

The Great Simplification

Nate Hagens (00:00:00):

You are listening to The Great Simplification. I'm Nate Hagens. On this show we describe how energy, the economy, the environment and human behavior all fit together, and what it might mean for our future. By sharing insights from global thinkers, we hope to inform and inspire more humans to play emergent roles in the coming Great Simplification.

(00:00:29):

I'd like to welcome my friend and colleague, Alexa Firmenich, to the program. Alexa is an investor, a consultant, a facilitator and activist on the environmental crises, basically on an all-in strategy on developing programs and interventions that repair our planet's ecologies. She's currently the co-director of Seed Biocomplexity, a new initiative with the aims of creating the world's most comprehensive assessment of biodiversity for any location on the planet. She also co-founded the animist investment studio called Ground Effect to direct capital on behalf of other species and shift worldviews towards one of interbeing with all life.

(00:01:21):

It's no surprise, longtime followers of this podcast know that my value system and ethics and what I care about, that Alexa and I found each other during the virtual connection of people working on behalf of nature. This was at times a personal conversation. Alexa is a friend and she is a champion for Earth's future, and I hope you enjoy this conversation. Please welcome Alexa Firmenich. Alexa, great to see you.

Alexa Firmenich (00:02:07):

Hi Nate. How's it going?

Nate Hagens (00:02:09):

I'm good. Winter's started here, and I can't bike as much as I do in the summer, but I'm trying to snowshoe and do other things. Boy, I've talked to you so much on our little WhatsApp channels, and when I met you in Europe, there's just so much to talk about. How can we get started? You have a long list of things that you're passionate about, you're interested in. Maybe you just start by giving a little bit of your background and what you're working on most recently, and I have lots of questions.

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Alexa Firmenich (00:02:49):

Wonderful. And Nate, it was such a pleasure to be with you in the mountains some weeks ago, months ago now I guess, in my home country. And I loved our long walks and philosophical musings. Let me start with what I'm doing now and then I can give a little bit of background. I am currently managing two slash three main projects. The first one is I'm the co-director of an initiative at the Crowther Lab, which is a very interdisciplinary ecology lab at ETH University in Zurich. And the initiative that I'm co-directing, we're building the world's most comprehensive measure of biodiversity for any location on the planet.

(00:03:28):

So it's a super exciting project, and I can talk more about that if you'd like. About five years ago, I launched my own investment vehicle, investing on behalf of nature. It's called Ground Effect, and it's an animist investment vehicle, which I can also get into. And we have about 20 plus current investments across grants and for-profits, all trying to support nature and obviously the communities who live close to the land to thrive and regenerate and do what they do best.

(00:03:58):

And then lastly, I'm a little bit like you in that I do everything I can to speak, share, create, as much as it is to keep myself sane. I don't know if you have the same experience, but I have a podcast called Life Worlds and I do a lot of writing and photography, and I'm a wilderness guide, I bring people out into the land. And so all of that exercises my more holistic, creative, wanting to connect part of my being. I'm sure it's the same for you with your podcast.

Nate Hagens (00:04:31):

It is the same.

Alexa Firmenich (00:04:33):

Yeah. So I guess how I got here, back to your question, I was thinking about this the other day. It's like if I were to teleport you back 30 years ago, maybe 25 years ago, you'd find a very geeky, very awkward and lonesome Swiss girl in the middle of the forest in Switzerland, we live outside of the city, surrounded by tons of books. I love science fiction. I love these long epic novels that talk about multi-generational

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timeframes. A lot of them were animals though, the Redwall series, if anyone knows those. Video games, I loved so many different types of video games and adventure games. So I was very immersed in that, but it was always with this relationship to nature, when I look back towards it. And then I studied political science because I was deeply curious about the relationship between human and natural systems and how human systems perpetuate themselves.

(00:05:27):

I think you've been one of the leading voices in helping me to make sense of all of that. I worked in journalism for a while and then I moved to Mexico for most of my twenties. And to summarize a long arc, I think it might be encouraging for some of your listeners to know, especially the younger ones, that I followed a very non-linear career path. And a lot of people around me, the word judgment might be a bit strong, but there was definitely curiosity around the different trails I took and paths, but they were always centered around wanting to understand the living world much more deeply, and human psychology fundamentally. And that obviously leaks into what we do with human systems.

