

# Power, Water, and Transport: The Prospect for Mexico

by Lyndon H. LaRouche, Jr.

*Here is Mr. LaRouche's speech as delivered on March 30 to the 27th International Economics Symposium, "Visionomics: Challenges and Proposals for Mexico," at the Monterrey Technological Institute in Monterrey, Mexico.*

Greetings. I'm so glad to be here again. This city and I have a long history, not so much in detail, but over a long time.

At this time, the world as a whole is facing the greatest financial crisis since 1928-1933. However, as President Franklin Roosevelt said of those times, we have nothing today to fear as much as fear itself. In modern history, there has always been an available choice of correction for any crisis of the type which we face now. The presently accelerating physical decline of economies of Europe and the Americas during recent decades, was inherent in the misguided design of the post-1971 monetary-financial system. A suitable reorganization of the world's monetary-financial system, would take us back to something like the original Bretton Woods system, and would unleash the potential for a physical recovery, and provide the basis for a return to a genuine, global physical growth.

Under the present circumstances of growing world economic crisis, let me begin my remarks today with a few points in support of optimism.

From March 1933, until his death in April 1945, President Franklin Roosevelt led a national recovery of an economy which had been collapsed by approximately one-half during the three Depression years, prior to his inauguration—it had collapsed under U.S. Treasury Secretary Andrew Mellon. The economy which re-emerged under President Franklin Roosevelt, became the most powerful nation, and most successful economy the world had ever seen. As my own recently issued draft program of the U.S. Democratic Party illustrates, some of us in the U.S.A.'s Roosevelt tradition are already working today on the plans for immediate action to deal with any economic crisis which might strike us now.

In a very large degree, the success or failure of the U.S. in meeting the challenge, will be measured not only by the results inside the United States itself, but also by the effects of those recovery measures on our nearest neighbors within the Hemisphere. First of all, this means Mexico. This means,

most emphatically, the practical effects on the populations in these federal states of each nation which are near to the common border between the two republics. Today, I shall illustrate the needed economic-recovery policy by emphasizing the effects upon the states of northern Mexico, and those of the U.S.A. itself, bordering Mexico.

On both sides of that national border, the leading economic issues which must receive the relatively greatest attention for improving the conditions of life through investments, will be classed under the heading of the leading role of public-sector capital which is issued as governmental credit, for investments in improvements in the categories of mass-transportation, power, and water. Improvements in what is usually called the private sector, will be stimulated, both financially and technologically, by spillovers from growth of employment in such public-sector elements as transportation, power, and water. Today, in this address, I shall concentrate on the technical issues represented by needed developments in the closely related matters of power and water.

As we here today already know, the challenge which confronts us is not only an economic crisis; it is also an extremely dangerous social crisis. Economic policy must therefore emphasize the urgent contributions to solving these social problems, contributions which must be made through practical economic and related measures, measures which take care of the challenge to the stability on both sides of the border, especially under the added pressures from certain unpleasant political forces inside the United States, today.

However, since the social crises are largely rooted in material deficiencies, without correcting those policies responsible for the material deficiencies, there is no *real* solution for the worsening social crisis of today.

Since the crisis of 1982, there has been a general, worsening ruin of the economies of Central and South America. One of the effects of this has been the flight of masses of desperate persons seeking some margin of employment in life, through temporary and other employment north of Mexico's U.S. border. At the same time, persons of Hispanic-language cultural origins are the largest single group classed as minorities inside the United States. Many of these have lived in the United States for several, or more generations, and have normal lives



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*President Franklin Roosevelt (right) led a national recovery of an economy which had been collapsed by approximately one-half during the three Depression years, before his inauguration—under U.S. Treasury Secretary Andrew Mellon (left). “The economy which re-emerged under FDR became the most powerful nation, and most successful economy the world had ever seen.”*

inside the United States; but many live on the knife’s-edge of desperation, as very cheap labor, as legal or illegal immigrants into the United States. The added problem is not only the new fences which are being designed to keep people below the Mexico border; the collapse of the internal U.S. economy is wiping out recent patterns of cheap-labor employment opportunities inside the United States. Given such circumstances, our economic reforms would probably fail unless they met the requirement of promoting significant improvements in the general welfare and good relations of populations on both sides of the border.

With those opening remarks now made, keep what I have just stated in mind, and I shall focus on the technicalities of power and water, and the role of these elements of economic development in the situation confronting both of our nations today.

### **Now, Start With Water**

In most parts of the world, much of the world’s human population is living by using up what is classed as fossil water. For example, an associate of mine reported on deeply located fossil-water reserves in southern India, water which scientists there have dated to approximately two million years ago. In many parts of the world, the fossil water being used up was buried deep in the Earth during a time as long ago as the recent ice-ages of the past two million years. When those reservoirs are drained, there is no more water for those areas which depend upon these supplies. That example from India is a relatively extreme example, but it nonetheless typifies much of the global problem today.

