking class was the topmost class. The bloodsucking class in the United States was, traditionally, the Boston bankers, the Boston Brahmins, the Manhattan bankers, and the southern slaveowners, and people like that. And they were a class.

FIGURE 28

Cyclical triple curve

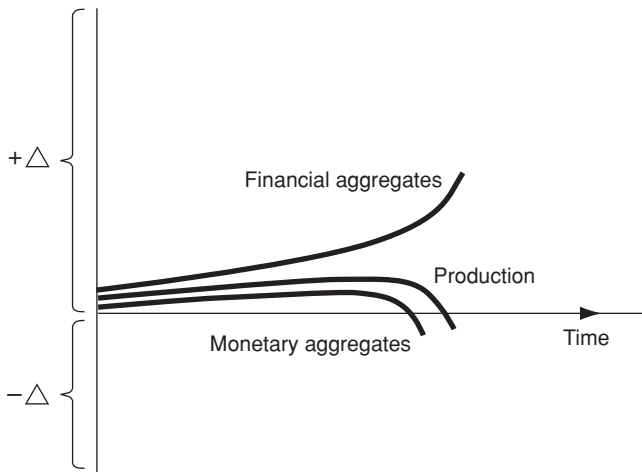
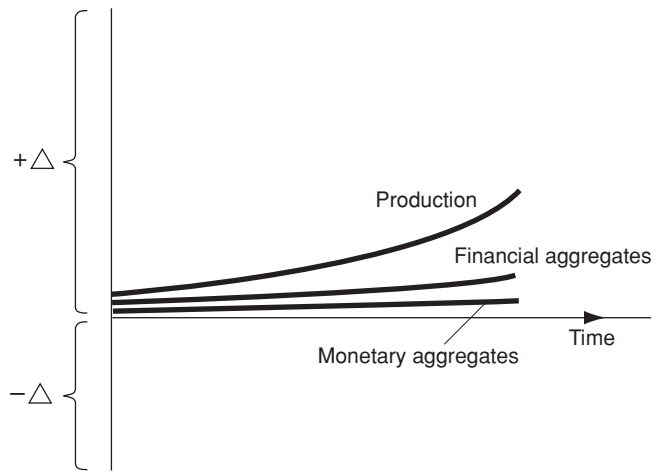


FIGURE 29

Normal triple curve for healthy economy



The time the United States had the greatest impetus for growth, was 1861 to 1876, under Lincoln, when a large chunk of the most evil class in the United States, the slaveowners, were politically defeated, and we had a chance to grow. And that, generally, is the model that was copied in Europe, in Germany, in Japan, in Russia, France, and Italy. It was the American System, as the Lincoln model, the Lincoln-Carey model, which was copied in Europe, which is the idea of the modern industrial machine-tool-driven modern economy. And, all that requires, is these principles, which means that the emphasis is on production. And you keep financial aggregates, by taxes and by regulation, or whatever, keep them from growing too much, so that they don't become a parasite on the economy. And make the monetary process efficient, so that it serves the purpose of circulating production, commerce, and not something else.

So, those are the three models, the three basic models: the Triple Curve model I indicated, the normal cyclical model, in which you have this bisexual society of humans and non-humans, with the non-humans on top, which is the cyclical form. And this is the form we have to have, which we can have coming out of a great crisis: We simply bankrupt these guys, we wipe the paper out, we get the economy going, and you have a good, efficient monetary system, well-regulated, and get our business of production along the lines I've indicated.

The issue of leadership

The question is: How do we do this? What's the principle of leadership involved? In Germany—this actually started with Carnot, but in Germany, especially formalized under von Schlieffen, Graf von Schlieffen, in the latter part of the

Nineteenth Century, a principle of leadership was introduced, which is quite different than what people think of as war plans. You know, people think of war plans, where you have everybody down to the sergeant programmed for what they will do on Day One, Day Two, Day Three, Day Four. But, this system was quite different. It's called the mission tactic approach.

