

[2020.01.20] Cooperation Paradigm (Guillermo Martini)

## **Dr. Ray Peat on Cosmology & Transforming Society | Cooperation Paradigm**

<http://youtu.be/XPsfVxqtIzk> (0h40)

[questions edited for clarity and assumed meaning]

GM: My name is Guillermo Martini and I welcome you to Cooperation Paradigm.

Dr. Peat, in your opinion, is there a guiding intelligence in the evolution of a species, or is it just random mutations that are selected by the environment, as Neo-Darwinists propose?

RP: My picture of the big picture, or the cosmology, grew out of reading several people. Vladimir Vernadsky, for example, was one of my influences. Frederick Soddy, the physicist who's known for his idea of isotopes, was a theorist about the nature of cosmic rays and cosmic energy. Looking at all of my influences, especially Frederick Soddy, I think it's justifiable and reasonable to think that the cosmos itself, the universe, is in a process of growth. The Russian astronomer, N.A. Kozyrev, discovered volcanic eruptions on the dark side of the Moon, which were ridiculed at the time. But he developed a theory of stellar energy which would account for the internal heat of all of the cosmic bodies, including the Earth and the Moon. He correctly predicted that the outer planets would be producing more heat than they received from the Sun, and putting these ideas together with Fred Soddy's, it looks like the universe is increasing in energy and in substance. Planets are growing warmer, more energetic, and substance is increasing, mass is increasing. A geologist proposed the Expanding Earth hypothesis, which is just an extension of Kozyrev's and the other physicist's ideas of an actively, energetically, expanding, growing universe. So *that's* the *big* picture, that things are constantly in flux at *every* level — the microscopic as well as the macroscopic. Looking at the small scale biology and physics, with that perspective, you see everything in flux and you realize that the doctrines — that are dominating pretty much the world for the last 200 years — are based on some mostly Christian theological ideas. Kozyrev explained how the doctrine of thermodynamic directionality was an arbitrary choice, more for theology than observation or science. In this approach, the theologically based physics have to conceive of atoms as being unchangeable and not subject to time, except in the idea that there is a statistical lifespan of every particle; but other than that, no atom has a history. It's like a Platonic ideal out of time. This is where Vernadsky had a revolutionary influence, seeing every atom as having a history. In high school textbooks, when I was in high school, a standard experiment referred to nascent oxygen, newly-born oxygen, has for several seconds a chemical reactivity that's very different from quiescent old oxygen. More than that, every atom has its history in the sense of a flow through the organism. He described an organism as a *whirlwind* of atoms. That's my basic approach, that you have to look at the practical meaning of intelligence. And guidance is in the system, the energy — flowing from the Sun into the earth, for example — drives this whirlwind of atoms. And in the response to this flow of energy, you have the organized interaction of atoms, guided by the flowing energy.

GM: Right. You said that cooperation is a property of matter itself. He creates order, every word that energy flows. So obviously, to have order, we need energy. But order implies some kind of guidance or intelligence, otherwise you don't have order, you have chaos, I'm assuming?

RP: In the framework of this growing energetic universe and the flow of energy from hot spots to less hot spots, every place in the universe there is energy flowing, and every place that it flows you have the tendency, in response to the flow, to align the individual aligns with the flow of energy. One of my experiments, years ago, was to pass an electrical current through an egg, putting an electrode in each side of an egg, and measuring the resistance. As the voltage rises, the flow increases, and as the voltage falls, that the flow keeps going because the resistance was *decreased*. The material of the egg white aligned itself to make the current pass more freely, and that's the sort of process that Vernadsky saw as generating more and more complex organisms. He saw animals, for example, growing bigger and bigger brains and bodies to assimilate and preserve more and more that flow of energy. So the intelligence of the organism, as he saw it, was being responsive to this flow of energy. So the more energy that flows and can be assimilated, the more intelligence there is.

GM: If you say the planets and objects in the universe are increasing in substance, and the universe is increasing in matter, so that energy... We can assume that as time goes by, there will be higher levels of organization and intelligence in a way? Order?

RP: Yeah. Towards the end of his life, Vernadsky said — who is at the end of World War II — he said... — despite all of the chaos that we're seeing — he was confident that the energy of the planet would gradually help us grow out of the chaotic political world situation.

GM: Some scientists and philosophers speak of a universe that is able to experience, to have consciousness. If these ideas became accepted, how do you think our relationship with the world would change, knowing that this world, this universe, somehow has awareness, consciousness?

RP: Yeah. If you see the flow of energy through matter as being what creates experience... If you aren't warm and respiring, having a flow of energy through your brain, you aren't conscious and experiencing. So if the flow of energy through your brain slows down, your consciousness decreases. The dominant philosophy among my professors... All the time from high school through graduate school, my professors were generally committed to the idea that animals are unconscious. Even at the extreme, they were saying that children aren't conscious until they're a year and a half or two years old and begin to talk. I think in simple societies, people have an animous approach. They see everything as having a soul or a mind. Some cultures have kept more of this attitude, others less. The Anglo-American culture of the last hundred years has been very exaggerated in denying that the world is alive and that things are aware. In the medical description of autism, the brain or metabolic condition that produces the regression and the condition called autism, the outstanding feature is that they are unaware of the mind and consciousness of other people or of animals. They don't understand the emotions or intentions of others. It's called *mind blindness*. Most of my science professors in the 1960s and 70s, I would say, were mind blind or autistic in their view of the universe.