Look now at the map of the water supplies of Mexico. [Figure 1] Look particularly at Mexico City, and compare there, the ratio of the water being supplied to that area, as against the rate of consumption of the water in those areas. So you find in parts of Mexico, fossil water is playing a key part. And therefore, without increasing the water levels in Mexico, it would be impossible to solve most of the economic-development problems which exist today. So, as in other areas, you go to the South: We can move water from the South through the mountainous area, as well as along the coast, where water is rich in the South of Mexico and scarce in the North.

And you see on the map, we’re drawing water for production of agricultural products for consumption inside the United States, from this area. The rate of depletion of water

by agriculture, is therefore becoming a dangerous limitation. For example, if you had not had large migration out of these areas of Mexico into the United States as cheap agricultural labor, you would not have the opportunities, in terms of water alone, for maintaining a stable income in those areas. This is one of the problems that has to be traced. The very sovereignty of Mexico depends upon solving this water problem for that reason.

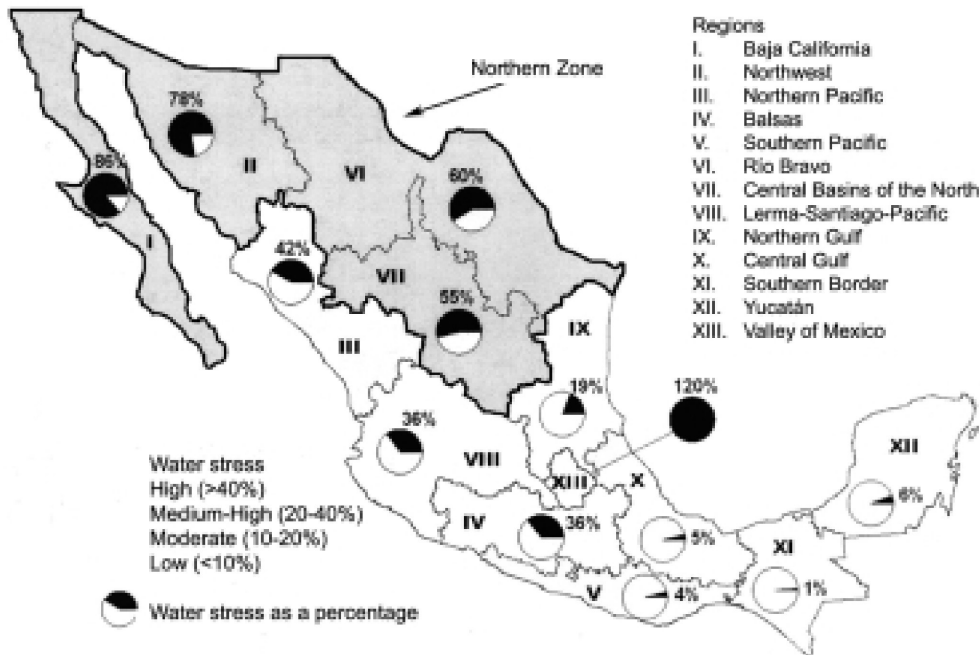
In Mexico, this will mean a significant upgrading of agriculture and of social infrastructure, to develop the base among stable family households for a normal continuing development of industrial infrastructure.

Now, thirdly, among the three measures to take, we must have the increase of the organization and maintenance of forests and agricultural crops which lower the temperature of the Earth, of the atmosphere, by converting solar radiation into plant-life, which is one of the most efficient ways of lowering temperature in a climate. Desert climate is very hot, because you have no living growth there. And therefore, if you want to improve environment and improve the water management, what you do, is, you let the solar energy, solar radiation, accumulate as much as 10% of the radiation of sunlight upon the land, convert that into trees, or less into shrubs and agricultural crops. These plants, then, give off water. The water given off by these plants, or these systems, now becomes rainfall; so that, by this process, you transform a desert area, over a period of some years of development of growth, you transform it into a cooler area, more habitable, and, through plant-life, becoming more productive, and increasing the wealth of the people.

FIGURE 1

## Mexico Water Stress—Annual Water Withdrawals (2004)

(% of Available, Renewable Water Supplies)



“Water stress” refers to a comparison of the annual water withdrawals for use in an economy, to the total annual available, renewable water supplies (both surface and underground) coming from precipitation in that same region. Any area with water stress of 40% or greater, is considered “high stress.” The percentages are shown for the 13 hydrological administrative regions of Mexico in 2004. The northern states are all high stress, with Baja California at 86%. The highest water stress region of all in Mexico, is the Valley of Mexico (Region XIII), with a stress figure of 120%. Located here, metropolitan Mexico City, with its 20 million inhabitants, is so reliant on drawdown of underlying aquifers, that significant land slumping and subsidence is taking place.

Source: CNA, Mexico; EIR.

So, these three measures: First of all, we must generate more water, and I shall come to that.

Secondly, we must manage the water, in such a way as to improve the productivity.

And thirdly, we must think about managing the land-area strictly from an ecological standpoint to improve the area ecologically in terms of water-balance and in lowering temperatures in high-temperature areas. Northern Mexico is a classic example of this, where you have desert-like areas, or semi-arid areas in which this is a problem.