The first one to develop this, to introduce this to warfare in a formal sense, was Lazare Carnot, during the period he was the Organizer of Victory in charge of the French forces, and turned an inevitable French defeat and conquest and dismemberment, into a great military victory. But, von Schlieffen refined this considerably, which is why the German army was so tough to defeat, because down to the sergeant level, the platoon sergeant level, in the First and Second World War, the German platoon sergeant, or whoever else was in the line of command down at that level, was perfectly capable of conducting a war on their own, without any war plan, because they'd been trained in mission tactics: knowing what your mission is, and knowing what your capabilities are, you are trained to use your own mental processes, to find out the best way to deal with that problem. And therefore, instead of the guy waiting for orders on what to do, the sergeant, the platoon sergeant, for example, knows that he has got the responsibility for doing what has to be done, and he knows what his mission is. That's what he has to know.

So, we're in that kind of situation. There are some people who say we should submit, I should draft or so forth, or we should submit to Washington a complicated plan, which tells the Clinton administration what they have to do on Day Minus Two, Day Minus One, Day Zero, Day One, Day Three, and so forth, in dealing with this monetary crisis. That obviously

won't work; because, first of all, Clinton is not capable of doing that. And besides, situations are going to be much more complicated and much more fluid, so that you can't plan in that mechanistic way, in any case.

So, how do we get out of this mess? If there's no master plan that anybody could devise to present to the Clinton administration—and if they don't do it, it's not going to happen, believe me. There's no place else on this planet, is this civilization going to be saved, if the Clinton administration doesn't do what it must do. *There's no other agency on this planet, which is capable of organizing a group of nations to prevent us from going to hell in the course of the next year or two, totally, this planet as a whole.*

And you're not going to do it by submitting a secret plan to Bill Clinton. Because he's not capable of carrying it out, and if he were capable of carrying it out, it probably still wouldn't work, because the complexities of a human situation, the complexities of the planetary situation are such, that you can not work that way. You have to have a much more flexible approach, which is applying to economics and politics, the principle which is called the *mission tactic*, in terms of military command.

How does this mission tactic work? We have been discussing principles, principles of science, principles of art, which are principles in culture. Now, these principles act on the mind, like the axioms of a geometry, of a formal geometry: When you're faced with a proposition in a formal geometry, you judge the proposition, as to whether you approve it or not, based on the lack of inconsistency between the proposition as proposed, and the set of axioms which determine, reflect, your system of belief. If the proposition is consistent with your system of belief, its axioms, you will tend to accept it as valid, and treat it as a theorem, and act upon it.

What if the proposition is correct, and you have the wrong beliefs? You won't accept it. That's the problem of the Clinton administration. It will do no good simply to present them with a plan, because any plan you present, which is valid, they will not accept, because it will conflict with some of their cultural prejudices. So, don't go about submitting plans. If they accept them, they're no good. Your plan is no good, if they accept it. If they don't accept it, it might be good; if it is good, they won't accept it. So, why waste all this planning stuff on them?

Well, again, Carnot. Therefore, the problem in mission tactics is—how does mission tactics work? Mission tactics works, on the assumption in the military field, that your commanders, including down to the platoon sergeant level generally, and the corporal who's bucking for platoon sergeant, each understands and accepts a system of belief, which constitutes the axioms of military combat decisions, and logistical decisions. Therefore, if that is developed in that commander, that non-com or officer, then you can rely upon that non-com and officer, in that degree, to respond to an unusual situation, with an appropriate response. And it's to the degree that that

system was introduced in Germany, that the German platoon sergeant was considered the leading combat soldier of Europe.

Now, the same thing applies in economics. The issue here, as in the training of the platoon sergeants and commanders— For example, von Schlieffen divided the corps, which was the original unit of combat, and made the division a smaller unit of combat, and placed the mission tactics responsibility on the general in charge of the division, to a degree which had never been true before. That gave the German division a punch and a combat capability which other armies lacked.

But the key thing in this whole business, is not the romance and glory, and clash of arms. The key thing is: Have you introduced the proper axiomatic assumptions on which the people who are going to make the decisions, are going to operate? That's what I've dealt with today. I've dealt with, in a preliminary fashion, identification of the axiomatic assumptions about the nature of man, the nature of ideas, the nature of economy, which govern the way that anybody who is going to run an economy or deal with an economy, is going to react.

In other words, if I wanted to create an army of people, who were going to go out there and take this economy over, and run it for the people: You want people who are going to respond to a situation, to make decisions that conform to certain axioms, or axiomatic beliefs. And they're going to have to know how to change and improve those axiomatic beliefs.

