

Megan Dobrodt

Why the Universe Needs More People

Megan Dobrodt is the President of the U.S. Schiller Institute. She worked directly with Lyndon LaRouche on scientific and economics research projects. This is an edited transcript of her keynote presentation to the second panel, “The Real Science Behind Climate Change: Why the World Needs Many More Terawatts of Energy,” of the June 26-27, 2021 Schiller Institute conference, “For the Common Good of All People, Not Rules Benefiting the Few!” Subheads have been added.



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That the world, the universe needs more people for their continued existence, is an idea that was first posed to me by Lyndon LaRouche. It is not an opinion, but a conclusion derived from the rigorous study of the history of our planet, and of the science of physical economy.

However, not everyone agrees with that statement. Perhaps you’ve heard this:

Human population growth is probably the single most serious long-term threat to survival. We’re in for a major disaster if it isn’t curbed.... We have no option.

—Prince Philip, 1981

Too many cars, too many factories, too much detergent, too many pesticides, multiplying contrails, inadequate sewage treatment plants, too little water, too much carbon dioxide—all can be traced easily to too many people.

—Paul Ehrlich, 1968

We are a plague on the Earth. It’s coming home to roost over the next 50 years or so. Either we limit our population growth or the natural world will do it for us.

—Sir David Attenborough, 2013

The good news is that the history of our universe and of the biosphere itself, shows the opposite. There is no “stasis” that we are disrupting. There is no “Earth in the bal-

ance.” Instead, we see a process of anti-entropic change, of intensifying transformation of the natural world which created the conditions for the appearance of cognitive life, and actually demands more people for that continuation.

To get an insight into this, we’ll look briefly at the work of, first, Vladimir Vernadsky, and then, Lyndon LaRouche.

First, take most people’s fallacies today about “nature,” the “natural world,” to which human activity is supposedly opposed. One of the big lines today that you may have heard, is that we are destroying biodiversity, and we are driving species out of existence 1,000 times faster than what is considered “natural.”

Vernadsky: The Unceasing Motion of Matter in the Biosphere

Let’s use the discoveries of Vernadsky to correct that view, starting with what a species of life *is*. There is no such thing as a living thing, apart from the biosphere, that



USSR Academy of Sciences, 1934

NSIPS/Stuart Lewis

is, outside of the material and energetic environment in which it lives. You take a living thing out of the biosphere, and it dies. This interconnection is seen in the fact that the body of a living organism, from the tiniest micro-organism to the largest plants and animals, is not made up of the same material as it was last year, last month, or even yesterday. A living body is in an unceasing process

of motion—exchanging material with the surrounding environment through its nutrition and respiration. Even you: Roughly 98% of the atoms in your body will have been replaced with new ones within the next year.

This led the naturalist Georges Cuvier to call a living organism an “incessant current,” a whirlpool of atoms which come from the exterior and return there.

So, with that idea, we have a new view of living species—not as a collection of things, objects, with fur and feet, and wings, but as something akin to a living mineral. If we take the totality of all individuals of a particular species across the globe, Vernadsky found that that species can be characterized by a mean mass, but more interestingly, a very precise distribution of the chemical elements and isotopes which make up its body, a distribution which is particular to that species of life, like a chemical fingerprint or signature.

These “living minerals,” as long as they are in the process of exchanging material with the surrounding environment, they leave behind them—both in their waste products and also in their bodies when they die—they leave behind them a geochemically *changed*, transformed environment.

My favorite example to offer here, is the Great Oxygenation Event, which occurred somewhere between 2 and 2.4 billion years ago, which was shortly after the biosphere developed a new technology called photosynthesis. At this time, these little microorganisms, cyanobacteria, began pumping out enormous quantities of oxygen into the environment, which was toxic to most life on the planet. This resulted in a mass extinction event in which an estimated 99% of all life on Earth died!