All three of these measures I’ve indicated require *large-scale increase of not only the quantity of power produced per capita and per square kilometer*. Without adequate increase of the supply of power per capita and per square kilometer, a state of economic health could not be achieved. *This requires, especially for desalination, adequate sources of applied power, as available only from nuclear and comparable sources*. This means relying, chiefly, on the very high-temperature gas-cooled reactor, which are the ultra-safe, Germany-produced model, the pebble-bed reactor, now being developed in China and in South Africa. For purposes of physical science, we must measure high temperature in terms of what we call energy-flux-density, which means *the density of power, as might be measured in kilowatts, across a square-*

*centimeter cross-section of the generating process*. In other words, you can not measure power efficiently in terms of calories. You might say the *quality of power* is more important now, than the mere quantity. It’s the energy-flux density, that is, the power represented in the production of useful heat, which is crucial—not the *quantity* in calories, but the *intensity*.

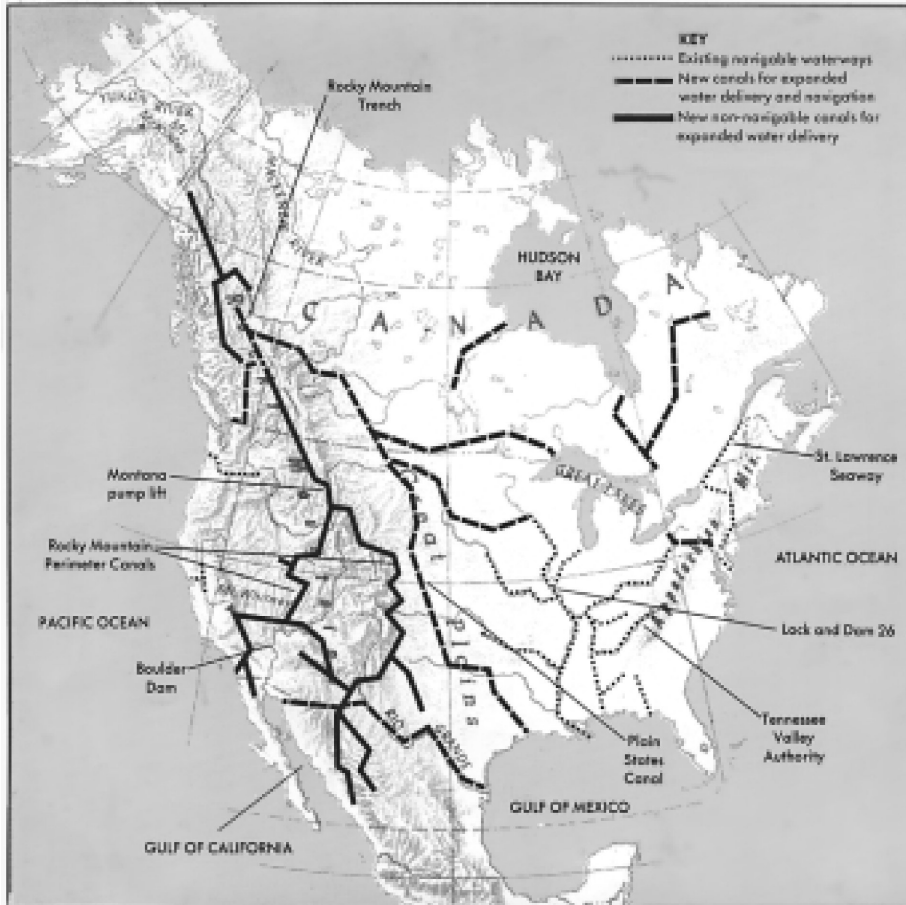
This is a question of physical chemistry. For example, what is the power required, in terms of energy-flux density, to produce a nuclear reaction, or a molecular reaction? And therefore, your power level in intensity, must correspond to your objectives. As I shall indicate, we’re now at a point, where we are, already as a planet, we are approaching, perhaps within two decades, a point at which we will be consuming what we call raw materials more rapidly than we generate them, than the Earth can regenerate them.

### The Biosphere As a Factor

Now, most of the things we live on, called raw materials, exist within what is called the Biosphere. This is the area of the Earth, of the Earth’s outer crust, which is the result of the deposit of residue from living processes over millions and billions of years, since at least the time the Earth became a reducing, an oxidation environment of the surface. Most of

FIGURE 2

**The NAWAPA Plan for Bringing Additional Fresh Water to the United States, Canada, and Mexico**



what we get as minerals, as we mine for minerals, we dig down through the Biosphere, through the crust; we dig down until we find some concentration of something like potassium, or a metal of some kind.

Now, how did it get there? It was put there by dead bodies of plants and animals. And where a particular species of plant would be concentrated, which would have a certain mineral in it, and it would die, it would leave a skeleton behind. And whatever is absorbed in its body would be concentrated, as opposed to some other area where a different species of fossil would have a different concentration of mineral. When we get minerals, which we use for industry or other things, we are largely using up, or reprocessing things that were deposited in the top of the Earth, that is, in the outer Biospheric area, billions of years or less ago.