(00:06:11):

So I worked with many NGOs doing land-based regeneration projects, working with local communities, biocultural restoration. I launched a company myself that was guiding learning journeys for investors, CEOs, executives into the land looking at regenerative economics and business principles. And that was because when you're working with an environmental nonprofit for example, you often see that a lot of the damage is happening upstream in the economics and the mindset of extraction, consumption, et cetera.

(00:06:46):

So it was a very powerful tool. We ran that for about two years, brought about 120 people through the process. And I continue to be a facilitator and deeply committed to guiding those deep ecology experiences for people. And yeah, long story short, four or five years ago I started the investments, and joined the lab about a year and a half ago. So biodiversity, nature, human society, and economics has been my big focus.

Nate Hagens (00:07:16):

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So why are you focused on biodiversity and why does this specific ecological issue call to you rather than something more stream than just climate change writ large?

Alexa Firmenich (00:07:29):

I love this question, Nate, because I feel like this question is the basis of our friendship. Fundamentally, your love for all beings and for life is, I think, the glue that connected us from our very first conversations through to now. And so it's a question I would want to ask you as well. There's a series of emotional reasons and very practical ones. Which ones would you want me to start with?

Nate Hagens (00:07:54):

Whatever you-

Alexa Firmenich (00:07:55):

Take your guess, take your pick.

Nate Hagens (00:07:59):

...the emotional ones.

Alexa Firmenich (00:08:00):

The emotional ones. It's always interesting which ones you lead with first. For me, it's quite simple. I think that emotionally it's easy to fall in love with a furry haired lemur or a chinook salmon or a particular tree friend or tree that you have close to your home. Biodiversity is what we're in love with. Whereas in a way, carbon and climate has become almost like a deadening conversation around a very abstract concept, a single molecule.

(00:08:32):

Now, if you're a perfect animist, you can absolutely fall in love with the molecule of carbon. I would...great merit to that. But in a way, they contain very different ways of relating to things. 80% of people have nature as their screensaver. You work throughout the year, you save up, you save up to spend two weeks going into the land. Nature is, I think, fundamentally...we are all biophilic. You want me to pause? Wait a minute.

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Nate Hagens (00:09:00):

80% of people have something on nature as their screensaver.

Alexa Firmenich (00:09:05):

Yes.

Nate Hagens (00:09:06):

Just that one sentence, relative to the rest of the things in our economy, what does that say about our economic system and about us, really?

Alexa Firmenich (00:09:17):

It says a lot about what we value and what we find beautiful, and probably the dissonance when you look up from that screensaver to the other windows and the other things you're doing, and maybe your cubicle. But it's a message about what we value. And so fundamentally, obviously carbon and climate, they are one and the same with biodiversity. And most things that we've referred to as carbon are living beings, they are part of the natural world. But for me, poetry is what gives us art and dance and music and culture and myth and it's this rich, rich tapestry out of which human civilization and culture emerges from.

(00:10:01):

And just try this thought experiment for a second. Imagine a planet that had no more elephants, the last elephant was gone. Or a planet that had no more tigers or no more...place your favorite creature in the middle of the circle. Even if you had never met any of those creatures in your life, come across them, wouldn't that somehow inside of you create a fundamentally different feeling of the Earth and what it is to be alive? We exist because all of these other beings exist, because these ecosystems exist. I can see it in your face. So for me, these are the emotional reasons. Why biodiversity? Whereas if I was to tell you, 33 tons of carbon is the sequestration potential of a whale. 33 tons. It's a different physiological response.

(00:10:56):

So I don't know if you want to comment on that before I get into the practical reasons but for me, that's why, again, biodiversity is what we're for, it's what we're in love with. It's why we want to create these changes, it's why we'll consume less, it's why we'll make

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the efforts to change our lifestyles. Whereas climate unfortunately has become what we need to abstain from what we're doing wrong, et cetera, et cetera, et cetera.

Nate Hagens (00:11:20):

And it's a big tech focus. It's an engineering problem as opposed to a values, deep, humanity tethered to nature problem.

Alexa Firmenich (00:11:28):

Yes, absolutely.

Nate Hagens (00:11:31):

So do you think that those emotions that people feel and the fact that 80% of our screensavers are something nature related, is that related to people's experiences with nature as they grew up? Or do you think it's something innate in who we are as evolved beings on this planet? Like you and I, you said that you grew up as a nerdy girl in the forest of Switzerland. I was a nerdy boy in the forest of southern Oregon and that imprinted nature on us. But is that just waiting to be a seed germinating in all of us and it's just been kind of squelched by our economic system or what are your thoughts on that?

