

## Jenna Kay

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**From:** Monica Zazueta <zazuetamonica0813@gmail.com>  
**Sent:** Sunday, September 8, 2024 9:18 AM  
**To:** Jenna Kay; Amy Koski; Lauren Henricksen; Ben Duncan; sylvia@mosaicresolutions.com; Dana Hellman; tlunsford@parametrix.com; Harrison Husting; Nicole Metildi  
**Subject:** Greenhouse gas reduction policy ideas. Please take these very seriously we need to remember that we need to learn from Mother nature's genius and our genius. Sorry that I couldn't complete the survey, our family is dealing with losing my husband on Fri...

**Follow Up Flag:** Follow up  
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Some have this goal of endless growth that is divorced from the biophysical realities of our planet.

Does it create conditions conducive to life?

We need to have a vetting system that asks, is this good for life on Earth over the long haul?

We need the rights of nature as a policy.

1.

Doughnut Economics 7 Ways to Think Like a 21st Century Economist  
by Kate Raworth

Free digital copy of the book,



<https://fenix.tecnico.ulisboa.pt/downloadFile/845043405579281/Raworth%20%282017%29%20Doughnut%20Economics.pdf>

2.

'Doughnut Economics' explained in a 29 minute video  
How radical ideas can turn into transformative practice Stockholm impact week 2023



<https://youtu.be/qwyzsAWRMcw?si=Hut8czYBLqAjOBpb>

3.

Economic Man vs Humanity: a Puppet Rap Battle

6 minute 41 second video



[https://youtu.be/Sx13E8-zUtA?si=7LLdO3z3x-hK3S\\_h](https://youtu.be/Sx13E8-zUtA?si=7LLdO3z3x-hK3S_h)

4.

The Great Simplification is a podcast that explores the systems science underpinning the human predicament. Through conversations with experts and leaders hosted by Dr. Nate Hagens, we explore topics spanning ecology, economics, energy, geopolitics, human behavior, and monetary/financial systems. Our goal is to provide a simple educational resource for the complex energetic, physical, and social constraints ahead, and to inspire people to play a role in our collective future. Ultimately, we aim to normalize these conversations and, in doing so, change the initial conditions of future events.

The "Frankly" Video Playlist is where Nate takes a deeper dive into the concepts of his work, offers candid takes on the future implications of current events, and evokes thought-provoking questions to spur the dialogue about the human predicament.

- We are 85% powered by ancient sunlight which is finite and we're treating it as if it were interest, but it's principle.

Reduction in the energy surplus would mitigate the level of overshoot.

- We need to change our narrative from a human-centered narrative to an earth-centered narrative.

- Instead of creating money without no reference to ecosystem services or non-renewable energy materials, we would create money with some biosphere tether. It would have some relationship to productive capital, productive capacity and the ecosystem health.

- Synthropic technology refers to a concept that combines principles of synthetic biology and ecological sustainability. It emphasizes the creation of systems that are not only technologically advanced but also harmoniously integrated with natural processes. The goal is to develop solutions that mimic or enhance natural ecosystems, promoting resilience, efficiency, and sustainability.

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Nate Hagens The Great Simplification podcast



[https://youtube.com/@thegreatsimplification?si=UczYlja-uX2RgkU\\_](https://youtube.com/@thegreatsimplification?si=UczYlja-uX2RgkU_)

5.

Applying Nature's Wisdom to Human Problems with Janine Benyus



<https://youtu.be/fB9LCjld3hc?si=E9Cc6WRMWGIlnLM>

(Conversation recorded on June 25th, 2024)

Although artificial intelligence tends to dominate conversations about solving our most daunting global challenges, we may actually find some of the most potent ideas hiding in plain sight in the natural world around us.

In this episode, Nate is joined by Janine Benyus, who has spent decades advocating for biomimicry – a design principle that seeks to emulate nature's models, systems, and elements to solve complex human problems in ways that are sustainable and holistic.

What would our social and technological innovations look like if we started from the foundational requirement that they create conditions conducive to life? In what ways has biomimicry been inspiring projects for the last few decades, revolutionizing everything from energy production to food storage? How can we take biomimicry to a deeper level, changing the way we design and build to be attuned with local habitats and 'return the favor' to nature – helping foster cleaner and more resilient ecosystems?

About Janine Benyus:

Janine Benyus is a biologist, innovation consultant, and author of six books, including *Biomimicry: Innovation Inspired by Nature*, in which she popularized an emerging discipline that emulates nature's designs and processes to create a healthier, more sustainable planet.

In 1998, Janine co-founded Biomimicry 3.8, the world's leading nature-inspired innovation and training firm, bringing nature's sustainable designs to 250+ clients including General Electric, Google, Herman Miller, Levi's, and Microsoft.