So, we're tending to exhaust the total amount of resources *in that form*. For example, an example of the Biosphere: The

water on this planet, with very few exceptions is a result of the action of living processes in an oxidation phase of the planet's existence. The atmosphere that we breathe, on which we depend, is a product of living processes, over a long period of time.

So therefore, we've come to the point that we're now beginning to use up mineral resources at a more rapid rate than an expanding population, a population demanding a higher standard of living and production, will demand. So therefore, we have to now take in, instead of mining for things left by the past, we now have to begin to *produce* what humanity requires as the new form of those raw materials. Therefore, *the cost of producing what we used to get by digging*, is now a cost of production, or will become a cost of production.

And therefore, within about two generations, as the population of China not only grows, that of India grows, other parts of the population grow, not only will there be an increased *rate* of consumption of raw materials, or what we call raw materials today, but, there will be a demand for an improved standard of living. And we're now getting to the point,

where *we now must produce, what we used to just take*. We can get enough, but we must produce it. So now, we have a new factor of cost, above the costs which are normally accounted for, in production.

And this can only be done by very high-temperature processes, in the order of magnitude of nuclear-fission reactions, in the order of magnitude of thermonuclear-fusion reactions. We're going to have to start to reprocess isotopes. This can be done. But we're going to have to get to that. We're going to have to say, on the horizon, two generations from now, we must reach the point, not only that we use the increase of nuclear power as a way of dealing with water and related problems. We will have to have, within two generations, about 50 years, we'll have to reach the point where we can begin to manipulate other parts of the spectrum for our needs.

It's a great change for mankind, but that's all right. Mankind has made many changes. If we were simply animals like



baboons, or gorillas, there would never be more than two or three million of us living on the planet, at any time during the past two million years of the ice-ages. We now have six billion people, more than that, now. It will increase. We can no longer live as primitives, going back to nature. We must now begin to create the environment we require to maintain a higher quality of life. And Mexico's a good place to do it. I think Mexicans would appreciate doing that.

There is, therefore, no real alternative to increasingly large-scale reliance on nuclear and, then, thermonuclear-fusion power. The economical driving of certain currently indispensable chemical reactions on the needed mass scale, requires large-scale power sources of the relevant high energy-flux density, to produce the needed chemical and other physical reactions cheaply on a mass scale. Contrary to popular beliefs derived from a presently widespread lack of scientific literacy, measuring power merely in calories does not meet this requirement.

For these and similar reasons, during the recent year, there has been a sudden upsurge in the declared intention of governments around much of the world, especially various parts of the Eurasian continent, as also in Brazil, for example, for a rapid development of nuclear power. In part, this very profound shift in policy is a reflection of an increase in the cost of petroleum, and also in shortages. But that is not the real reason. Behind this, is the recognition, that the kind of technology we require for an economy of the future, depends upon the high-density power of a nuclear-fission resource. And the standard reactor, most popular today, for that purpose, is the high-temperature gas-cooled reactor, such as the pebble-bed type. For example, you could produce these types of reactors in the 120 to 200 MW range. That would be good for many purposes, including desalination, and for normal supply of power.

But we also have come to the point that we can not use petroleum power forever. We will use petroleum more and more, as a chemical feedstock, and less and less as a source of heat energy, for driving things. Why should you take something as cheap as petroleum is today, and spend vast amounts of money distributing it around the world by ships and other methods, and processing? Why do that? Can't we produce fuels locally? For automobile vehicles, for aircraft, and so forth?

We can. We can produce—and it is now in process—we can produce hydrogen-based fuels, that is, fuels which are



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*Only the widespread application of nuclear-fission, and, later, thermonuclear-fusion processes, will enable society to satisfy the required, large-scale desalination of sea-water. This photo shows the Palisades Nuclear Power Plant at the Lake Michigan Center for Great Lakes and Aquatic Sciences.*

close to hydrogen. We can produce these locally. We can produce them with nuclear plants. This requires a nuclear reactor of about 800 MW power. With that, we can produce synthetic fuels, and other kinds of materials.

So, it is not the price of petroleum that's the real driver for this emphasis on nuclear-fission power. It is the reality, the physical reality that we can no longer continue to depend so much as we do, on combustion of petrochemicals. But, we must now synthesize. And, after all, the waste product of synthetic fuels, is largely water—which is not considered polluting. (Except by alcoholics!)

For these and similar reasons, during the recent year, there has been a sudden upsurge in the declared intention of governments around the world, as I said, for the rapid development of nuclear power. Mexico has already buried in its history, a former commitment of about a quarter-century ago to building 20 nuclear plants in Mexico. And of course, one of the places required is largely in the northern part of Mexico, where you have a population which lives under conditions where lack of moisture and so forth is an impediment to agriculture and to forms of life. So, to create the opportunities for life in areas where there's a large population, as opposed to the picture of people fleeing across the U.S.-Mexico border, to find cheap-labor jobs abroad, you can now keep the families together more, by developing the opportunities for normal family life and community life in these areas. Those plans existed 25 years ago, here in Mexico. They were being developed during the 1970s, and they were aborted by the crisis of

1982, and we never got back to it. But those things exist. And the talent exists potentially to do that. And that will give a start. It's a start on providing a basis for new opportunities for life in this area.

