LPAC-TV WEEKLY REPORT

The Economics of Extinction And the Principle of Progress

This is an edited transcript of the Jan. 26 LaRouchePAC TV Weekly Report, which was hosted by John Hoefle; his guests were Lyndon LaRouche, and Ben Deniston and Sky Shields from the LPAC Basement Team of scientific researchers.

Lyndon LaRouche: This is going to be a very unusual experience for most people viewing this business, because there is a scientific principle of great importance involved in this whole program, and that will become clear at the close of the presentations. My associates, flanking me on either side, have put together a piece which is of remarkable significance, of not only historic significance, but of scientific significance. And the best way to go with this, is to follow what they have to say in sequence, starting with Sky, and then Ben; they will discuss what they've done, commenting on it, and then I will enter with happy remarks on what they have accomplished, to close it out.

Sky Shields: Okay. So we want to tackle, as you said, a question of core economic scientific principle. Now, what we'll discuss here, will be a very specific case study, actually a set of case studies. It won't be a substitute for the full breadth of everything you've laid out, but I think it'll give a good guide to the meat, to the core of the matter.

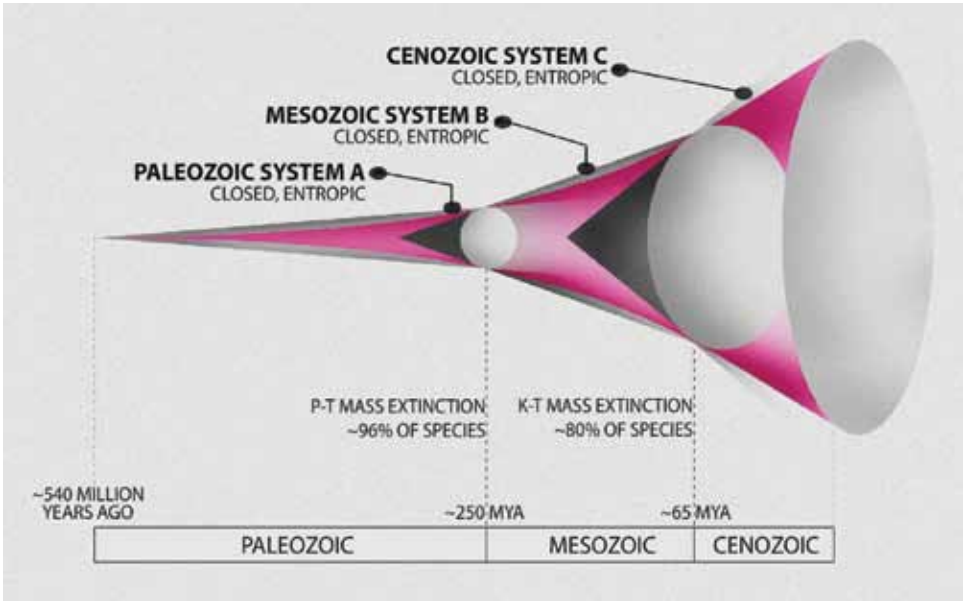
We're going to address a couple of things: One is, what's come up a lot recently, which is the texture of economic time; but then, we'll get at what the ontology of this is. What exactly is the ontology of these key developmental processes, that are shared in common between overall human development, economic development, and the creative anti-entropic development of the universe as a whole.

Now, we'll draw some key distinctions at the end, between the biospheric processes and human processes. But first we're going to take a look at certain characteristics that are in common, because these will be characteristics of anti-entropic development, of evolutionary development as a whole, that are actually inviolable, in contrast to the standard description of what evolutionary development is. And we'll see that the processes we'll look at here, both within the biosphere, and within human economies, are going to be completely opposed to everything laid out by the Darwinian program of natural selection, everything laid out by Adam Smith for economic policy; but then, on a more fundamental level of ontology, it'll be entirely opposed to the whole program put together by Pierre-Simon Laplace.

So, in examining the development of life in the biosphere, we see that it's punctuated by certain key events. The overall trend is a certain development that we know culminates with where we find ourselves now, with human beings playing a very specific role within the biosphere, and within the universe as a whole.

But along that route, you see certain key steps of development that have to be reached, to get us to where

FIGURE 1



we are. That overall upward development, anti-entropic development, is punctuated by events that are typically referred to as mass extinction events, and the two we're going to take a look at today, to focus in on, even though these aren't the only two, are known as the KT mass extinction, and the PT mass extinction: The Cretaceous Tertiary is the KT, and the "Permian Triassic" is the PT (**Figure 1**).

Now, hopefully, by the time we're done here, it'll be clear that what's most significant about these events is not that they are extinction events. In fact, we might see that that's going to be an improper use of the term. These are actually certain key qualitative types of transition, which are marked as much by the creation of new species, as by the elimination of species. And in fact, we'll see that the reason for the elimination of these species, is that the overall process of creation, what governs the need for the disappearance of certain systems on the planet, is what's required for the production of the new, subsequent system.

So we'll take a look. The KT extinction event is what people have in their minds already, in the popular culture, as the extinction of the dinosaurs. Most people don't really take into account that this is also when you get the creation of what we recognize as our modern system. Certain key elements that we take for granted in our modern system emerged post that boundary: the development of mammalian life, the rise of the birds, the rise of flowering plants, fruiting plants, all the things we recognize, as you said—the birds, the bees, the mammals, the fruits, and the nuts—these all emerged immediately after the KT.

Now, the question is, what is the texture of anti-entropic development and anti-entropic timing that governs that process? And we'll see that it's a reflection of one very key economic principle, which is the increase in energy-flux density.

We can take that continuous process, as something we want to carry over now, to policymaking in the present, to get us out of the current crisis. This discussion is what we're going to want to bring, right now, into the economics departments, because we're witnessing the failure—currently, globally—of everything that's been proposed as economics over the last several decades. And I think you've got people who are realizing that they've been sold, you would say, a "lemon," with what's been promised to them as economic education and scientific education. And we're in a position right now, when we really do need a Renaissance; we need a revival of this earlier approach and a reapplication of it, if we're even going to survive.

So, I'll pass it off to you, Ben, to begin to take a look at what characterizes this distinction across these two major boundaries.

What Is Real Causality?

Ben Deniston: The key thing in approaching this is to get away from this Laplacean causality, into the actual principle of what's the real cause of the substance of this development process. And the first step is to just immediately state outright that you're looking at the development of the biosphere system as a whole, looking at the question of what's actually governing that process.

And so, in taking this half-billion years, the last 540 million years, of the development of complex life, something we have a decent record of in the fossils. These two mass extinctions really stand out as clear in-

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"The first principle you see throughout this process is that the energy of the entire system is constantly increasing," Deniston pointed out. "But it's not just a gradual growth process: You get these stark inflection points.... The way this occurs in the biosphere, is that you'll have the beginning of the introduction of a new system within the prior system, and then at a certain point you have the actual takeover of this new system."

flection points in the development of that whole system, as a single system.

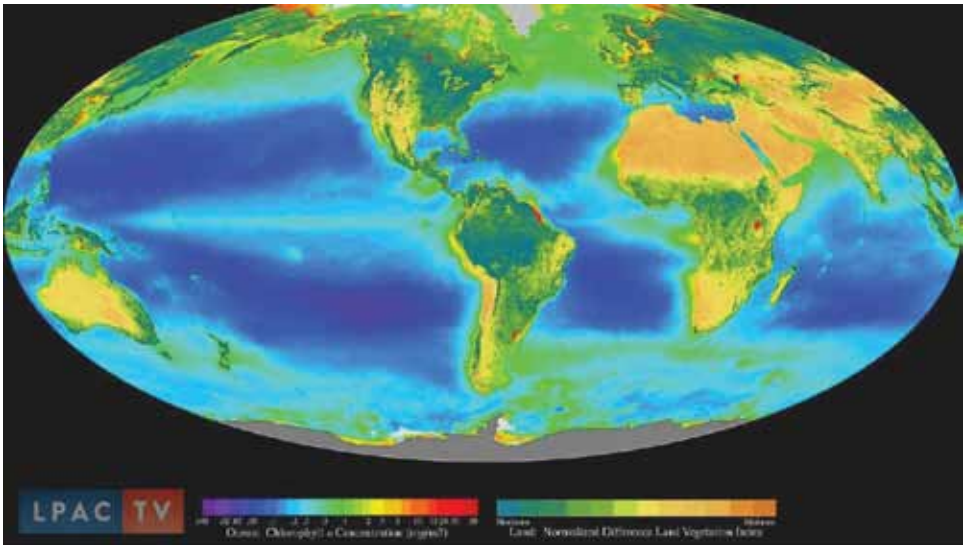
The first principle you see throughout this whole process is that the energy of the entire system is constantly increasing. But it's not just a gradual growth process: You get these stark inflection points, removed to a new state of the system. The way this occurs in the biosphere, is that you'll have the beginning of the introduction of a new system within the prior system, and then at a certain point you have the actual takeover of this new system.