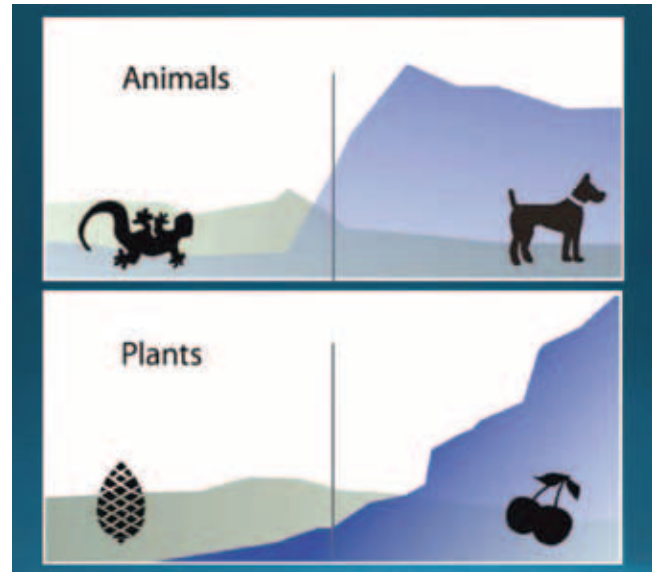
But then, what emerged? Well, what survived, mainly, were the life forms that were able to metabolize oxygen. This revolutionized the “free energy” that was available to living matter. It allowed, eventually, the development of mitochondria and multicellular life. At the same time, the geology of the planet itself was dramatically impacted. New kinds of minerals began to appear, ones which could form in the presence of oxygen, including the banded iron formations.

Life Transforms the Earth’s Geochemistry

So, living matter has radically transformed the geochemical makeup of Earth, disrupting the non-living nature, the “stasis” around it. Because of this—this work, this activity performed by life—Vernadsky called living organisms “the bearer for, and creator of, free energy” in the biosphere.

Vernadsky’s decades of work led him to two very

FIGURE 1



Courtesy of Megan Dobrodt

The K-T extinction event brought forth the dominance of organisms of higher metabolic intensity over organisms of lower metabolic intensity.

important conclusions: 1) that the action of living matter to reorganize the non-living material of the environment had gone on since the first appearance of life on Earth and had never ceased; and 2) the rate at which that had been happening has increased over time. Life had sped up its process of changing nature. This was something Vernadsky noted, which had been accomplished through the changeover of the ensemble of species that had existed on the planet, at any given time. In other words, this had occurred through a process of extinction and evolution.

Let’s look briefly at one indication of that. **Figure 1** shows biodiversity over time. The top one is for tetrapod animals, and the bottom one is for plants. The vertical line in the middle of both charts, indicates the time of the K-T (Cretaceous-Tertiary) extinction, about 65 million years ago, when the dinosaurs were wiped out. Before that time, the dominant classes of organisms were those with lower metabolic intensity—reptiles, in the case of animals, and gymnosperms, in the case of plants. Following the extinction event, those classes (on the left) decline, and a set of higher-energy organisms—the mammals and the angiosperms, emerge and take over.

A Direction to Evolution

Vernadsky concluded from evidence like this, that there is a definite direction to evolution, which is that of increasing the intensity of what he called “biogenic mi-

gration of atoms.” In other words, the intensity of the transformation of Earth by the action of living matter. He said this moves, over evolutionary time, towards its maximum manifestation, so much so that were an organism to have evolved randomly, it would only survive if it could keep up with and contribute to furthering of the intensity of the biosphere.

So much for “pristine nature,” so much for “Earth in balance”—nature is constantly changing, and it’s changing in such a way that it’s becoming more capable of future change. In this way, the biosphere, living matter, has acted to *improve* the Earth, to maximize the work done. It concentrated materials into forms that are more usable, and of a higher power than they could ever have been, outside of the action of life. *That* is natural!

But, there is a limit to the biosphere. Evolution has allowed living organisms to penetrate deep into the crust of the Earth, and high into the edges of the troposphere. But biological technology has been stymied at the edge of space, where the environment of the biosphere ends. However, over the course of the past few million years, the biosphere has developed to a point at which the emergence of a different kind of living form was possible, a living form not limited in the same way. And that is cognitive life.

With humanity, we see for the first time the evolution of a species, not via its biology. And Vernadsky makes a point to note that the biological and neurological infrastructure of the human organism has not changed appreciably over the past ten thousand years. And yet, look how much our species has changed. Through the evolution of our mind, a type of biogenic migration of atoms, a type of exchange and reshaping of the Earth’s chemistry has emerged as a significant factor, and that is the biogenic migration caused by technology—due to the organized labor, social work of a species.

Let me give a couple of quick examples.

One of the most significant in our history is agriculture, which began around 10,000 years ago, when human beings began to select, cultivate, concentrate, and change plant and animal life to better meet their needs. This new reliability and also improvement of the sources of food, and also of work (in the case of livestock), opened up the possibility of larger populations, permanent settlement, urban culture—and it also

led to an increase in the productivity of various plant and animal species, which they could not have achieved without us.