In 2006, Janine co-founded The Biomimicry Institute, a non-profit that empowers people to create nature-inspired solutions for a healthy planet. The Biomimicry Institute runs annual Design Challenges, a Global Network of tens of thousands of educators and entrepreneurs, and AskNature.org, the award-winning bio-inspiration site for inventors.

Asknature.org

When you ask what it is that life wants, the continuity of life, the criteria for success is that your genetic material survives infinitely and that means that you're in a conundrum because all you can do to ensure that life will continue is to take care of the place that's going to take care of your offspring 10,000 generations from now.

- Janine Benyus

If I could reveal anything that is hidden from us, at least in modern cultures, it would be to reveal something that we've forgotten, that we used to know as well as we knew our own names. We live in a competent universe on a brilliant planet surrounded by genius. Biomimicry tries to learn from and take design advice from this genius.

- Janine Benyus

Biomimicry is innovation inspired by nature.

Okay we're going to make this but how are we going to make this? What materials are we going to use? Then we turn two lives principles which is a much longer list of nature's eco checklist. Biomimicry can help us go towards the goal of getting more bioregional with our material use with using things that are common and abundant rather than rare and that you have to mine. Life really doesn't do that. Going towards a circular economy which would be amazing so we are not continually going after virgin raw material. Life has perfected that by using a limited, a parsimonious material palette, a parsimonious element palette, and energy fluxes that can be done in or near your body because that's how life makes things.

Parsimonious: frugal

Modifying what we desire is essential.

There's no business on a dead planet.

We need a paradigm shift.

Our education system needs to teach us how the biological and the ecological world of work. This is all through life learning so this needs to be in schools, at community centers and paid outreach. If we want to make sure that what we're doing succeeds then we need to have everybody educated. We need biology, ecology, biochemistry and biomimetic chemistry classes. That should be required reading for humanity.

Here are simple definitions for each of the terms:

1. **Biology**: The study of living things, including their structure, function, growth, and how they interact with their environment.
2. **Ecology**: The branch of biology that focuses on how living organisms interact with each other and their surroundings, including ecosystems and the relationships between plants, animals, and their habitats.
3. **Biochemistry**: The study of the chemical processes and substances that occur within living organisms, such as proteins, enzymes, and genetic material.
4. **Biomimetic Chemistry**: A field of science that looks at how nature solves problems and uses those ideas to develop new materials or technologies that mimic natural processes.

Biomimicry classes.

There is a 18-month course at Arizona State University, certified biomimicry professional class. We need to send people there and pay their tuition.

Biomimicry,  
What would nature do here?

We have too much carbon dioxide in the atmosphere right now, but carbon dioxide is an ingredient in every recipe in the natural world. Every green plant you see is carbon dioxide, coral reefs are made out of dissolved carbon dioxide, all the shells in the ocean are dissolved carbon dioxide. There are about six biosynthetic pathways where you can take CO<sub>2</sub> and turn it into stuff, what life does.

Industrial ecology is where you put companies together in a food web so you can co-locate them or you can just have them mapped in a municipality. You look around and you say 'who's by product could I use as my raw material locally? Whose waste product could I use to put into my greenhouses? I could collate a bunch of companies and they could all feed on each other like a food web, those are called industrial ecologies.

Mutualism Web. Cyclic, the quality or state of something that occurs or moves in cycles

We need decomposers, the things that take things apart and put into other kinds of processes.

We need a department that looks at the material flow and energy in our city.

What do we have here that we're currently shipping out of here, either to the landfill or to the atmosphere or to the water column? And how do we turn those pipes back around and actually design for value added economies in our county?

The people who make our world and create the policies do not have access to biological information. Imagine if every engineer in the world, the first class they took in school was, how does Nature pump?

Remember that you live on a competent planet and that you're a part of it, that our species is young but we are really really good at mimicking.

Begin to think about us as a species as much as you can, that mega tribe at larger species thinking. Remember, we are part of these grand cycles, the carbon cycle, and nitrogen cycle, the oxygen cycle, the water cycle and we've been monkey wrenching those cycles and you are a part of the generation that is going to start to put us back as beneficial participants using our brilliance, your brilliance. It's going to be continually trying to find an antidote to your despair. So if you feel despair remember the antidote to it is find systems that work and make that your standard and live your whole life trying to get closer to that standard.

Lifelong education - help people and enable people to fall in love with their places. And have everyone take that course. The course of how life works and they could compare before they ever design anything. They could compare how life, how the rest of life works with how we work with our industrial culture. Reconnect people with the natural world. It would increase their respect.

6.