And so, we have that illustrated in this series of nested cones. First, for the biosphere, you have your baseline total energy of the system—and we'll get into some more qualitative metrics shortly, but the baseline, the energy of the whole system, is defined by your photosynthetic activity. That's the way life, organic matter, can actually take energy from the Sun—sunlight—and actually transform it into something that life can use. So that becomes your bottom line of everything: Everything that goes on with life is ultimately dependent upon this photosynthesis process.

And so, if you look at a global map, you can see the distribution of where photosynthetic activity actually occurs in the planet (**Figure 2**). And you'll see, even today, there are huge regions were there's hardly any activity at all. You have great deserts. We're familiar with the Great American Desert, which is something NAWAPA [the proposed North American Water and Power Alliance] would address, in actually upshifting and developing it. You have the major Sahara Desert in Africa. And also, you have huge desert regions in the oceans.

So there are already limited areas where you even have life active, productive, and actually creating new

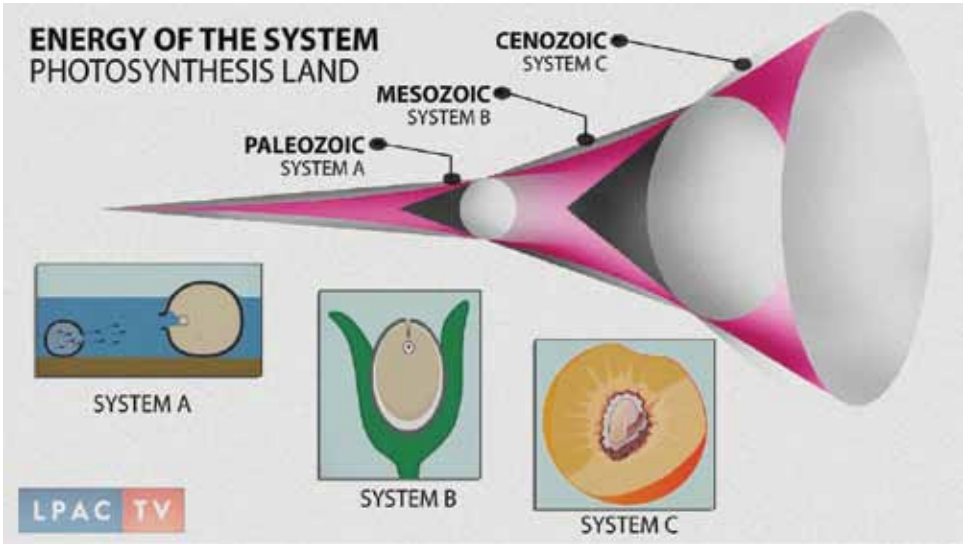
FIGURE 2
Photosynthetic Activity



NASA

The legend on the left (oceans) shows chlorophyll increasing from left to right; the legend on the right shows chlorophyll decreasing from left to right (land). The points of highest chlorophyll in the sea (red) often reflect river runoff (e.g., the Siberian rivers and the Amazon).

FIGURE 3



biological matter, the baseline of the whole biosphere system.

Shields: And that's significant; I mean people don't recognize the open ocean is largely, with respect to this process, photosynthesis, the development of life as a whole, and that these do function as desert regions.

Deniston: Yes, exactly. It's desert. There's certain life, maybe deep down, in certain vents and different things; but most of the life is in the regions indicated here.

But this process has gone through clear qualitative upshifts, both on land and in the ocean, corresponding to these phase-shifts of the biosphere system. Just to highlight some of the key developments, you had, in the first roughly 300 million years of this process, in what's called the Paleozoic era, the dominant form of plant life emerged on land, partly through this process; but the dominant form of plant life on land that characterized the latter part of this period was more the fern-based life, which was characterized by needing to be near water to reproduce; it had spores, it didn't have standard seeds like you see today. So, even the plant life that could be on land was limited very much to these coastal regions (**Figure 3**).

Then you had a huge breakthrough around the PT mass extinction. It was devastating! You had 96% of species eliminated from the planet, roughly. But what came out of it was the development in this photosynthetic base, with a totally new quality of plant life, with the gymnosperms. So now, you have the seed-based life, and now life was able to penetrate much deeper into the inland of the continents than it could otherwise. It would actually move into drier areas; it didn't require to be immediately in a wet or moist environment to reproduce, which was the case with the previous system.

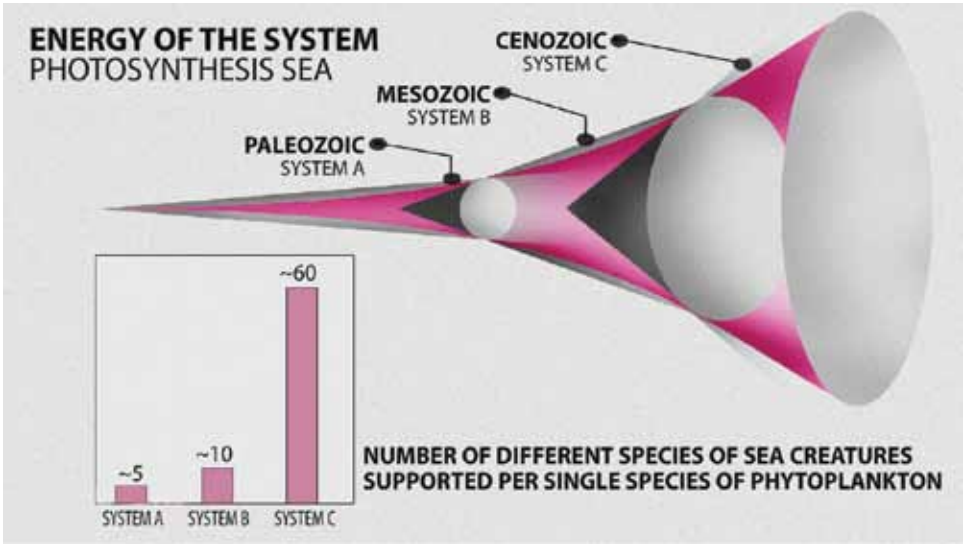
And then you saw a further upshift in the plant life on land, with the KT mass extinction: We had the development of the angiosperms. And we'll get a little bit more into the significance of that. But then, you had a further spreading of life.

Then, what gets interesting is that—this is where you really have to get away from the bad pairwise causality that dominates everything. Because you're looking at the whole system driving towards this upshift, because you see this exact same upshift, not just on land, but you see it in the oceans as well. And for photosynthesis in the oceans, the majority of it is done actually by what are called "phytoplankton"—little single-celled critters. They actually produce the vast majority of photosynthetic activity; the creation of new living matter in the oceans is by these little single-celled guys.

And you see the exact same set of three qualitative shifts that you see with plant life on land, you now have with plant life in the oceans, too (**Figure 4**). Around the PT mass extinction, 250 million years ago, you have a qualitative shift in the type of photosynthetic life in the oceans, and with this, you have photosynthetic life spreading further, deeper into the oceans, overall more production, more creation of new biological matter.

Then you get a similar shift with the KT mass extinction. And one way to indicate this—there's a lot of ways to get a sense of how the total energy of the system is increased, but for example, one metric that comes up is that between these three systems, you can compare how many species of higher life are supported per single species of photosynthetic life in the oceans. And so you see this steady increase from about 5 species, to 10 species, to 60 species, going from system to system. So, you're seeing that, with this increase of the photo-

FIGURE 4



synthetic base, you get an increase of support of higher, and, as we'll see, more complex and more advanced whole systems of life, based on this advance in the photosynthetic base in the energy of the system.

But this is not just simply a linear increase. It actually gets you closer to this question of energy-flux density of the system, to the principle of what's governing this developing, upshifting process, what's actually governing this anti-entropic process as we see it. And you can see that expressed, as you have the shifts. So, the whole energy of the system is increasing, and you [Shields] made the point earlier that this idea would also come up in any discussion of real, healthy economic process. The whole energy of the system is constantly increasing, going through these upshifts. You're also getting a constant increase in the energy consumption per capita, and per species, with these processes.

'Free Trade': How To Guarantee Extinction

Shields: Right. We should underscore that. This'll become clear as we take it into the economic discussion, but this is the exact opposite of everything that's ever argued by the environmentalists. It's the opposite of what's argued by the all these so-called household economics types, "free-trade economics," like Gingrich and these people, who say that you find your profit margin in cutting back and reducing consumption. This is never the case, anywhere in the history of the biosphere! The actual source of the development is the *increase* of consumption, but being able to balance out in the processes that you're describing here, you balance it out by the quality of upshift that you launch.

Deniston: Right. And doing the opposite is the way to absolutely guarantee extinction. As we'll see in these cases here: To not go with this process, to try to limit yourself to any fixed state in the system, that's the definition of guaranteeing extinction. Because there's no fixed point in this process; the whole process is moving forward.

We'll get to a couple of cases of that shortly, but another clear expression of these upshifts in these systems, you can see in the question of the metabolic rate, the metabolism of different species (**Figure 5**).