Another example is the application of fire to metallurgy—the extraction of metals from rock and the shaping of them into tools. Throughout human history, we have created new things, which could not, and would not, have existed otherwise on the surface of the Earth. We’ve turned electricity into motion; we’ve enriched uranium; we’ve superheated and contained plasmas. We’ve applied the powers of these things in new ways, thus enlarging the natural world.

This unique capability of man, has allowed us to overcome previous limits on our population. And Vernadsky noted, in the 1930s, the upper limit of the human population, he said, was probably around 3 trillion. He added that with the knowledge of the atomic nucleus then coming into technological practice, it would likely become many times higher.

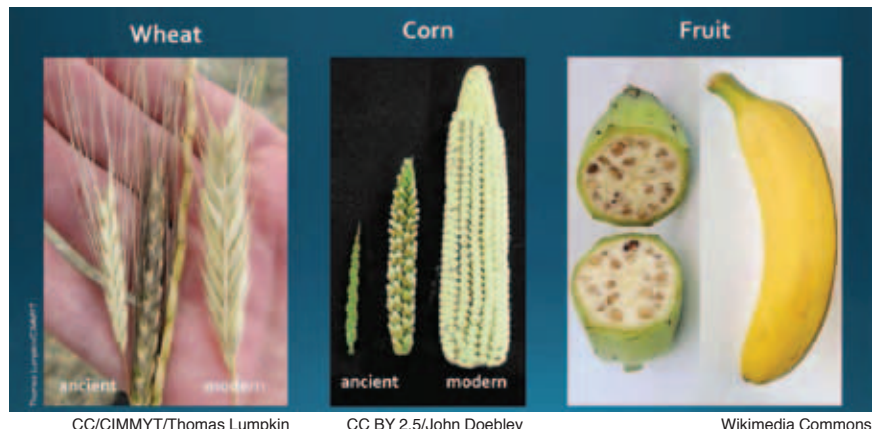
So, with the application of reason in the form of technologies, over the past 100 years, the noosphere, the domain of human activity, has begun to overtake the biosphere in its intensity, just as the biosphere surpassed the rate of activity of the non-living.

And so, our little planet’s development was aimed toward, and is now being cultivated to reflect the dominance of the power of reason.

So we have, even with this small glimpse, the fact that nature is run by a creative principle. Everything participates in it, including the processes of the biosphere, which do so by instinct. Human beings participate in it *consciously*.

Lyndon LaRouche: A Creative Principle Consciously

And it’s here that we turn to the physical economic discoveries of Lyndon LaRouche, which stand firmly





Malachite ore, when reduced by fire, produces copper, which can then be formed into objects of usefulness or beauty, such as the Viking ring shown here.

upon the fact that human life embodies a higher principle of existence than that of mere animals.

In his 1983 [book](#), *There Are No Limits to Growth*, LaRouche writes:

Man is fundamentally different from the beasts. Man is not merely a creature of instinctive potentialities, a mere creature of animal-like perceptions of pleasure and pain. Man is somehow very different. Man has the potential of Reason, the power to make creative discoveries which advance his scientific knowledge, and to convert such scientific advances into advances in technology. We are able to uncover, with increasing perfection, the lawful, universal principles which order universal creation, and to master nature with increasing power, through guiding ourselves to change our ways of behavior in accordance with universal laws.

As Lyndon LaRouche said many times, no animal has *ever* made a discovery of principle. Only human beings have. This is part of the goodness of mankind. Our minds are able to “see,” so to speak—by the generation of a creative hypothesis within the bounds of our own thought processes, we “see” principles of the universe: universal gravitation, electromagnetism, the powers of the atomic nucleus. These things could never have been seen or perceived with the animal senses.

When we wield these ideas, these principles as ideas embodied in technology, we are rewarded with new and efficient power to *change* the universe.

There is the secret to economy.

In a 2005 [writing](#), “Man’s Original Creations,” LaRouche says:

A foolish economist measures the performance of an economy in the financial, or monetary, or, much less foolishly, the physical wealth enjoyed by either some, or all of the members of that society. The competent economist measures the wealth of the economy in the degree of self-improvement of the quality of the members of society as human.

Making the same point more bluntly, it were said that the economic mission of society is to make the nation’s people better than they are today. This is to be done through means employing the process of developing the people to higher levels of power in and over nature per capita. Or, we might better say, “The greatest wealth which the generation of the deceased has bequeathed to its heirs, is a society of a better quality of living people.”

Transcending the Boundary of Space

So, what is the primary input to a physical economic cycle? People—the labor and supporting technologies of society. And what is the primary output? People! But a better quality of people. More people, living longer lives, better situated to make the next discoveries and contributions to humanity. This is a self-perpetuating process. The universe indicates its “approval” of that process by allowing us, and in a sense, requiring us, to do more of it.