Reconnecting to place for planetary Health with  
Daniel Christian Wahl



[https://youtu.be/L3zTAv-JWi0?si=NMpWeD\\_hswK9tam-](https://youtu.be/L3zTAv-JWi0?si=NMpWeD_hswK9tam-)

Here is a concise summary of the key points from the video:

The conversation explores the concept of "regenerative culture" - the idea that regeneration is a core pattern of life itself, not just a new concept or vision. Regenerative cultures seek to reconnect with place, context, and the community of life, rather than trying to solve global problems abstractly.

Some fundamental ways to interact with the environment in a more regenerative way include:

- Healing local hydrological cycles and ecosystems
- Re-regionalizing basic provisioning (energy, food, water, etc.) to match local bioproductive resources
- Building redundancy and resilience at the local/bioregional scale to prepare for disruptions

The speaker emphasizes the need to "unlearn" dominant worldviews and develop a more participatory, kin-centric relationship with the natural world. This involves cultivating embodied, place-based knowledge and skills, rather than just intellectual understanding.

The discussion also covers the challenges of scaling regenerative approaches, the role of education and community-based initiatives, and the importance of long-term, context-specific work versus quick technological fixes. The speaker is optimistic about emerging bioregional movements and networks working to heal local ecosystems and economies.

Overall, the conversation advocates for a shift from a human-centered to an earth-centered worldview, where we see ourselves as expressions of the territory rather than its owners or exploiters.

7.

Understanding Relationships and Ecology with  
Fritjof Capra



<https://youtu.be/sPVnR-FiQ4k?si=jaTyJgvxp-Sypt4O>

Here is a concise qualitative summary of the key points from the video:

Fritjof Capra, a physicist and systems theorist, discusses his journey from studying quantum physics to developing a holistic "systems view of life." He describes how his experiences in the 1960s, including Eastern philosophy and psychedelics, led him to see parallels between quantum physics and Eastern mysticism - both emphasizing interconnectedness over isolated objects.

Capra argues that most of today's major problems are systemic and interconnected, with economic growth as an underlying driver. He advocates for a shift from a mechanistic, reductionist worldview to a systemic, ecological perspective that recognizes life as inherently regenerative, creative and intelligent.

Capra sees consciousness and culture as key to this paradigm shift, with the potential for young people and grassroots movements to drive change. He recommends forming learning communities to develop

systems thinking and emotional connections to these ideas. Capra's "magic wand" wish would be to get money out of politics to address the institutionalized corruption hindering progress.

Overall, Capra proposes that adopting a systemic, holistic understanding of life is critical for addressing humanity's global challenges in a more sustainable, equitable way.

"The major problems are systemic problems, there all interconnected and interdependent. And underlying most, if not all of these problems is our obsession with economic growth. Our politicians and economists believe in this absurd illusion that continual perpetual growth on a finite planet is possible. That needs to be changed."

- Fritjof Capra

We need to work out a shift from quantitative to qualitative growth is a key issue. A life of quality and not quantity.

Patterns of relationships is system thinking.

Identity is all about relationships.

A formulation of the system's view of life in terms of four principles of life, which are systemic principles that apply to all living beings. So the first is, life organizes itself in networks. It's important to realize that these living networks are not networks of structures, but networks of processes. That's the second principle, processes of regeneration. Life is inherently regenerative. The other two principles are that life is also inherently creative and inherently intelligent.

1. Life organizes itself in networks.
2. These networks of processes are inherently regenerative.
3. Life is inherently creative.
4. Life is inherently intelligent.

So now when you deal with a natural environment that is living that is a living network of networks with in networks that are inherently regenerative, continual regeneration, creative and intelligent. The way of interacting with this environment would not be to try to dominate it and exploit it, but would be to engage with it in dialogue and cooperation and mutual respect. So it's a total change of attitude. That's why it's so important.

That's beautiful.

We need to be an Eco Community.

Wealth originally meant human well being.

Human well being vs. making money

Create and nurture communities for the well being of all.

Form and discover human relationships.

The revolutionary development introduced a new kind of materialism because it was used by economists, politicians and corporations to create a new type of economy, the global economy, which is essentially a corporate economy geared toward maximization of corporate profits, and not to human well being.

The worldview implied by modern physics is inconsistent with our present day society, which does not reflect the harmonious interrelatedness we observe in nature. To achieve such a state of dynamic balance, a radically different Social and economic structure will be needed, a cultural revolution in the true sense of the word. The survival of our whole civilization may depend on whether we can bring about such a change.

- Fritjof Capra

(My Signature 😊)

~You must always be willing to truly consider evidence that contradicts your beliefs, and admit the possibility you may be wrong. Intelligence isn't knowing everything, it's the ability to challenge everything you know. Let's all give up our fear as a justification for not to take action because we are the creators of our reality.

Sending healing vibes

Monica Zazueta

Concerned Mum



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