And a fun way to pose it,

FIGURE 5

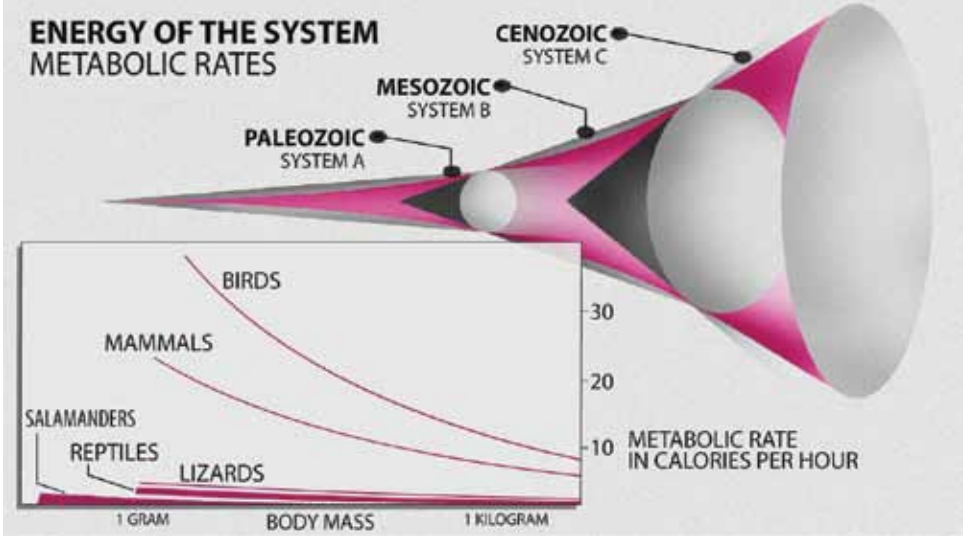
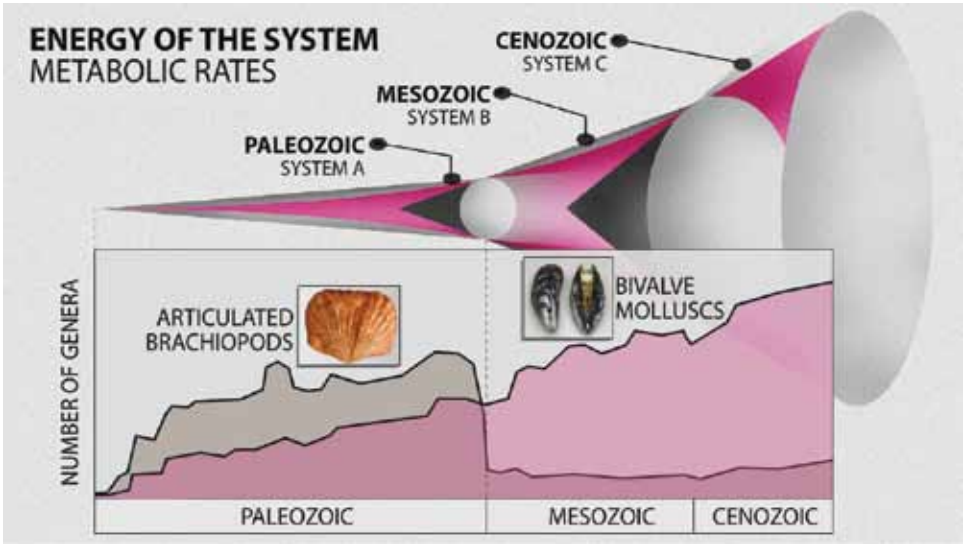


FIGURE 6



is you could actually take the different flesh of different creatures, like 1 gram of flesh of a mouse, versus a lizard, versus a salamander, for example. The actual amount of constant intake of food, water, and oxygen and respiration required to sustain that same 1 gram of flesh, is completely, qualitatively different for each type of species.

And these creatures we have are kind of reflections of the type of species you had in the previous eras. You obviously have the introduction of mammals, becoming the dominant system following the KP mass extinction; the reptiles dominated following the PT mass extinction. But what you see is that the shift of the metabolic rates, increasing through this process, is a very clear expression of the constant increase of energy consumption, per species. But then, really, it is a pretty direct expression, this question of the energy-flux density, the actual flux, through respiration, eating, everything that's required to sustain the organisms, is required to be at a faster rate, with these upshifts in these systems.

And here (**Figure 6**) we have just one example, one illustration of the principle of the process. What you see with these upshifts then, is that these mass extinctions, what they really signify is that those species that don't upshift with the system, that are fixed to the lower-level system, the previous order, are the ones that go extinct. I mean, this is a fun, single example, but I think it reflects a lot, which is this case of the comparison of these brachiopods versus these bivalve mollusks.

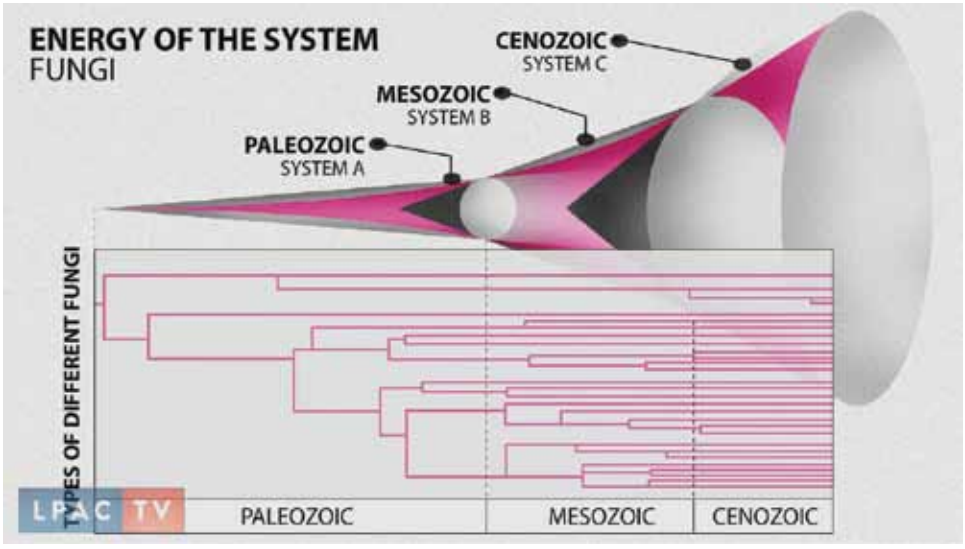
Deniston: Right. And the mollusks are the clams, oysters, everything we're familiar with today. There was a very similar creature that dominated the whole Paleozoic era, called brachiopods: a similar two-shelled creature, which lived in similar locations, ate similar food, had similar predators, occupied a similar place in the relative system. But as you see at the PT mass extinction, the brachiopods were devastated, they were wiped out. The mollusks were hardly affected—they were affected, but nowhere near as badly as the brachiopods. And the mollusks, then, took over and became the dominant species.

Well, the mollusks have a metabolic rate roughly on the order of ten times that of the brachiopods. So, it's very clear. It's one case, but you see it also comparing the dinosaurs to the mammals. You see that it's the whole system moving toward a constant requirement for further energy consumption per species, and that characterizes the system.

And this is, again, across the board. We're kind of pulling out slices here, but one fun thing we came across, is that even the development of fungi shows this, of all things (**Figure 7**). That actually, in the whole Paleozoic period, you had very primitive fungi that couldn't break down tree matter and different living plant matter very well; and it only came in following these successive shifts of the system. But what's the significance of that? There was a great increase in the actual so-called "carbon cycle," and the so-called "oxygen cycle," because now you had this increased fungal form that could then actually break down the material at a faster rate, and increase the flow of the exchange of carbon, from living to nonliving, and back into living again; the same with the oxygen. So, you see this across the board; we're just pulling out a couple of illustrative examples here.