Alexa Firmenich (00:12:16):

100%. I think first of all, early childhood exposure is key because those neuronal connections that get made in early childhood with the living world. I had Jon Young, who's an amazing nature mentor, come on my podcast, and he's done a lot of work with the 8 Shields method around nature connection and mentorship. He trained with the San bushmen and with a host of other elders. And he says, "There's primary connections that get made with the living world in early childhood that is very hard to replicate, and you can't skip that step." And so part of the work that is upon us today is to recreate some of those experiences for adults, because it can happen. It can happen.

(00:13:05):

And that leads me to the second part of your question, which is EO Wilson, amazing biologist, ecologist, philosopher, speaks of a thing called Biophilia, which is also part

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of our core investment thesis, if you will, Ground Effect. And you're checking if it's on your bookshelf.

Nate Hagens (00:13:26):

It's here somewhere close.

Alexa Firmenich (00:13:28):

You better have some EO Wilson.

Nate Hagens (00:13:30):

Oh, I have all of his books, but I actually have Biophilia and it's close by, but not on the shelf.

Alexa Firmenich (00:13:36):

So there's the answer to your question. The innate love of life or of nature, put in your ecological word, that human beings have, we are physiologically hardwired to connect the living world because first of all, for thousands of years and going back through genetic history until when we were emerging from the ocean, our bodies are hardwired to sense the land, read the land, connect, listen, and feel. And when we do that, our bodies and souls drink from that. And so for me, people always ask me, "How do you get so connected to nature? Why do you care about this?" My answer is always, "That potential is exactly the same in you that it is in me. I just have been fortunate enough and deliberate enough to cultivate it."

(00:14:24):

So I think it's innate in every single human, which is why despite all of the things that we're seeing around us today, I have great excitement about the future and our ability to restore and reconnect. But maybe we can get to that after. I do want to get to the practical part of the biodiversity question because I think for rationally oriented listeners, there are some important myths, I think, that are to be dispelled about the differences between biodiversity and climate. And so now we're moving out of the terrain of psychology and soul and care and all these things, and into some of the practicalities.

Nate Hagens (00:15:03):

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Can I ask you one more question about the psychology and the care?

Alexa Firmenich (00:15:06):

Many questions.

Nate Hagens (00:15:06):

Because if I don't, I'll forget it later.

Alexa Firmenich (00:15:08):

Many, many, many.

Nate Hagens (00:15:12):

The statistics for biodiversity, as you and I are acutely aware, have been quite disheartening for a long time and accelerating. And I used to be obsessed with shows like Planet Earth and the BBC and nature documentaries, and I can't watch them anymore. Even as beautiful as they are, it's a little painful for me. So my question for you is, yes, we all have the potential to care and love nature the way you said, and I think that is a huge opportunity for a cultural awakening.

(00:15:53):

But those of us in the scout team that have the empathy and the love and the diligence, as you said earlier, it can become too painful at times. How do you manage that dichotomy? And do you think it's true that those who are most empathic and feel what's happening to nature are doing great work, but they have the risk of being overwhelmed and saddened and burned out?

Alexa Firmenich (00:16:25):

There's many ways to approach that answer. Yes, and not just those who work in nature, but those who work in all of the meta/polycrisis space. There's incredible burnout. And I think one of the most important initiatives or series of initiatives that I'm seeing are how those who are on the front lines of this movement, or the back lines doing the brunt work of the brackets in COP or whatever it may be. I'm referring to the brackets when you're trying to fill out those documents in the main halls. The ability to know how to self-care and regenerate and internal renewal in order to go out and do this work is key.

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(00:17:06):

And so we can speak about this later, but one of the areas that we're looking into supporting financially is all around climate grief, anxiety, and care. And I did a podcast episode with Brit Ray on this as well. But personally, Rebecca Solnit wrote this amazing little book called *Hope in the Dark*. The word, hope, always sat strangely with me. Her definition of hope is the closest that I've gotten to understanding the way that I relate and I'm able to greet the world with beauty and expectation of something better. Hope is expectation of a different outcome without specifying what it needs to be. And it's hope in the unknown, in all the possibilities, in quote unquote, the emergence.