GM: Yeah. We know that is the truth. It's coming out... More scientists are pointing out that even little amoeba and microorganisms have this incredible awareness of their surroundings. And speaking of the surroundings, I would like to talk about society in the context of our environment as humans. Do you believe that we currently have the means to provide for everyone on this planet to thrive?

RP: Yeah. People over the years calculated that the productive capacity of the land, that the amount of sunlight needed to produce a certain amount of food... and the Earth is very easily able to sustain about 10 billion people, and in good nutrition and good living conditions, and if things are properly

organized. But there has been very deliberate organized effort to create artificial scarcity. In the depression in the U.S., there were *huge* surpluses of food that no one could afford to buy, so people were starving while these hoards of food existed. Even in the 1940s, approaching 1950, there were great famines — India in particular — while the U.S. was having a great problem economically with a gigantic over surplus of grains. So on a world level, the same condition existed that had existed *within* the U.S. during the depression. One of the Nobel Prizes [1932] in that period was to Irving Langmuir [1881–1957]. He was notable for having discovered how to make light bulbs burn out in a few weeks or months, so they could sell more light bulbs.. That was a big part of American science research: how to make products useless; how to make them wear out faster.

GM: You said something really interesting — that if these things were organized, the planet could provide for 10 billion people. But what we see is that society is organized purposely not to collaborate. Almost the opposite, right? To divide.

RP: Yeah. That's built into the economic system. People who challenge it are excluded. Teachers who advocate too much change in the system don't get to continue teaching.

GM: Wow. You talk about the ruling class sometimes. If this ruling class sets the tone and expectations, and anybody is trying to change the paradigm and challenges the status quo...; you're saying it's going to be excluded, and they want to divide and conquer?

RP: They control schools as well as the publication media, and the internet is now being censored heavily by the ruling class interests.

GM: But what I always think is, like the ruling class, they are part of the same ecosystem; they are part of our society. How can we make them see that it's also in their best interest, in the long term... Because in the short term, sure, they have this greed and power; I'm sure that feels good. But in the long term, it's better for everyone, including them, to collaborate — to not divide and conquer but to actually distribute things in a rational way. How can we approach these people and try to convince them it's the best way for everyone, including them?

RP: About 40 or 50 years ago, I was discussing that issue and I was starting to see the offspring of the ruling class. Some of them were starting to have exactly that realization, that everyone is in it together. But that has been a very slow process. You can see some of the heirs — the big fortunes — becoming interested in preserving the ecosystems, but it has to start happening a lot faster.

GM: If you could pass a law tomorrow that people need to enforce by authorities, what would you do if you had that power for one day?

RP: One of the first things that refers to a person is to equalize the money supply, but that has always been made impossible. So I think maybe a better place, if you can just start it at one aspect of this society... I think, canceling all licenses. People are licensed to create scarcity very much. Medical care would be economically available, and all of the prescription drugs would lose their exorbitant prices if all of the licensing functions were simply cancelled.

GM: Hm... I want to know if the person that's gonna treat me knows *something*, I guess. But what you're saying is that it shouldn't be illegal for somebody to treat another person, as long as the other person knows that that person definitely has a certain certification?

RP: Yeah. The problem is that people believe that the medical license means that they have the knowledge and capacity to cure, but the majority of medical practice as it exists now is probably

counterproductive. I think it's making people sicker on balance. Longevity in the U.S. has been decreasing the last several years. The number of people killed by medical accidents — even accidents recognized by the medical profession — it's several times worse than the deaths in traffic accidents. It's approaching the death rate from cancer and heart disease. Simply, errors that were made in hospitals.

GM: Uh-huh. I always tend to see things in a way that is cooperation versus competition. I believe that the people behind these corporations and in medical institutions [should] have the mindset of collaborating and helping the ecosystem, helping humanity... They could free a lot of their resources, drop the prices and margins on certain medications, which are really extremely high and unnecessary. I see what you are saying.

RP: The universities are set up to exclude people. I was an English teacher for a while, and the department had told us that we have to fail about half of the freshman students. That would indicate that their standards were high, but it really meant a failure to teach them adequately.

GM: You've written a lot about helping individuals to become healthier and having more energy, but it seems that we are always fighting against the stressful environment, competitive environments, obviously making things difficult for us to thrive. How can we create a healthier society, like a healthier lake, so that the fish are healthier, stronger? In terms of context, how can we do that?