Shields: And that's going to be a theme that's going to keep coming up: that speed of the cycling, that things will actually increase the speed of it. That's an innova-

FIGURE 7



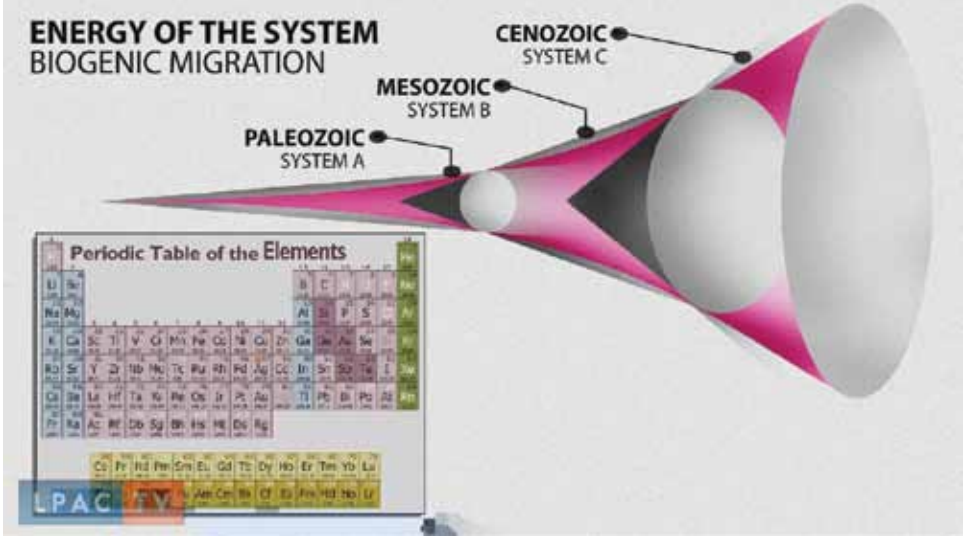
tion to be able to speed up decay; it's an innovation. Again, this is where the language sort of trips us up, because people think of decay as a collapse. In this case, it's not! It's speeding up the ability to do what Vladimir Vernadsky referred to as the "biogenic migration of atoms" (**Figure 8**), which we'll get into. If you view these elements, these individual creatures, as singularities, what you're speeding up is the amount of flow of the whole system through these things that are just singular elements.

Deniston: You get an increased rate at which life itself transforms the face of the planet: It transforms the atmosphere, transforms the soils, transforms the oceans: that throughout this process, life's expanded, it's taken up more of the Earth to transform, to take in and change the characteristics of it. And it's done, like you [LaRouche] are saying, at a faster rate, a constantly faster rate.

And I think the point is that this whole environmentalist doctrine, or everything that governs economics today, then has to be seen from this standpoint. And it becomes more and more necessary to get to this issue; this becomes a practical issue at the point of this deep crisis right now, because the crisis reflects that we've gone so far; the reason why the crisis is so bad, is because we've gone so far from a system that actually is principled. That actually corresponds to what we know about the way the universe actually works.

And so, it necessitates that we actually get more to the fundamentals of what mankind is actually facing now, as a crisis, to actually determine what kind of policies we need to get out of this crisis. And it can never happen if we just try and repair the system we have now. We can do a lot more; we have plans to do more studies of this, looking at this type of staged development process in human economics, throughout the history of human society.

FIGURE 8



And looking also at cases like the Roman Empire, where if a society that doesn't make that leap, then it's destined to collapse, destined to a dark age. So you get both sides of it.

But anyway, this needs to become the baseline for discussing what type of policy we need immediately; that's going to be the only policy that's actually going to work, to move us out of this crisis.

The Biogenic Migration of Atoms: Phosphorus

Shields: I'd like to try out a couple of elements from this. I mean, think about what you mentioned on the question of the development of fungal life. Across each of these breaks, you've got a development of fungal life that increases this biogenic migration of atoms. We discussed that if you could put on your glasses such that you could only see carbon, or, you could only see phosphorous, and you were to take a look at this whole arc of development across these major breaks, you'd see a couple of things that are very interesting about how phosphorous moves.

Now, again, at this point, you no longer see your individual organisms; You see a whole system that looks somewhat continuous, though marked by singularities. Around the PT extinction, you begin to see something interesting, because the PT extinction is very skeleton-specific, and this sort of remains an anomaly to this day. There are lots of explanations, but the extinction selectively picks out, across the board, a certain type of skeletal composition; it isolates skeletons that are predominantly calcium-carbonate skeletons, but then leaves alone, broadly, skeletons that are calcium-phosphate, like our own.

As a result, you start to see, now, the predominance of the calcium-phosphate skeletons. As you look at that shift, you can start to see—say we got our glasses, again—we're only seeing the role of phosphorous; suddenly you're seeing the increased migration of phosphorous as a plant, taking this as one case study from our Periodic Table here. For each of these elements, you'd be able to sort of trace a life history in this way, and it will always tend towards this element of increased density of the circulation of it, the amount of it being pumped through any of the singularities.

That develops through the whole Mesozoic. At the end of the Mesozoic, with the KT extinction, you see something huge. Now, again, to try to draw out what we're looking at with the cones here: The way you see the images, each of these cones is representing one of these systems—the Paleozoic, the Mesozoic, and the Cenozoic in this case; but we could also make the divisions at other locations. Across the KT extinctions, when you see the introduction of the system, this final cone growth here gives you the appearance of the whole system, as you said, of the angiosperms, the fruiting plants, mammals, but then birds.

Now, if you just had your little phosphorous glasses on, and you looked at birds, you'd see essentially packets of flying phosphorous. If you looked at this transition across this boundary, suddenly you'd see chunks of phosphorous, flying from continent to continent, and then, what we know as the sort of inconvenient byproduct of birds as they fly overhead, sometimes it'll land on shoulders, land on hats, land on cars; if you were looking at those in your phosphorous glasses, you'd see packets of phosphorous—very important for fertilizer, very important for plant growth; you'd see that they would actually fly, dropping phosphorous, as a spread in the form of the bird guano—also bat guano.

The phosphorous that is washed off continents into the oceans, is actually reabsorbed in the ocean life, and picked up by sea fowl, seabirds, and brought back on land—that's one of the major ways this recycles back onto land, by the fact that you've got these birds suddenly feeding in the ocean, flying back onto land, and dropping their excrement on land. But again, we're not seeing this as excrement; we're seeing this as the cycling as phosphorous. You see a *huge* increase across this KT boundary.

Now, another demarcation we don't have here, but it's significant, and we'll show in another image. Within the Cenozoic, take a look. Now, what happens to our vision of the cycling of phosphorous, once you get the introduction of human activity? We're going to leave out other aspects of human activity for a moment, and we're going to look at it just with our phosphorous glasses on. Now, think about what happens, when you see get the agricultural Green Revolution—the real Green Revolution, not this one—the actual revolution in agriculture, the development of nitrogen fertilizers and these things, where suddenly we learned, instead of just relying on digging up bat guano, bird guano, like we had before: that in order to create our fertilizers, you suddenly now had the development of artificial fertilizers that are rich in nitrates, rich in phosphorous. You see the level of cycling multiplying. And this is a big complaint right now—a lot of the environmentalists are targetting specifically that—that you're seeing the increase in cycling of phosphorous. I think the figure is something like several times higher than it was with simply the introduction of birds.

But it's interesting, because if you take a look at human activity, you start to see this sort of patchy development begin to erupt now, in a way, and you can follow that through each of these elements. And you take a look at the cycling, what you have in the whole system. That's a big deal!

And if you were to map that as a continuous curve, you'd see that, in general, every time, with the introduction of human activity, with the development of plant life (Figure 3) across these major boundaries. So you take a look at your early ferns, which are capable, incredibly limited, compared to the gymnosperms. Gymnosperms will include things like your pine trees, your non-fruiting plants; your ferns haven't yet developed pollen. Pollen is a huge innovation over a water-borne sperm, which is what earlier plants used. Earlier plants had to actually release their sperm into water, so they had to be near water, in order to facilitate the reproduction among plant life.

Suddenly, you get a level of isolation; again, a number of these things we just register as nuisances, but the pollen, which for many of us becomes a nuisance at a certain time of the year, is actually an innovation! It's air-borne sperm, your ability to now pollinate across larger distances, but then, away from bodies of water. You've got the ability to encapsulate more of that entire system. So it's as though you're taking what you once needed to have the river/fern system there, and you're now encapsulating that into a single organism that manages to move that now-denser form of technology inland, spread that further.

Deniston: With the seed process, specifically.

Pollination: A Huge Innovation

Shields: Yes, with the ability to have pollination, and then with seeds. With seeds, you've suddenly got the ability to have something that can be carried long distances. As people know, you can store seeds and grain for incredible amounts of time: Now, that's a huge innovation. They can travel long distances. And once you get fruits, they're capable of traveling long distances inside of other animals. Once you've got the fruit, the bird, the mammalian system, this is a big deal.

Some of us are personally familiar with the idea that we're very good at carrying things like tomato seeds; they somehow manage to survive our whole digestive process without much alteration. But in general, a lot of these seeds, raspberries, tomatoes, other things you recognize, will survive being picked up by animals, carried long distances in their digestive tracts, and then dropped further inland, further from water, etc.

You can see that, again, as levels of these encapsulations, of taking the entire system and embodying it.

Our friend Krafft Ehricke made the point that it's almost as though, if you really started to look at these elements, each of these singularities on land, behaves as though you almost took the entire ocean and then they encapsulated it—it's their version of a space station, or their version of a space suit, where you take the entirety of the ocean, wrap it up in a little sort of suit, and allow it now to walk onto land, as a self-contained ocean. So all these little systems that used to be separate organisms are now contained in one, and mobile!