Since we must deploy the construction and operation of such nuclear reactors over broad areas, where the relative skill levels are varied, we must have the safest type of reactor model. The high-temperature gas-cooled model is one. There are also experimental reactors being developed, as operating test reactors and for training people, to train people rapidly in various of these types of technologies I've mentioned. And also, there's some more advanced technologies for fission power in the future, for producing all kinds of things.

But, we need a proliferation of this over areas, to transform areas which are now quasi-desert areas or poorly developed areas, into areas with a great inherent infrastructure basis for production.

As I said before, almost all of the Earth's water and atmosphere are products of life. They're products of action of living processes on a pre-biotic level of existence, to produce things.

This was set forth and proven by a great Russian scientist, who was a follower of Mendeleyev: Vernadsky. And Vernadsky was a person who gave a rigorous definition of the meaning of the Biosphere, and also went on to describe the Noösphere. That there are three principles we're dealing with as economists, in looking at the world today. First, we're dealing with things which you deal with in ordinary physical chemistry, abiotic systems, systems that are not living systems. On a second level, the fact is, despite some wild-eyed science-fiction people, you can never get a living process out of a non-living process. Only life can produce life. And life is a universal principle.

Vernadsky demonstrated that chemically, by showing the way in which living processes deal with non-living material. Now, going through your own bodies, I don't know if you've inspected this recently, but you'll find a certain chemical throughput. And there's nothing that gets into you, except as a chemical throughput. Normally, these chemical throughputs are considered abiotic. But, in living processes, they behave differently than they do in non-living processes. So, now, what you put out when you die, or animals die and so forth, is the same material, essentially, in terms of normal chemistry, as you took in. A living process selects the materials it wants from its environment, or adapts to them, and does not take in other things. It selects what it wants. It's a strict shopper: Each has its own shopping bag and its own shopping list. And it comes out, and it grabs what it wants. And it takes it in, and it processes it. It builds its body, it maintains its body by this process. Then, it puts the same material out, eventually. When you die, you return this to the soil. It's the same material, but it's different. It comes out in a different form, than it would ever occur in a non-living process.

So there we were able to define, as Vernadsky did, that nothing produces life, except life. There is no non-living process that will ever synthesize actual life.

Secondly, we find a second characteristic: The characteristic of the human mind. And in the same sense that only life produces life, only creative mentality produces creative mentality. For example, if we were apes, great apes—or, not so good apes, but great apes—then we would never have exceeded a population of several million individuals on this planet, in the past two million years—never. How did we get to *six billion people* and more on this planet today? We did it. It's more or less successful. The standard of living of our people living today around the planet, at the worst, is much better than it was a million years ago, or so.

So therefore, there's something about the human mind and its ability to innovate, by making discoveries of principle, which is called, of course, in Classical Greek *dynamis*, or we call in English "power," certain principles which we can discover, which are universal, such as gravitation, which is universal. Do you ever see a "gravitation"? Don't defy it. It's there, it's universal. It's a principle, as Kepler showed.

So, we are capable of discovering universal physical principles, which we as mankind apply in various ways, to increase our power to exist, and our development. These principles are embedded as part of the storehouse in our culture. That there are principles which were discovered a long time ago, which are passed down in the form of culture, or passed down in a systematic way with education, as I think some of you may know—that you're supposed to pick up a few principles along the way, in the course of education. Most of what you pick up, if you're good at it, you pick up not only what you're taught, but you develop the ability to make discoveries of the same type yourself. And therefore, you add to the store of principles at the disposal of mankind.

So therefore, we have to be optimistic because of the nature of man, that we have the power of discovery. We have the power of what Vernadsky called the Noösphere. We have the power which no animal has: the power to discover principles of the universal, *to change our behavior as a species*, to increase our power, to develop ourselves, to transmit something to future generations. So therefore, the very nature of mankind should make us optimistic, because we have a power in us, that no animal has. And we are only foolish if we don't develop those powers and don't use them.

Therefore, there are absolutely no limits to the human growth potential immediately before us. However, the physical cost of maintaining supplies on which human life depends, such as clean air and usable water, is going to increase, relative to present-day levels of physical productivity per capita and per square kilometer.

For example, let's take the case of China and India. China now has over 1.4 billion people. India over one billion people. The population will continue to increase. And many of these

people are very poor; about 70% of the population of India is extremely poor—and many of them poor, because of a certain lack of development. In China, you have 1.4 billion people, most of them extremely poor. China is not really producing much for itself. What it's producing, is actually producing a product for the world market, which is largely European- or U.S.-designed. We export our technology to China, to produce with cheaper labor, at lower prices, what we consume ourselves.