RP: The whole economy is set up in ways that are poisoning our health. People have to commute to work and spend hours at work. Usually, a big part of that is a meaningless activity, just being present. I don't think it's possible to maintain the present work environment. Many of the problems that I hear is about the meaninglessness of the work that they are doing. Seeing the world as having meaning... Your own life doesn't really have meaning if you see the world as a meaningless competition for status and so on.

GM: It always comes back to... the quickest way to make our society healthier is to change the way the economy runs. It was making people sick really. When I hear about robots replacing people, to me that's always good news. I think that's wonderful. That's why we invented tractors, so that we wouldn't have to do that job. But most people in the news are saying, "No, it's a bad thing. Unemployment!" I think it's wonderful.

RP: Yeah. 75 years ago and more, I was hearing people talking about automation and how it would make it possible for people to have to work on like two days a week. In the 1940s that was the calculation, that the robots would ease everyone's workload. But what it did was make fewer people have jobs and increase the unemployed, and increase the poverty.

GM: Energy productive materials... You talk a lot about pregnenolone, progesterone, hormones, ... How about energy protective *thoughts* that we can entertain in our minds? What effect do they have on our health and which ones are important, in education, to foster?

RP: I think from first grade through graduate school, there should be a curriculum assuming that the whole world has meaning and that the individual being educated should be helped to relate to this world of meaning. As it exists, all of these levels are being funneled into serving the industry as it exists, making them better competitors rather than better co-operators. That starts early in grade school and you can see it... Competition to get into medical school, for example, the whole college undergraduate experience — for people who are getting into Medical School — is invalidated; like there's competitive focus on getting a good future job.

GM: Yeah. I heard that they don't save notes. They don't see notes and things like that?

RP: Yeah. It makes the whole culture and language are being deformed by this competitive attitude towards education. I've taught linguistics for a while — the theory and structure of language — and my emphasis was on, "How is communication possible through these structures of language?" When you have to make up a sentence which has never been spoken before, how is a person able to discover your meaning? I think it reduces to the fact that your intention to invent and express a new meaning has to elicit an inventive response to invent an understanding of your novel innovated expression. I think you can see communication through language and as an extension of the actual communication that exists in all animal species. Ants and bees, for example, have been studied somewhat for the way they intelligently understand novel environments, and how they communicate that to other members of the group. People at present in the educational system, geared towards competition...; people aren't behaving as intelligently as ants and bees, because they don't realize that expression is always inventive and innovative, and delivering something intrinsically useful.

GM: So language reflects our behavior and I'm assuming it works in both ways. If we change our language, that could also affect our behavior, in my opinion. That's why I'm always trying to change the mindset of people when they say, "Oh, we need to be more competitive!" And I think, *no*, we need to be more competent. We need to be more collaborative. So we make things like a trendy topic, like a trendy word, and we change the language. Do you agree that these rules to change behavior work in both ways?

RP: The idea of competition and education extends to the attitudes towards novel ideas. If you invent something useful, the pressure is to copyright it or patent it, instead of communicating it and getting it into work. The artificial scarcity pressures people to... Even in university departments they have classified research that they can't talk about — business... But when you put out ideas, you're actually going to have a return with advantage. You get back more than you put out.

GM: I love this quote you've shared with me by Bertrand Russell: "The only thing that will redeem mankind is cooperation." How do you see this redemption happening in the near future?

RP: I doubt that it *is* happening in the near future, but it's something that is always possibly only a moment away. It's something that could be instantly started, but there are forces that are turning it off faster than it can be started. I think individuals have to see themselves as autonomous creators who are going to be enriched by sharing with other autonomous creative individuals, and I think that *that's* the only kind of process that can't be stopped. If people try to establish an organized structure in opposition to the ruling classes' interests, the ruling class always has the means to disrupt that organization. So if people see themselves as creative individuals, cooperating organizations will spontaneously come into existence as appropriate. I think that's how intelligence works in the animal and plant world. When there's a problem the organism spontaneously has the intelligence to solve the problem appropriately. I think that's how the survival of society is going to have to come about.

GM: If we understand a lot of physics and the way energy flows and everything, it's only a matter of time before we will create enough organization and have enough intelligence to overcome these issues, and overcome the power over control of the ruling class, and we will succeed having a thriving civilization?

GM: Yeah. But that's the idea that the planet is actually increasing in its potential and energy flow. The increased carbon dioxide [CO<sub>2</sub>] in the atmosphere, for Vernadsky in 1945, was a very promising thing. He said the metabolic rate of the world is increasing. So planetary warming is a constructive thing, increasing the intelligence of all of the components of the ecosystems, and hopefully of society...

GM: I agree with that. I tell people sometimes that a warming planet is better, because where do we see more life? In the tropics! It's not in the North Pole that we see life. Now, I agree that we should get there in a natural way, not using any fossil fuels and things. We should let a natural world take care of things. Any closing thoughts?

RP: No. Just that things are not as hopeless as they look from the official perspectives. When you see the organism, the planet, and the cosmos as an organism, advancing the... I think there's reason to have confidence that appropriate intelligence will arise as needed.

GM: Dr. Peat, thank you so much for your time. ■