So you can bring your ocean, now, on land. Again, we've made the point in some recent videos [http://www.larouchepac.com], that's a *huge innovation*! This is *huge*, that suddenly, you no longer have the limitation of your jellyfish, etc., that's only capable of surviving near the water; now you bring your water with you. The same thing that happens for animals and plants: Suddenly, they develop the idea to have these stiffer stalks, where they can actually grow upward on land. This is a huge innovation! Whereas ocean life requires the buoyancy of the water to hold the plant up.

Now, from that arc, certain key elements in human development are almost necessary, certain things that we've done, and things we have yet to do, you can start to realize are absolutely necessary. One is the development of greenhouse and other techniques, the ability to take that whole system, and re-encompass that, again. So, just like earlier, you had this encompassing; we suddenly manage to take entire systems now, and govern them as a one, and enclose them. This is what permits us to grow food in difficult locations, in desert locations, and other things, where they wouldn't otherwise survive. We can have these controlled environments. It's what's going to permit us to colonize regions of the Earth like the Arctic.

And again, this is a *natural* part of the development. You get all these silly idiots who claim, "Oh, this is unnatural, this is artificial." In fact, this is no more artificial than life moving onto land in the first place! That was quite artificial: That required some real artifice on the part of plants, to decide they're going to move out of the oceans, and live in places where there's no ocean water. Imagine, the audacity to just bring your water with you! That you're going to have the audacity that you're going to take all this stuff and just carry it.

We're talking about the same thing, in the colonization of these Arctic regions. But ultimately, we're talking about the same thing in mankind's larger destiny in space as a whole, in the galaxy as a whole: That you're talking about carrying the entirety of the system, the real *mastery* of this entire system we have here on

Earth. We found in our amplification of it, and then our ability to totally re-create it at a higher level of operation, outside of the confines of Earth itself. And we've only seen the very first stabs at this, with things like the Space Station. The real experiments with this, the real necessary mission, is going to be in things like the establishment of permanent colonies on the Moon, and the establishment of permanent colonies on Mars.

The overall direction of this is going to agree with the overall transformation in energy-flux density we've seen in the biosphere as a whole.

Now, you take a look at the earlier system you had of these subsequent cones (Figure 1). You get the collision at each point with these prior systems. The first model we saw in biospheric development, punctuated by mass extinctions. This has a certain texture to it: You have the growth and development of one system, that continues to grow, grow, grow, grow, grow—suddenly punctuated by a collapse, at which point it's intersected by a system that's meant to succeed it. The system that's meant to succeed it always starts within the existing system.

If you go back to the period of the dinosaurs, you would see running around, these little tiny, elements that would seem to be just extra at that time. You would see very small mammals, little rodent-like mammals running around; small, totally insignificant compared to the overall system of the dinosaurs. You see, repeatedly throughout this Mesozoic period, the appearance of feathers, and other traits connected to birds, which will appear, and then they'll vanish. And this is interesting, because they appear and vanish even without the actual bird being there, without the ability to fly appearing—the feathers will appear and then disappear, with no flight developed. It's almost as though they're appearing in anticipation of a system that's yet to be, where flight is an essential part of that system.

So you're seeing, you could almost say, the research and development for that later system, during the prior system. And it's built up, as if it's designed to take over at a collapse point.

The Psychology of Empire

Now, as we discussed, you *do* see this in elements of human behavior, but it's one type of human behavior that has that same characteristic, and this is the psychology of empire: It always has that characteristic. If you look at the development of human societies, human empires, you'll see the same sort of thing. We'll discuss it in detail later, but one that I like, is, look at the development of Christianity within the Roman Empire. Within the Roman Empire, you've got this thing that's destined towards collapse, but *destined* for collapse, and *even at its earlier point*—it doesn't take a wrong turn and suddenly end up collapsing; by its nature as an empire, it's destined for collapse, just like the dinosaurs.

You see, repeatedly, throughout this Mesozoic period, the appearance of feathers, and other traits connected to birds, which will appear, and then they'll vanish.... It's almost as though they're appearing in anticipation of a system that's yet to be, where flight is an essential part of that system.

—Sky Shields

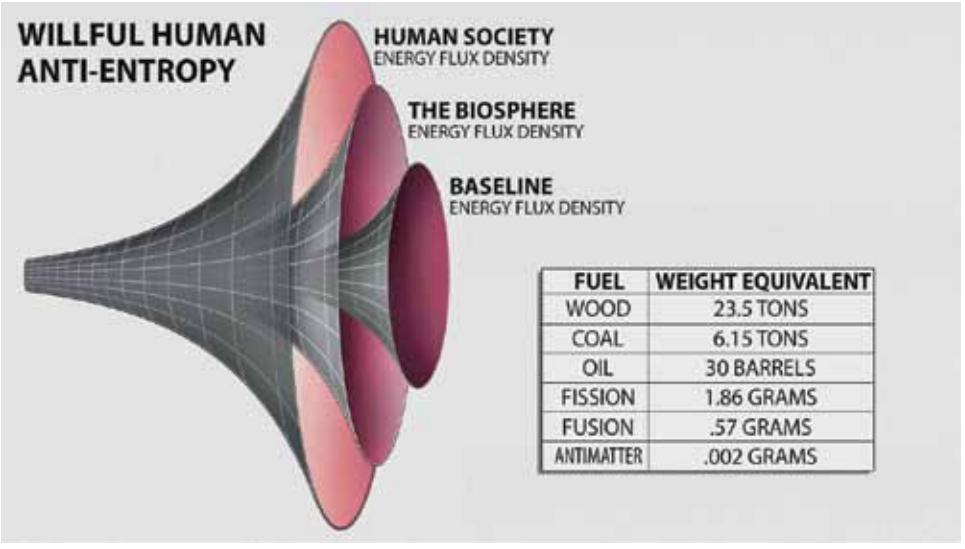
The end of the dinosaurs is not because the dinosaurs did something wrong! It wasn't as though the dinosaurs were doing something "good" to begin with, and then failed at the end. They kept being dinosaurs, they made no fundamental change in their behavior: They continued doing what they were intended to do.

At the same time, empire, in the course of doing just what it's intended to do, will drive itself to collapse. That's inevitable; that's part of the fact of its lack of development. But within it, you see the development of these weak forces that actually will represent the next creative shift. And you'll see those developing as a ferment. So you'll see the development of republicanism within feudalism; you'll see these willful acts of human creativity, that will often be reduced to single individuals within the system, but then, they're destined to be the explosion that takes over as the next step, because of what they represent principally.

But with human individuals, you have the potential to not have to wait for those collapses; you've got the potential not to depend on these extinction events, but instead to say that you can initiate those developments *continuously* along that arc of development. So, this gives us an image here (**Figure 9**), a look at what would it look like: You get the hyperbolic growth, that the other growth seemed to be approximating.

Now, that's an effect, not on just human society—that shows up in a number of different ways—but take

FIGURE 9



FUEL	WEIGHT EQUIVALENT
WOOD	23.5 TONS
COAL	6.15 TONS
OIL	30 BARRELS
FISSION	1.86 GRAMS
FUSION	.57 GRAMS
ANTIMATTER	.002 GRAMS

a look at what happens to the biosphere during the period that human beings are around. We saw already the introduction of fruits, across that KT boundary. We had a picture of a nice juicy peach; but it's very important to see that the fruits that were actually introduced, are not the fruits you would recognize today.

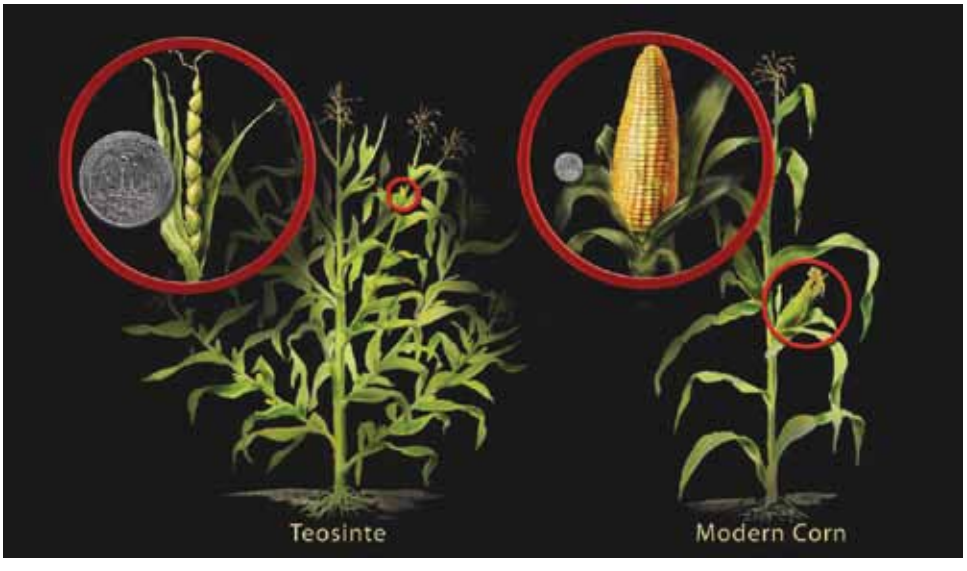
We've had a video on the site covering this, but we'll give a quick summary. We're familiar with corn as a staple of many diets around the world (**Figure 10**). The corn we know today is not the corn that was produced by the biosphere. The corn that was produced by the biosphere, few people alive right now would recognize as corn. It's this little woody thing, called teosinte, where you can't tell—it looks like just a little stalk of straw or something like that.