Therefore, in these cases, should the European economy, and the U.S. economy collapse, this would be an economic disaster for China, and for India, and for nearly all developing countries. Because the idea of exporting, the idea of outsourcing, in the way it's being practiced today, is a form of insanity. If you ship production from the United States, which has a high standard of living, and high standard of productivity, to Honduras or some other area; or you ship it to Mexico first, in the *maquiladoras*, and then you ship it from there down to Honduras, what's the effect? What's their standard of living? What's their cultural standard? You're not improving them. They're competing savagely for this work, because they think they need it. But the cultural benefit for the population as a whole is not there, because of the competitive standards.

And in the meantime, we, in the United States, who start this exporting process, we export our production, we shut down our factories, we shut down our farms, we stop educating our people, we invent make-work, where they're taking in each other's laundry to live! They don't produce anything, they take in each other's laundry. You don't cook a meal at home any more, you go out to a hamburger stand and get it! All the infrastructure, and the education, and the culture that goes with it, the facilities that go with it, with high-gain production in agriculture and industry, is gone! We've exported it to a cheap-labor market—and we're suffering. The same thing is happening in Europe. Europe is collapsing, and the United States is collapsing internally, *because* of outsourcing, *because* of globalization! *Because* of a breakdown of protectionism.

And therefore, we must consider the cost of maintaining a high-quality person, a high-quality family, a high-quality community. A high quality in use of language—not just learning to speak some common idiom: But a high quality of language used as a medium *of ideas*, of cultural ideas, of conceptions. Language used as a way of conveying the culture of ancestors into the present, and into the future.

All this means that, that instead of simply extracting materials in the Biosphere, we must help the Biosphere to replenish those supplies at rates consistent with our requirements. It is this challenge which makes nuclear-fission and thermonuclear-fusion technologies indispensable for the future of mankind over the coming two generations. Nuclear and sub-nuclear physical chemistry are the future of the world for today and tomorrow.

Therefore, on both sides of the border, governments must recognize that the policies we require for today are policies based on looking ahead 25 to 50 years. We must think of the improvement of education and skills, of the general population and its labor force, to bring it up to those higher levels of science and technology, which are needed for the generations to come to meet this mission, and to maintain the social standard of living for a growing world population.

In respect to power, policy-shapers of today must think ahead to no less than 30 years ahead, in terms of say, a nuclear power plant. A nuclear power plant has an expected physical economic life of about 30 years now. That could be extended by certain improvements. But you're talking about essentially a generation, 25 years, a generation of investment. It means you must *look ahead* a generation, you must *look ahead* 25 to 30 years, when you talk about what you're doing today, in policy today.

It also means, therefore, an improvement in education. Not for yesterday, or up to today, but education for practice for the coming 50 years of your adult life. You leave university today; the next 50 years is your adult life, essentially, your working adult life. Are you going to be qualified for that adult life, in a growing, advancing technology, a changing society? Are you going to have the foundation, to "keep up with the times," so to speak? And we, who are making policy, or shaping policy, must think in those terms. Governments must think in those terms. We must think 25 and 50 years ahead, in terms of large-scale improvements in infrastructure, and in technology of production, and in changing the land-area.

As much as we could do today, which is feasible today, is fine. But by the middle of this century, about 50 years from now, we're going to have entered a new phase, and the next 50 years—which is generally the working lifetime, a professional lifetime of you people, here today—by the time you reach retirement, the world will have come to the threshold of the need for qualitative changes in the technology of society, and you have to prepare yourself, and develop yourself along the course of time, shall we say, to keep up with the requirements. But there are going to be qualitative changes in the years ahead, *if* we don't go through a dark age.

## Education and Productivity

The emphasis on what has been called the post-industrial society, by others the information society, has tended to blind those who reached the age of employment about 1968, to the actual requirements of an increase of physical productivity, as measured per capita and per square kilometer of the territory. This is the famous problem of the Baby-Boomer generation. There was a cultural change spreading out of Europe and the United States, but also down here, a cultural shift away from the orientation toward a *productive* society, toward the idea of a post-industrial society, without industry, and without



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*“We have the power which no animal has: the power to discover principles of the universal, to change our behavior as a species, to increase our power, to develop ourselves, to transmit something to future generations.” Members of the LaRouche Youth Movement in Los Angeles examine an apparatus that demonstrates the effect of mutual interaction among fields.*

agriculture, a so-called information society. And that has been a great failure.

Computers are extremely valuable, but no computer ever made a scientific discovery, or ever will. At least, no digital computer could. Only a human being can make a scientific discovery. Only the human mind can do that. If you transfer to the computer what the human mind must do, you’re going to end up in a dead-end. And we have been heading in a dead-end.

What happened is we had a cultural conditioning which is associated with the time of the great riots of 1968. The cultural conditioning after which we began to go downhill. We said, “Industry is bad. Agriculture is bad. Technology is bad. Information is good.” But information didn’t include ideas. It included formulations. It included sophistry: Use language to persuade people, not to inform them. Use language to manipulate people, not to inform them.