(00:18:01):

She writes in the book, "Inside of the word emergency is the word emergence." And so it's this notion that... Nate, how many times have you picked up a pamphlet or a book or some shred of information fluttering across time that landed on your lap or you saw it on a billboard in, I don't know, Kansas or something, and something that someone wrote or did or spoke or sang at some point in time, moved you possibly hundreds of years later?

(00:18:27):

And so in a way... She has this amazing quote. I pulled out some of my favorite quotes for this podcast because I love, love quotes. But she has this amazing phrase where she says, "Change can come upon us like drops of soft water that wear away stone or an earthquake breaking centuries of tension." And so in a way, change can happen slowly or suddenly or unpredictably. And when you look at all of the changes that have happened in our lifetimes, in the last a hundred years, incredible things.

(00:18:59):

So first of all, to all those who are despairing, I'd say yes, but we have no clue what's coming, we have no clue what these thousand points of light will bring. And there are thousands, millions of points of light. And quickly, the second thing I would say is the grief, the fear, the pain, the anger, it's so normal and also, we have to feel it. Because if we numb that, if we can't watch the Planet Earth episode anymore because it hurts us, then we're going to numb our capacity to rile up all the positive emotions, all the fiery emotions that have us actually do whatever ours is to do, whether that's activism or journalism or reforming the financial system.

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(00:19:43):

So the depth of our pain and the depth of our grief, out of that arises a broken heart that will heal and help to do whatever it can in the world. And so actually, psychic numbing and dissonance and denial and all of this, all of these counterintuitive psychological processes, keep us further away from the actions that the world needs.

Nate Hagens (00:20:04):

Which gets us back to the need for healing and being kind to yourself and marathon not a sprint, and some of the other things that you're involved in. While you were speaking and using Rebecca's quotes, it reminded me that word combinations from some other human you will never meet-

Alexa Firmenich (00:20:28):

Yes.

Nate Hagens (00:20:28):

And visual combinations, have the ability to create magic, which is something that's unexpected. You can just, with combining certain words, influence another person's mood and their actions. It's quite something. It's one of our superpowers as a species.

Alexa Firmenich (00:20:47):

Yeah, absolutely. Another one of my great mentors, I've never met her, but has been Joanna Macy. And so I would encourage anyone. Badass, elder, Buddhist monk, activist. She created a whole body of work that's called The Work That Reconnects, and it's about facilitated group processes directly pertaining to your question, on what do we do in order to feel it all, in order to be able to act. And I think that the one thing that is so insidious and perverse about our current society is individuality in a way and isolation.

(00:21:26):

So if you're alone watching Planet Earth and we think, "Yeah, that's hard," and maybe you have the psychological tools for that. But if you host a screening with 10 of your best friends and you're all a bit sensitive and you feel safe to weep together, in the collective, it's when healing happens. Individually it happens as well, but it's much harder. And so I think that what I would love to see, and what probably will happen as

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this crisis deepens and also expands in ways we can't predict positively, will be collective places of grief and ritual and mourning, which is a form of activism, which is a form of hope.

(00:22:05):

So I would encourage people, there's tons of resources out there, and I've got a bunch on different websites, and so do you. Train up. And Khalil Gibran, an amazing mystic wrote, "The deeper that sorrow carves into your cup, the more you can fill it with joy." So that has been my experience. I am super gooey, and so I will break down and cry and feel it. But the next minute, I wake up and I look outside and there's a blade of grass and I'm like, holy...we live in a world where a blade of grass exists. How spectacular is that?

Nate Hagens (00:22:43):

Yeah. I hear you. And sometimes I think that energy surplus and the trajectory that we've followed, that material wealth has acted like an accordion to move us towards an individual experience of the world as opposed to a collective one. And I do long for a return, just the question is, what are the externalities of that return going to be? But beautifully said. Please continue where I interrupted you on the practical aspects of biodiversity.

Alexa Firmenich (00:23:22):

No, I think it was a very important... It's not even a tangent. Yeah, Nate, it's about developing elasticity, I think, for that pain and how we bounce back and feel and bounce and feel. Practically, and I see this a lot because of my work with the lab, and you read this phrase, which is even incorrectly written, which is corporations, governments are just wrapping their head around climate, and now they have to do biodiversity. How do we do this? And so there's been this massive ontological, physiological error in the middle of the climate or carbon movement, if you will, that has negated the role of biodiversity and nature at large, let's say.