What it is, is about 10, maybe 12 of those corn kernels, each one encased in a hard shell, so each one individually is a hard shell; you'd crack it, and inside of it, you'd find some kind of a meat. They grow all over these little bushy plants; you get these things which are mostly stalk, mostly bush, they grow all over, little, hard shells—*very little available nutrients* in that process, that require lots of work to be able to turn them to something usable.

Human activity, acting on that corn over the course of human development, transformed it from a little woody thing, to this sort of (still modest by our modern standards, but a huge breakthrough in terms of nutrition), a tiny little pseudo-corn element here, where you've at least got the fruit available.

So again, cultivation; cultivation, conscious willful development into what we recognize: large, nutritious. Now, the majority of the plant, if you compare how much of your actual corn stalk is fruit, to how much was fruit in the teosinte, the overall available energy-density has increased. As you increase the ratio of fruit to stalk, what you're increasing here is the available energy-density of the biosphere as a whole.

FIGURE 10



Now, this is one example. You could do the same thing for tomatoes, bananas, apples. Take a look at any of the original wild versions of these: They all look like berries. Often berries with hard

shells. We've increased the overall throughput of the biosphere. You can do the same thing, when you look at things like land-area usage. If you look at how much fruit per land-area was possible with teosinte, compared to what's possible with corn: Huge transformation! Huge shift!

Same thing with domestic animals. Take a look at the transformation of cows, pigs, etc. Some of us recently had the experience of eating wild deer, and you know there's a very distinct problem with the fat to muscle to bone ratio, in the wild animals, versus a good domesticated cow, like we've also got around ourselves here. That the overall energy-density of the cow itself has increased on the basis of human activity. And you pointed out the biosphere was tending in that direction earlier, if you take a look at your shift in different type of seafood. The amount of meat that's contained in our mollusks is way above what you had in the brachiopods.

Deniston: And that is how to set your baseline. That's just what the system's doing.

Shields: Exactly. Right, which now is a consciously driven baseline.

Deniston: The only way you saw the shifts with the evolution of life, was by an actual physiological change; there had to be a physiological change in the structure of the living organism, to correspond to this total upshift of the system. With mankind, not only do you see it at an incredibly faster rate, but you're saying it's purely a power of the human mind, to actually create these new states, create these changes.

Shields: Consciously, consciously. And it's a continuous process. It doesn't have to be punctuated by collapse. But it can be punctuated by collapse. At any time, as you said earlier, at any time that we shift to the animal model, that biospheric model, you're guaranteeing—

Deniston: Mm-hmm, the imperial model.

The Human Potential for Continuous Development

Shields: The imperial model, which is *exactly* that. Explicitly that, from the Greens. Explicitly that! From Gingrich, from the so-called Conservative Revolution types, explicitly that. From the Liberals who are endorsing the Greens, *explicitly* that. Explicitly a return to an animal model of evolution, that is, by necessity, punctuated by major collapses of systems, from which you're not guaranteed to recover. From which you can only recover, by building back on that earlier line that they denied.

But humans have the *potential* to have this sort of continuous development. What you [LaRouche] referred to in papers, as "the potential to be an immortal species," that exists. We've seen it expressed here in the shift to the different types of reliance: What is your baseline energy usage as far as power production? So, we were discussing here, if you compare the orders of magnitude of energy that you can get from wood-burning, to coal-burning, to coke, to nuclear fission, to thermonuclear fusion, to matter-antimatter reactions: Each time, you got increases in orders of magnitude, not just multiples of power, but actual orders of magnitude of power of increase (Figure 9).

Which, each one of those can happen within the lifetime of a single human individual; each other of those is on the order of magnitude of the kind of shift we saw earlier in the biosphere, only when you have a *total shift* in the whole system. You know, that kind of transformation, will never cover the lifetime of a single organism. No animal can encompass that kind of a shift; they live within y, they're governed by it, but *human activity* governs that shift. We encompass it, we actually drive that.

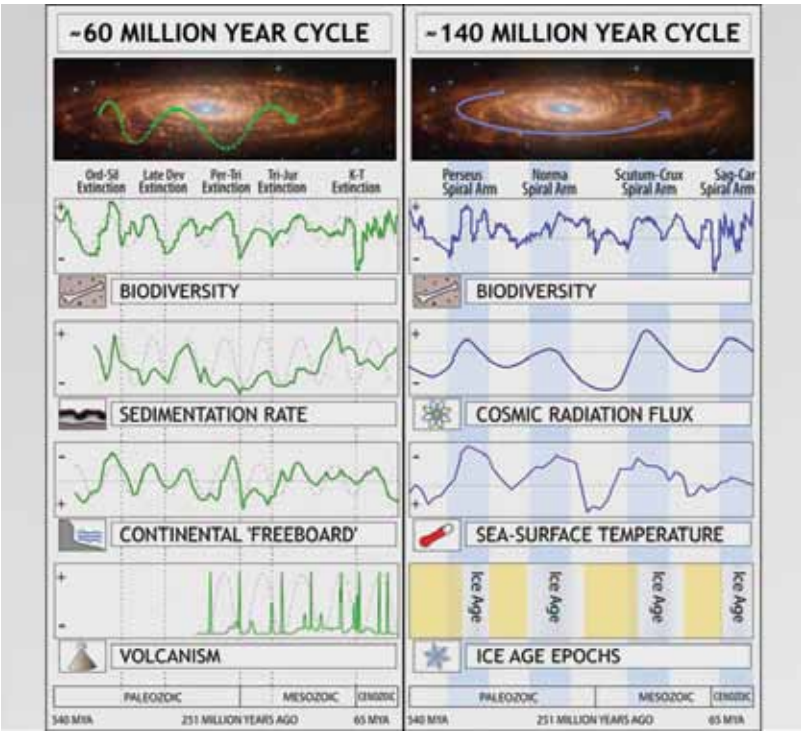
And there is no reason that within the lifetime of a single human individual, you couldn't see three, four, five, any number of those shifts, based on the actual willful human creativity, and the ability of human society to transform itself.

And so, we'll be launching a few more studies applying this to key economic policy directions (Figure 1). We've applied it recently to the discussion of Arctic development; we'll be applying it more in detail. We're going to be applying it more explicitly to the Extraterrestrial Imperative.

But quickly, just to end, I'd like to take a look at something that we only hinted at. Which is that, when you take a look at the overall development of the biosphere, here, and you see these, again, these punctuated collapses, you see an arc that tends to approximate what should be the human development also. You see this hyperbolic arc; something is underlying that process, that's driving it, that's not to be found within any element of that process itself.

As you said, you can find all sorts of efficient cause relationships between the elements: You won't find the

FIGURE 11



full cause of the process within any of those elements. Certainly not the fact that—and this is really reflected in the fact of what seems to be the time reversal—the anticipation in time of a state that's yet to be, of a state that's necessary.

Now, we've covered on the [LPAC] site before, the fact that you see those punctuated, those extinction events in the biosphere are connected to these. We can take a look at the galactic cycles (**Figure 11**), which are connected to phenomena, but on a much, much larger scale. Now, this is on the scale of the galaxy as a whole. You start to see the exact, same cyclical behavior, to the extent that it's a cycle, that you find punctuated and expressed in the form of our galactic motion.

Now, we've had this covered in more detail, so I won't spend a long time on it here, but just to give you an idea of where you're seeing the echo of the larger causality, then also, where you see man has to go, and man's own activity, in order to become the actual controller of that process. For man to actually take control of mankind's own destiny, truly take control of mankind's own destiny, it requires an expansion to this scale of activity, this scale of conscious activity. No longer just governed by this, but consciously acting on this level.

This is what we're talking about with policy, and this has to be—that cone of development begins *here*, and branches out! That level of development has to govern policymaking *now*. This is not something you can wait for, or you can get up to, allow things to develop up to that, that's the government policy now. And we can discuss it. That requires some very key steps that must be taken, here, in the present.

And again, once you look at this entire process, the steps are explicitly defined. they're not matters of opinion, they're not things you could "choose" to do, they're not matters of "political inclination." It's not what do you agree with politically here or there. These are the steps that are necessary to maintain our survival, and they express themselves as policy. They express themselves in your vote, in what you do in the ballot box, what you do with your day-to-day activity: They're expressed there. They're *not* matters of your own individual opinion.

And so, we'll discuss that more here, but I think that sort of gives us a backdrop against which to discuss some of these things.