So, as a result of this process, this idea of this new utopia of 1968ers, we shifted production out of the United States and

out of Europe, into poorer parts of the world, where labor was cheaper, and the conditions of life were poorer. The intention was not to improve the conditions of life in these countries where people were poorer, or poorly educated. Rather, the idea was to exploit them to the maximum. To pay them as little as possible is to run away from the responsibility.

For example, the “cost of production,” and the “cost of production” are sometimes terms that don’t mean the same thing. The cost of production for one person is, is what it costs me to hire somebody to produce something in a given society. From the standpoint of economy, the cost of production is what it costs to produce a society *at a cultural level* consistent with a certain standard of living. And what tends to happen is, you see the cuts in health care, you see cuts in education, you see cuts in sanitation, you see the breakdown of power systems. As over the past 25 years, we’re having a breakdown in power systems because we have not *renewed* them in 25 years in the United States. So therefore, the actual costs of maintaining and developing a population, are not taken into account.

You produce by using up the territory which you run. And this has resulted in this condition today, where some people say, China is the nation of the future. China *is* a nation of the future. Or that India is the nation of the future. That the Americas are not important any more. That Europe is not important any more. Europe’s economy is being destroyed. The conditions of life in Europe are being destroyed. The conditions of life of the people in the lower 80% of income-brackets in the United States have been destroyed *consistently*, since 1977. So, we have been destroying what was in the United States, the greatest economy the world had ever known! *We have largely destroyed it!* Not some enemy destroyed it—we destroyed it! We destroyed it by a change in policy, which is typified by the 68er mentality. And therefore, we have to go back to the standards we had before.

In European civilization, of which you’re a part, we have one of the greatest successes in all history: that, coming out of the positive side of developments in ancient Greece, we developed a notion of culture which is famous because of the writings of Plato, among others, or the writings of Solon of Athens. The idea of the society which was different than other societies. Because, in most societies, as in the Middle East, society was based on keeping most people almost as cattle, as human cattle, who worked at the pleasure of a ruling caste, which owned them and managed them.

In European civilization, beginning with people like Solon and so forth, we developed the idea which became the core of European civilization: that the state is not an entity unto itself; that the people are not the property of the state. But rather, the state is an agency which must be dedicated to the care of the general welfare of present and future generations of all of the people. This idea, which was embedded in Christianity, as in Paul’s *I Corinthians* 13, is the standard of



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*“We’re taking the population of Mexico, reducing the population that comes across the border to a lower standard of life than they had in Mexico because they see no future. We don’t realize that the law, is the law of the development of people. And we’re losing the productive potential that we had once before.” Shown here: Mexican migrant workers.*

European civilization, in all its best aspects. It is the standard of the modern nation-state, as established first in 15th-Century Italy, in the form of Renaissance; established with Louis XI’s France, where the principle of the general welfare was the ruling principle of society. It was established in England under Henry VII, where the welfare of all of the people was the primary responsibility of society. That was the law. It was called *agapē*. It was called the principle of the general welfare.

Thus, the great advantage of European civilization, which, in every country, as in Mexico, great struggles were fought to bring this standard of government into being. That the government as a republic is responsible for the development of *all* of its people, and their future condition of life. This was the rise out of serfdom and slavery.

And that is in jeopardy today. What we’ve done today, is, we’ve said, “economy is all-important.” Economy means, the cheapness of production, the cheapness of labor. Cutting this, cutting that: cutting health care, cutting education, cutting the improvement of land-areas, these kinds of things.

And so, we took a step backwards from 1968 on, back from the level of the modern European Renaissance. And that’s what you’re seeing in this issue about the border of Mexico and the United States. What you have, is you have people in the United States who are drawing forces from Mex-

ico, to produce the agricultural goods and cheap labor for construction inside the United States. What you see on the streets of the United States—you see everywhere, people who are illegals, working for firms managed by illegals! And these firms are doing the work. They’re building the houses, the cheap shacks that are about to come down. So, what we’re doing, we’re taking the population of Mexico, we’re reducing the population that comes across the border to a lower standard of life than they had in Mexico because they see no future. We’re using them up! We’re not developing them; *we’re using them up!* We’re tending to criminalize them! Because, we don’t realize that the law, is the law of the development of people. And we’re losing the productive potential that we had once before.

To give an example of this: Back in the middle of the 1970s, I was one of the founders of an organization which had some 200,000 members, and which represented many of the general generation of scientists. We were working on various scientific questions, largely including nuclear power, fusion

power, and so forth.

Most of those people with whom I was associated then, in the 1970s and 1980s are now dead. They have not been replaced. There’s a shrinking number of people, a shrinking percentile of people, today, who have the competence they represented. And so therefore, not only have we lost in the condition of life, in the condition of the general welfare, we’ve also lost a scientific population which was formerly essential to our achievements. And therefore, we are not capable, presently, of the kind of scientific endeavors which we were capable of then. We’ve lost science. We’ve lost science and technology. We talk about it a lot, but we’ve lost it.

We have to rebuild it.

Our challenge today, is to take the things that we can do, things we’re capable of doing in the direction I indicated, largely based on this issue of water, power, transportation; treat that as basic infrastructural development, basic challenge of government, the proper area of government—large-scale mass transit; large-scale power production; improvements in technology in general; and the fostering in the private sector of technological improvements, that’s what we used to do. And this is our future.