(00:24:08):

They are one and the same. So first of all, our economy is 100% dependent on nature. Not 70, not 60. There's nothing that enables you and I to be here right now if it weren't for nature. Food, water, clothes, air, you name it. So 100% of the economy is

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dependent on nature, and yet they've been approached as siloed problems. And maybe I can give two or three examples of the ways that biological and life processes create the climate and how these feedback loops happen.

(00:24:45):

First of all, maybe some of your listeners know this, but one out of every two breaths that we take comes from the ocean. It comes from plankton, phytoplankton specifically. So every second breath is created by these organisms that are, by the way, dying out because we're packaging them up for Omega-3s, and it's crazy. But they also seed cloud formation. So about 60% of the clouds in the southern oceans around the Antarctic are seeded by plankton, because when they breathe, they create little molecules. Those molecules go up into the air and they seed clouds.

(00:25:22):

So very practically, these planktons are seeding the clouds and seeding the climate. Another example is the concept of keystone species, which I know that you know. But these are essentially key creatures inside of ecosystems that activate a whole series of other ecological processes. So when you think of all of the animals that move and migrate through the earth, you have the wildebeest across the Serengeti, and they're churning up soils and spreading seeds and making niches for other animals to live. And by pooping, they're bringing carbon back down to the soils.

(00:25:58):

But they're moving across the land in these massive vein-like corridors called wildlife corridors. And you must see them as if they were cells inside of your body moving through veins. It's the same with the salmon, the salmon that take their annual migrations. I'm looking out the window from deep out in the ocean. They collect all of the nutrients, nitrogen phosphates, and they come back up and they swim up river, and they die hundreds of miles from the deep ocean where they initially spawned.

(00:26:29):

But those massive migrations, movements of all these fish, are literally feeding the forest. So as all these creatures move, they're feeding the trees, they're feeding the carbon, they're cycling these ecological processes. And they are part and parcel of the carbon cycle. And so a paper came out a few months ago that maybe you can link in your show notes that show that the reintroduction of a lot of these keystone species

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like the musk ox and the bison, the wolf, certain fish can detonate huge cascades of carbon capturing inside of ecosystems.

Nate Hagens (00:27:12):

So, salmon and wildebeest are keystone species?

Alexa Firmenich (00:27:17):

Yes.

Nate Hagens (00:27:18):

So, not only is biodiversity important in its own right as a separate issue than climate change, but biodiversity is part and parcel of climate change because of the sequestration and the ecosystem services. What happens if we start to lose a lot of keystone species?

Alexa Firmenich (00:27:37):

I think the easiest way of bringing this home is that the Earth is like your body. Well, the Earth really is your body. And if you look at all of the continents like organs, the creatures are the connectivity between them, all of the kind of connectivity, the amino acids, the blood cells, the whatever, you name it. And so, these creatures are keeping the earth stability in check through feedback loops. So, if these species disappear, it would be as if you're cutting off vital connectivity between your different parts of your body. So, therefore, your body goes out of whack. So, you may get invasive species coming in, you get disturbances, ecological disturbances for... Yeah.

Nate Hagens (00:28:25):

Keeping with your analogy of the Earth as a body, dare I ask what the implications are that we've lost 70% of the populations of animals, birds, fish, reptiles, and insects since I've been on the planet?

Alexa Firmenich (00:28:40):

The way that this functionality gets lost is very quiet until it's very hard for ecosystems to recover. So, in climate science, there's a concept of tipping points, right? These are states in which an ecosystem or region will just enter into a new state if enough

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changes happen to it. So, you think of the melting of the ice sheets or the Amazon becoming a dry land savanna. The absence of these key cyclers of life, let alone for all of their other values that I spoke about earlier, means that nature's hanging by thread. However, rewilding is a movement that I am a part of and have supported, and it is astounding how quickly life bounces back. I mean, you bring back beavers to an ecosystem, and within a few months, the pools are back. Derek Gow came on my podcast. He's an amazing kind of renegade rewilder from the UK. And he speaks about the lights come back on and everything that can slither, fly, or swim just comes back to those little ponds.

(00:29:50):

And I think that we have friends who are reintroducing beavers and rivers slightly illicitly because they were just like, "We just need to get the beavers back." The reintroduction, especially of these keystone species... And another paper came out last year, well, 2023, showing that there are way more keystone species than we even knew. And so, the reintroduction of them, it is astounding how quickly nature bounces back. So, yes, we have lost a lot and we need to get life through this bottleneck right now, which is why we need to conserve and protect many of these last wild places and create the connectivity between them by allowing creatures the space to move.