Grow, or Go Extinct

LaRouche: Well, in this thing, you've got certain constants. The interesting thing for me, in what you pulled together in this discussion, was that there are certain constants, in this process. They're not constants in the sense of a simple parameter, a single parameter, but they're constants in terms that there's a minimal condition at which there must be a rate of expansion of development, otherwise you get a collapse. Then you get a point where you have part of the system that's expanding, but its expansion is limited by its carrying, as a drag on it, what has become an obsolete system. Therefore, it has to purge itself of the obsolete system in order to grow.

But there is, in this process, you can get a constant value, which is not a ratio as such, but it's a constant value, which the system requires that you grow at a certain rate; otherwise you go extinct. And the system requires that you purge yourself of things which are a burden on things which are far beyond it. So that these critical values actually exist. They're not defined as

simple parameters or linear parameters, but they *exist*. And that's the concept.

Then you think about social systems, because when you're dealing with humanity, you're dealing with social systems: It's voluntary. And the voluntary behavior of mankind becomes extremely interesting here, because the voluntary behavior of mankind is governed by certain rules! So it's not wildly voluntary!

Let's take the case of simple explosives or fire, or so forth, in different forms. The difference in mankind—the only animal that uses fire, voluntarily, is man: No other species ever living was capable of voluntarily using fire. And without the use of fire, mankind as a species would never have developed.

S. Kohle, T. Credner et al. (AIUB)

"The Crab Nebula is a fascinating creature," LaRouche noted, "because of its recent vintage, relatively speaking, and it's a completely different kind of process than we find recorded in the record of the galaxy before then."

So therefore, you find that this thing is so consistent; it's remarkably consistent! In terms of the guiding principles, the governing principles. And everything that happens follows these governing principles. And the key here is, we've got now to this level of, we've broken through, in a sense, artificially. We're now going beyond fire: Mankind is defined by fire, without fire mankind is not man.

But then, we've used various types of fire, as fire, simply as combustion. Now, we've come to something which is not simply combustion, it's synthesis. Fission is synthesis; fusion is synthesis; matter-antimatter is synthesis.

So, now, what we've got, we do the same thing that the early species did: We consume and eliminate something that is used up. It's used up its function for mankind. *But!* what is continuing, is you get beyond that point, and it still goes on, but you don't notice it, because when you get to matter-antimatter reaction, or the prospect of it, and this use of hydrogen: You're taking hydrogen, and you're splitting it, first for thermonuclear fusion; then you're going to a higher layer of splitting it, which is the matter-antimatter reaction. And take the orders of magnitude you have here, on your chart: Those orders of magnitude, and the changes in orders of magnitude, indicate what man is.

The idiot who doesn't understand that is about to go extinct. Because this is not merely—look, we're going into Mars, right? We're going to land on Mars. We have to. It's not because there's a shortage of materials, or because we're trying to loot something; it's because man requires an advantage in terms of taking over the Solar System. Man must take over the Solar System. And at the time he's taking over the Solar System, he's already invading the galaxy! We think of the galaxy as eating up mankind, but actually mankind is beginning to eat up the galaxy.

And the Crab Nebula is a fascinating creature, because of its recent vintage, relatively speaking, and it's a completely different kind of process than we find recorded in the record of the galaxy before then! So, it's a continuous process.

But what we have to do, we have to take over Mars, because it's available. It's the only thing we can start with. But we're not going to leave it like Mars! We're going to change it; we're going to change Mars, because we're going to have to create a basis of sustenance for humanity which fits our requirements. We also are capable of creating artificial environments for ourselves on a planet. And we don't really go directly out of doors, or this kind of thing. So, there's a constant trend in this process.

Shields: And everything has always done that! This is not some kind of new, completely wild thing. This is not unnatural, this is what—this is development.

LaRouche: The time we went to fission, and went beyond fission to fusion, we broke the limits of the bounds of a solar system, inherently. Mankind will not exist, now, unless we go to thermonuclear fusion. And thermonuclear fusion is a 1-gravity factor for going to Mars: It's there, it's feasible, now. It's not feasible in terms of, we don't have the manufacturing capability and so forth to do this right away. But the concept of doing it, exists for us as a feasible concept right now! And beyond that, we have indications on the characteristics of hydrogen, in advanced forma of use, which lead us into the question of matter-antimatter reactions.

Shields: That trajectory is defined. The necessary trajectory is already there: Whether we're on it or not, that's defined.

One Week from Earth to Mars

LaRouche: Exactly.

Now, the other side is, what is wrong with mankind's minds? If this, what we have here, which is true, obviously—if this is true, then what mankind has generally defined as the policy for mankind has been idiocy. Always, we have to make these leaps which go with these orders of magnitude, from man's early use of fire, and then things beyond that. We've gotten to the point that a planet can no longer contain us, essentially. When we move to Mars, we're going to go by way of the Moon; we're going to have to use the tunnels on the Moon, we're going to have people up there under protective environments; we're going to have to do something about gravity/anti-gravity effects. We can synthesize those. We're going to have to figure out how to do that.

But right now, we're already in a position, where we have the ability, intrinsically, in terms of concepts, the ability to go to Mars. We can do it, in terms of one week, from Earth to Mars. And we have that capability now as a scientific capability. And this scientific capability, arising at this point, defines mankind's immediate destiny. Either we go to Mars, not to find a place to live, but we're either *capable* of going into the Solar System, to the degree of taking over Mars, that we can exist there, or else, we're going to fail as a species!

Shields: And the failure *is* a collapse. It's not simply a failure. Anybody who argues that—Ben, you made this point—there's any sort of "sustainable development" now, is just completely insane. The sustainable development, is *riding one of those cones to the extinction point.*

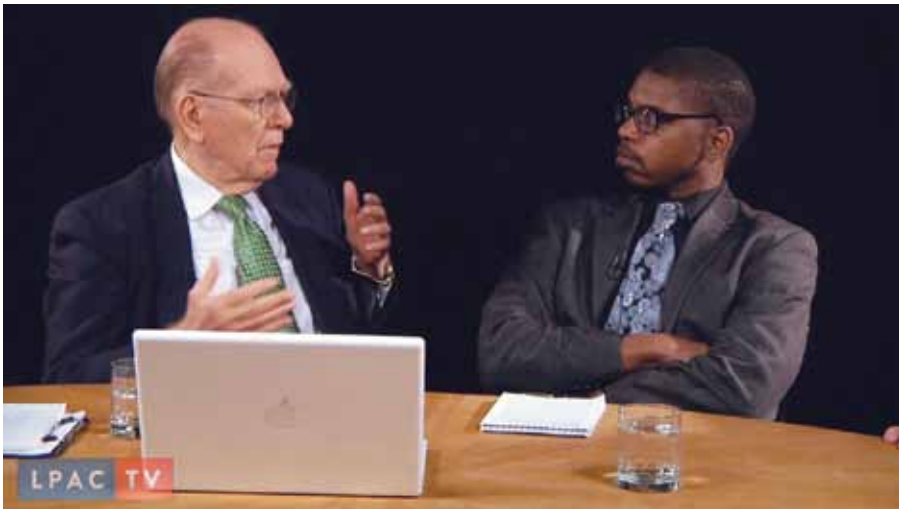
LaRouche: Well, this is a religious question: Because the problem mankind has had, is the existence of the oligarchical system, in which a few people—and this happened, of course, with the mariner culture—the mariner culture was way beyond, in terms of its culture, any [other] culture on land-base. Because it was developed on the basis of transoceanic travel. So you had a group of people, which was divided into two factions. One faction became the oligarchical faction as such; and the other faction was the opposition to the oligarchical faction from among the mariners. Which is the main, the told story, of Prometheus.

So therefore, we've come to the point, now, where mankind has reached the limits of staying on Earth, not because of a shortage of places to live, but because we have to extend mankind's influence, by forcing ourselves to go to an order of magnitude of power, which *requires us to go to Mars.* In other words, we're not going to MarsMars needs us. We're going to Mars because we need to *take over* Mars as a leap, from being confined to Earth. And when we think about all these things that are threatening people, like these big rocks that are threatening to come through the Earth and destroy everybody, that's a good explanation of why we need to do that.

Shields: And there's no option to just "deal with problems here" as people want to argue.

LaRouche: Well, also, we have the influence of the oligarchical mentality, imposed upon people on this planet. They think in terms of what they're *forced* to do, by being pushed by a shortage. They also want to maintain their power. Therefore, they kill people who become excessively numerous, in their opinion, which is what's been going on.

But the reason is, we are forced to limit the risk of the human species being wiped out, by going to Mars. We have to go there for that reason. And we're going to go beyond that. This is indicated by the fact that we now have thermonuclear fusion as a tool, which we have been suppressing in large degree, except for military and similar purposes. But if we use it for its proper purpose, we can go from Earth to Mars essentially in a week. And at thermonuclear fusion rates.



"We are a creative species, except most people in this society are not creative," LaRouche stated. "They've been told not to be. And you have people who are trained to accept being victims of the oligarchy, and they will kill people for the oligarchy! They will kill their own species in order to please these so-called gods, the oligarchs."