Look, go back to what I said in the beginning: 1928 to 1933, the United States, along with Europe, underwent a great collapse. In the United States, the U.S. economy, since about



October-November 1929, by February of 1933, had collapsed by one-half. Franklin Roosevelt took a broken economy, which had been mismanaged by the Coolidge and Hoover Administrations, and took that economy, and made it into the most powerful nation the world had ever seen, largely by virtue of economic power, but also the determination to use it. If the United States had not undergone that transformation under Roosevelt, Adolf Hitler would probably be ruling the world today, or his successors. Without the United States factor in that period, Hitler would have prevailed, there's no question about it.

So, we achieved something. In the postwar period, there was a tendency by powerful financier forces, to say, "No, we don't like that." Remember, that the Hitler phenomenon and the rise of fascism in France, actually, in Italy, in Germany, and elsewhere, was a product not of merely a fascist movement. The fascist movement was not something which generated itself: It was something that had been created by powerful financier forces. And they created this system, this system of fascism.

The British were behind it. But then, when Adolf Hitler's mind was changed to go westward first, instead of eastward first, which had been the British plan, many of them broke. And then they came to us in the United States, came to Franklin Roosevelt and said "help us." Roosevelt knew the war was inevitable, from the time he was actually inaugurated as President. Hitler became the dictator of Germany in late February of 1933. Roosevelt was inaugurated in March of 1933. On the day that Roosevelt moved into his office, in the White House, where he could barely find a pencil and a piece of paper with which to begin governing, the inevitability of World War II already existed. Because Hitler was in power. The machinery of war was already under way.

What Roosevelt did, not only organized the United States to deal with unemployment, but he created an organization under a fellow called Harry Hopkins, which included people like Lucius Clay, who became famous in the wartime and postwar period. And what we did, is we organized the unemployed—remember *four million people were employed in one day* under Harry Hopkins! Under Roosevelt: four million people in one day. This four million people in one day, was the start of a process of rebuilding the U.S. economy. Initially, it was cheap labor, the WPA and similar things like that. This force, from the beginning, used senior military officers who were recruited into this program on a logistical basis, on an engineering basis, and the plans for the recovery of the United States' economy took into account the needed preparations for war.

Now, the German military was far superior to any other military on this planet, at that time. The U.S. Army was not militarily superior to the German soldier. *But:* We have tons of materiel, against the hundreds of pounds of the German soldier. And it was our logistical power, built in the recovery program under Franklin Roosevelt, which gave us the power

to win World War II, and was decisive! Otherwise, Hitler would have won.

Now, again, the danger is not Hitler. He's gone. But similar threats threaten us today. Not the same kind of threats, but just the threat of poverty, the threat of a general collapse of the international financial system—which, I can tell you, is inevitable. This system is going to go down, the financial system: It's finished! In the next three months, you are going to see what Hell looks like, in terms of international markets.

Because, what's happened, just briefly, to conclude this: What happened, in 1987, we had the October collapse of the U.S. stock market. Paul Volcker was then the head of the Federal Reserve Board, the chairman. And at that point, Alan Greenspan had been nominated to be his successor. Greenspan sent a message to Volcker and company: "Don't do anything, until I come in. I have a plan." His plan was called financial derivatives, it's called financial derivatives today.

Now, what's happened is, this was a great hyperinflationary movement. You don't know who owns anything any more. Because, layer on layer of speculation has taken over ownership. The world is *quadrillions of dollars* in debt, way beyond any security. *And the whole system is coming down.* It's a super-John Law Bubble, all done under the guidance of Alan Greenspan.

Now, what has happened? With Bernanke coming in as the new Federal Reserve Chairman, it is recognized that we've reached a point with the so-called carry trade, which is the most dangerous part of this, and with large-scale real-estate speculation, that the whole system is going to come down. So, what is being done right now, is you will find the carry trade is collapsing. Many of you have noticed that Iceland went bankrupt; New Zealand is bankrupt; Australia's on the verge of bankruptcy, as a result of this speculation. We're now going through the months of April, May, and June: As it stands now, unless there's a fundamental change, you're going to see a crisis of the type you could not imagine possible. It's going to hit here. It's going to hit the United States. It's going to hit worldwide.

So, you're now at a point of crisis, which is different than, but comparable to what Roosevelt faced in March of 1933, when he picked up the first pencil inside the White House.

There's nothing fearful about the situation in one respect: There's no problem, no challenge we face, which is what we *should know* from past experience, we could not solve. It requires governments which have the nerve to deal with these problems, just as Roosevelt did with them then. This is a worse situation than Roosevelt faced, but we can solve it.

And what I've indicated today, is simply some of the factors that have to be taken into account. We're going into a new era. Everyone in leading positions, or relevance in government, knows it. We've got to go to nuclear energy, we've got to go beyond nuclear energy, we're going back to a different kind of economy than we thought was going to be paradise since 1968. You're here.