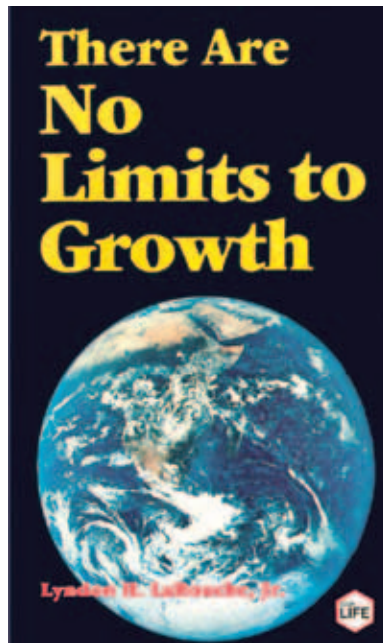
Based on this principle, Lyndon LaRouche developed a measure of physical economic progress that he called “potential relative population-density.” How many people could be supported on a given land area, were the available technologies and technological improvements applied to that land and to the population’s labor? In a healthy economy, there is an increasing rate of increase of this metric.

So, back to the biosphere, which is stymied at the

edge of space. We are the only species that has the capability of transcending that boundary, and extending the biosphere to other planetary bodies. When we do that, we will bring the same anti-entropic process of development that our planet has had the privilege to undergo, deeper and deeper into the solar system, and eventually, to other star systems. Without us, life cannot do that, and perhaps that's one of the reasons the universe created us.

So, I want to leave you with two thoughts. First, the idea suggested here by LaRouche, of humanity's potential for limitless, unending progress. He [wrote](#) in 2013:

Mankind's physical capabilities, are, in and of themselves, limited; the bounds of the human mind's power to imagine effectively from within the developing processes of not the human "brain," but, contrary to popular opin-



ions, the human *mind* have no presently adducible bounds.

Second, the fact that unlike the biotic domain, which responds to its creative assignment automatically, by instinct, humanity must *choose* to do the good. For Gottfried Leibniz, the fact that this had to be a free-will choice, is what made it good.

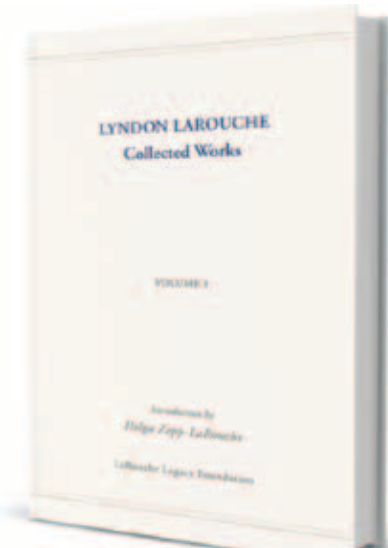
Today, I ask you to imagine the goodness that would come to the billions of currently living human beings, and the trillions waiting to be born, if we were to root out, forever, from human culture, the scourge of Malthusianism. Can we as humanity finally grow up and bring our behavior in line with our actual species characteristic? What great good will

come, when nations finally wield Lyndon LaRouche's discoveries of the principles of physical economy as conscious policy, to shape the next 100, 1,000 years?

Thank you.

LYNDON LAROUCHE Collected Works, Volume I

This first volume of the Lyndon LaRouche Collected Works contains four of LaRouche's most important and influential works on the subject of physical economy:



- *So, You Wish to Learn All About Economics?*
- *There Are No Limits to Growth*
- *The Science of Christian Economy*
- *The Dialogue of Eurasian Civilizations: Earth's Next Fifty Years*

So, You Wish to Learn All About Economics? was first published in 1984 and has become the single most translated of LaRouche's books.

There Are No Limits to Growth first appeared in 1983 as a direct response to the Club of Rome's *The Limits to Growth*, thoroughly refuting the latter's unscientific Malthusian argument, which underlies the "green" environmentalist movement today.

The Science of Christian Economy (1991) is a groundbreaking study written by Mr. LaRouche during the five-year period he was unjustly incarcerated as a political prisoner in significant measure for the arguments he sets forth in this book.

The Dialogue of Eurasian Civilizations: Earth's Next Fifty Years (2004) follows in the footsteps of Cardinal Nicholas of Cusa to establish the scientific, cultural, and theological basis for a true dialogue of civilizations, in order to successfully address the existential crises facing humanity today.

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