And we can go beyond that. What we're doing now beyond that, we begin to break the limits on the galaxy! We enter the galaxy as such, as a part of the galaxy, with a matter-antimatter reaction, the hydrogen reaction.

Shields: It puts Mars closer than the New World was at the time of the founding of the New World.

LaRouche: Exactly!

So therefore, this is man's natural destiny. We are a creative species, except most people in this society are not creative. They've been told not to be. And you have people who are trained to accept being victims of the oligarchy, and they will kill people for the oligarchy! For the sake of the oligarchy! They will kill their own species in order to please these so-called gods, the oligarchs. The imperialists, the imperial system.

And the whole planet today is dominated by a British Empire! There is no Britain! There's a British Empire, which is not confined, in any sense, to the United Kingdom! It is a global system which has extended its power in every part of the globe it can reach!

That's the purpose of the empire: That means a very small group of people is deciding to maintain this religious cult, and they condition the slaves to learn to be obedient slaves. And anybody who believes in the Green thing is insane, and they're also a degraded slave! The lowest kind of slave. And these are the lessons that have to be adduced from this kind of material.

Shields: And it's so clear! The record there is so absolutely clear: I mean, we'll lay it out in more and more detail, but there's not a question about it. As you said, this is a matter of religious belief, and a matter of policy that's imposed from the top. It has *nothing] to do with scientific fact: Any of the Green program, any of this.*

Breaking with the Slave Mentality

LaRouche: What we've got here, what this has done today, while it's a rough draft of the real situation, it itself represents a concept which people need to know. And it's the kind of concept that can help people liberate themselves from this slave mentality of *believing* in the Green philosophy. The Greenies are going to kill humanity! They're going destroy humanity. They're the enemies of humanity.

And we have to get beyond that, and that means *we're going to Mars*. And we have the potential science to know how to get to Mars, not the engineering aspects of it as such, but we can, within a short period of time, relatively short, a human lifespan, *we can reach that. We can reach Mars.* And assimilate it.

To reach Mars means that we will be able to deploy from Mars, to defend Earth, because we've got all these nasty rocks coming down from within the orbit of Jupiter. And those nasty pieces of rock, if one of them ever hits Earth, one of the big ones, direct on, the human species is extinct! If we don't go to Mars, humanity will go extinct when one of these rocks hits.

And we now have President Obama trying to destroy any attempt to interfere with those rocks, from smashing up the planet Earth! And anybody who supports Obama, has to be really nuts.

Shields: And you can see, that's the suicidal instinct of empire. The homicidal and suicidal at once.

LaRouche: Exactly.

Shields: Which is they've got no way to maintain—the very act of trying to maintain the system stable, will destroy the system, and will destroy them.

LaRouche: The point is, the difference between, say, Obama and the British today, Obama is a British

puppet. He's a British puppet made in the mold of the ancient empire, the imperial system. But, there's a difference between Obama, who's the toy, and the British: Obama is a useless creature. He has no function whatsoever, except he's used by the oligarchy. But on the British side, you've got a different situation. Obama doesn't care. He's a nut, he's insane. So he's acting as an insane man, and his insanity is being used by the British for a purpose.

But the British are a different proposition, that is, the British monarchy and people in it. They actually have an idea, that they're going to rule this planet, or nobody is going to. So therefore, the Queen has a completely different mentality than her puppet Obama. She controls him, but she doesn't like him! She despises him! He's a piece of trash as far as she's concerned. What she's saying, "We, the British monarchy," who are the emperors of the world right now, in her opinion, "we are going to either control this planet *our way*, according to our interests, or *let the planet go to Hell!* Because if you take us out of power over this planet, we have to kill you. Because that means, if you take our power away, you'll kill us; so therefore, we'll use every weapon…"

And when you think about the plan for thermonuclear warfare against Asia, which is now the current policy which this President is being pushed into—I don't think he has the brains to know what it's all about. But the monarchy does. The Queen knows *exactly* what this is. And the aim is: We're going to destroy the population, kill off most of the population—as the Queen has said—in the trans-Atlantic region. But they're not going to let *Asia* be left alone while they're wiping out the trans-Atlantic region, or cutting down the population to 11%, or something.

So therefore, their point is, they're going to use thermonuclear weapons *to destroy Asia now*, as the only hope of their ability to control the planet, as an empire. And therefore, apart from all the fools who say, "don't exaggerate, don't exaggerate," I'm not exaggerating at all. *They're* exaggerating by denial—when there's not going to be any *food* on the table—and they say, "we've got to support this President," who's killing the food supply of the American people: They're nuts.

Shields: Right. And the thing is, it's the level of causality. People try to play games, and try to figure out, "Well, what connecto is going to happen? Are there the right connectos for war right now? Are there the right connectos for collapse?" It's not that. It's like what we called before, "The Appointment in Samara"; there's no way around, as long as the intention is to try and prevent human development from doing what it must do next. If you're trying to prevent that trajectory, and hold it still, you are inevitably going to see the collapse in *whatever* form.

Even on the level of cultural collapse: On one level, the cultural collapse causes where we're at right now. But on another level, if you want to try and stop that development, if you want to stop the human destiny to move toward Mars and Mars development, you have to destroy people's morale and culture and morality to do that. The only way you get a society to accept that, is to destroy them culturally.

LaRouche: The other thing is, if the British were to win, they would destroy themselves immediately: Because, by destroying the ability to do what mankind has become able to do, with technology and culture, so far, if the British destroy that in themselves, they won't be able to rebuild. Therefore, the British will die. But, I think the British, in a sense—the monarchy—the British monarchy would accept its own extermination, rather than see us live.

The same thing is in a sense true, as it was of Nero, which is also potentially true of the President. Nero, when he was faced with defeat, committed suicide. And I think that Obama will do the same thing, which is why I've emphasized that this guy's got to be protected because we do not want the burden of having this guy kill himself, commit suicide.

Shields: No, and it's a real risk. This is the difference between the human sense of identity and the animal sense of identity. With the animal, when a principle dies in the biosphere, the animals die with it. When it's time for a new principle, all the organisms that manifest it go. When a principle dies in the noösphere, in human activity, human beings don't have to go with it. But the debased human who identifies with that dying principle, in that case, you do die with it. And in their own imagination, they die with it: They can't imagine their own immortality; they can't imagine their own personal survival beyond the death of that principle.

We Have To Cause Humanity's Survival

LaRouche: They have something inside them which will not let them go. And that thing, which they

have cultivated in themselves, from generation to generation, will destroy them under these circumstances. They have no chance of survival.

Therefore, we have a mission. we have to cause the survival of humanity, against those enemies of humanity which include the British monarchy, and the damned fools who follow them, the Greenies. They are people who are programmed to destroy themselves.

Just think about the food supply; think about the food supply this Spring. If we don't do something to change the direction of this, *we're going to have a shortage of food which will cause mass death inside the United States, among other places.* So, we're *in* that kind of situation, we're *in* that kind of mentality. That those who are the Greenies will destroy themselves. Not because they understand what they're doing, but they will do it out of religious fervor.

Shields: They're programmed with that.

LaRouche: That's right, they're actually programmed: They're brainwashed. A Greenie is, by definition, brainwashed. Because his behavior does not correspond to anything which corresponds to a human interest. Therefore, he's become *de*humanized, and that's what makes him a Greenie!

Shields: They react instinctively against anything human, and they'll tell you that.

LaRouche: Well, that's what the British have produced. It was the British that produced it in this form. You had the earlier form, the ancient Mediterranean form, where the old empires of the Mediterranean base, would just *kill off* a whole part of the population from time to time, because they didn't want them to become too numerous, and therefore become a challenge. So they would just chop off the heads, essentially, in effect, of whole parts of the population, in order to control it.

The British are doing that on a grand scale now. That's what the Green movement is. And remember how it was started. It was started in this form, in the 18th Century. It started with the little war there, the Seven Years War. It's now just gone to a more advanced stage. And if people haven't got the brains to recognize that, they're going to be extinct. That's the danger to humanity, the danger of human extinction, and the source of the extinction threat to humanity lies in the British monarchy.

Because it's not the monarchy in some childish sense. It's a monarchy, in the sense that they think in terms of a history; they think of themselves as the legacy of the oligarchy. And they don't want to live any other way. It's not a particular thing: It's the ability to have power, the discretion to be able to control the process, which defines them as an oligarchy. It's a sense of identity.

Shields: Right: As long as that exists, there's a threat. There's no way to just live with that. There's no way to say, "Oh, they're behaving now." There's no way to say, "They're not doing something evil, right at this moment." As long as they exist, that's a threat.

The only thing you can do, is say, the way we get past that threshold, that shift, you have to guarantee the extinction of their ideology. If they decide to go with it, which in all likelihood, they will, then that has to be the way things unfold. But the ideology has to go: There has to be an extinction event, and a speciation event in that sense.

LaRouche: Either the extinction of the oligarchy, or the extinction of mankind. That's where we are. They just have to learn to live with it. Let them raise rabbits—and try to control that!