Our function

That's our function. It's a difficult function for many Americans, because they don't think in axiomatic terms. They think in rules. We're formalists. Americans are formalists until they let their hair down. Then you don't want to know who they are. Like I used to find out when I'd meet these military guys: You're having a serious discussion about strategic questions, as we were back in the 1970s and 1980s. And they would say, "Let's go let our hair down." Ugh! They'd want to go out and get drunk, and do all kinds of evil things. That's letting their hair down, which indicates what the problem is. They are not very moral people.

But the trick here is, you have to have people who think in terms not of formalisms, but in terms of mission tactics. In terms of: What is the nature of man? Is man a creature made in the image of God, by virtue of the power of cognition? What does that mean? What do you do to ensure that that capacity of cognition is developed in all people? Education. What does that mean about family policy? What does that mean about wages policy? What does that mean about libraries? What does that mean about classroom size? What does that mean about the kind of employment you want in your community? What does that mean about what you're going to pay for, in terms of employment, or not?

Financial aggregates: the derivatives explosion

Are you going to allow support groups infesting your schoolroom? You're not going to allow support groups anywhere near a schoolroom. You're going to keep child molesters and support groups away from schools; and people who pass out Ritalin, and things like that. Because you're going to think in terms of these values. You're going to think about *more*; you're going to think about increasing the productive powers of labor. You're going to try to think about how you get these funny people, who seem to have very strange behaviors, to see themselves as human, to shape society so the guy in the street, who's acting like an animal, if he can be rescued, can be rescued, to recognize himself as human.

So, you have to think in these terms that I've discussed here, just outlined, because this is a matter which could take weeks and months of discussion. But you've got to think in these terms.

My job is to try to get the President of the United States to recognize he has to take some advice along this line, take some counsel on what kind of decision he's going to make. He doesn't need somebody to make a proposal which he will reject or accept; he has to have somebody tell him what proposals he should reject and accept, including his own. If we don't—if we can't do that, I guarantee you, you won't save this civilization. And that's where we are.

I think we can do that miracle. I think that the fact that some of you are here today, who are here, means that you're concerned about this, and recognize that only a tiny minority of the total population is actually willing to take the lead in thinking about questions like this. Most people, they'll fall asleep on you, they'll drop off on you. They won't stay around to think that long.

But, what's going to happen very soon? And what is the one percent, or less, of the population that's willing to think, what are they able to do? What have they been able to do in all history, in times of crisis?

We are about to be hit. If you think things are scary now, come back in about four weeks, about four weeks from now, and then tell me how scary it's become. The American people are going to get down on their knees, in sheer terror, at what's about to hit them, what's about to threaten them. Everything they think is secure is going to suddenly become, obviously, very insecure. All the ideas that they thought they knew and were true, will be thrown into discredit. All mainstream thinking will become frightening, because it's disgusting and impotent. In such a time, the firm, quiet voice of someone among them who thinks, can be heard. And that's what we have to do.

I think that the very terror of events will give us, for a brief period of time, the opportunity to make a fundamental change in the way our nation thinks about itself and its role, and that we can move things to the point that even this funny President of the United States may be willing to take a little counsel on the kinds of decisions he has to make, and the kind he has to reject, including his own.

Thank you.

John Hoefle, of *EIR*'s economics staff, addressed the Schiller Institute conference on Jan. 18, on the topic, "The Bubble Is the Disease." When you talk about "economics," he said, most people have no idea what you're talking about. They think you're talking about money! Yet the hyperbolic growth of the derivatives market is one of the most dangerous indications that our economy today is very, very sick.

We reprint here a number of Hoefle's graphs, which illustrate the point.

Figure 1: The collapse of the U.S. real estate and junk bond markets in the second half of the 1980s, triggered record levels of bank and thrift failures, and threw the U.S. banking system as a whole into bankruptcy. The Federal Reserve responded by lowering interest rates to flood the banks with money, and arranging a series of mergers of major banks. But even more important was the decision to turn the banking system into a giant casino, through the rise of the derivatives market.

Figure 2: Today, *EIR* estimates that there are some \$135 trillion in derivatives contracts outstanding worldwide, the bulk of which are held by U.S. and European banks. As of the end of 1996, the United States had some \$33 trillion in