Nate Hagens (00:30:30):

How successful, or growing, or is there a lot of momentum behind the rewilding movement? Can you give some other examples, other than the beavers? I know that E.O. Wilson championed the idea of Half-Earth, where humans live on half and wild creatures are undisturbed on the other half, and it's kind of a good Overton window to get us going in that direction. And there's 30 by 30 initiatives and stuff. But can you unpack rewilding as a cultural theme a little bit more?

Alexa Firmenich (00:31:10):

The word culture was important there. It can be a culturally-contested word as well. In the UK for example, there's a lot of tension around the word rewilding. A slightly perverse phenomenon has begun happening where rich landowners purchase large tracks of land to rewild them, but it's not a sort of common space, democratically land redistribution kind of thing. So, I think like with carbon markets or even biodiversity markets that are coming, and we can talk about that, we need to be very careful. But

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there's a few groups that do this amazingly. So, I'd encourage anyone to check out the work of Rewilding Europe.

(00:31:52):

It can be everything from restoring crayfish to the Apennines in the Italian Alps, so that all of those streams and rivers get back their functionality to bison. So, bison are being reintroduced. I was visiting some rewilding projects in Romania and the bison, it's like the wildebeest, they turn up the soils, they capture the carbon, they clear out the undergrowth, more trees can come in. And actually, in the US where you're based, the wildebeest and the First Nations had this very symbiotic relationship where they would migrate with the wildebeest, and the wildebeest would clear the land and they would plant-

Nate Hagens (00:32:28):

Buffalo, I think.

Alexa Firmenich (00:32:28):

Sorry, buffalo bison, exactly. Thank you. Wolves, you've got the famous example, obviously of the reintroduction of wolves in Yellowstone. So, these are all sort of examples of rewilding. I think that rewilding in today's world has to come with a relationship to human biocultural economy. I think some of the misinterpretations of the Half-Earth could be conservation 1.0, which was fortress conservation, which was kicking native people off their land to create these enclaves where only nature thrives. It would be ideal if we could understand how to create these corridors. And there's lots of tools for coexistence between humans and the reduction of some of these creatures because they don't kill a lot of livestock. But it takes one sheep being killed for, fairly enough, for farmers to be completely against...

(00:33:29):

In Switzerland, we're about to cull quite a big portion of our wolf population, which is heartbreaking, because of attacks on farm animals, but the attacks aren't so marked. But the question is not how do we sequester half the Earth for wild creatures and we take the other half ourselves. It's how do we learn to coexist and share our land with those who came before and our kin and our ancestors. And obviously, a lot of native

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communities or IPLCs have that knowledge, but it's about learning to coexist with more of that wild in our doorstep.

Nate Hagens (00:34:07):

I have a couple of follow-ups to that. One is a story that recently happened to me. Like you, I love megafauna and all the different 6,000 mammal species on the planet, particularly African megafauna, like lions and leopards and elephants. And you read stories where Maasai warriors have to kill a lion for some ritual or they're protecting their village, and so they have to kill one of these beautiful animals. And you get really upset about that. Why would they do that? And yet, a few months ago, a raccoon came in my barn and killed three of my chickens, and I was like, "Oh, dang it. I can't have that happen." Now, I didn't kill it. I captured it and drove it like seven miles away and let it go in some forest. But what is the difference between me and this raccoon, and that raccoons are abundant here, versus someone in another part of the world that has animals that we might deem as really important keystone species for our planet? It's this coexistence and the boundaries of your moral compass and your daily life. Do you have any thoughts on that?

Alexa Firmenich (00:35:33):

Totally. There's a lot of interesting initiatives emerging in terms of how we can use technology, different tools to make those boundaries more productive, let's say. So, for example, if you're thinking of Africa, which is why I thought of it, African elephants can often charge into towns, villages, or farmer's plots, and it's really an issue. Africans hate bees, the elephants. African elephants hate bees. And so, initially, some of the communities would put beehives surrounding the fields, so the elephants would just stay away. But it's been shown that even just the sounds of the bees drive away the elephants. So, now there's a sort of bioacoustic approach where people are placing the sounds of bees to keep the elephants away. You can tag the creatures and have alarm signals for when they're coming in or warning signals.

(00:36:35):

So, I think that there's ways that we can be intelligent about that coexistence. On a psychological level, I think the separation that keeps us from... I think is perfectly sane that you get angry when that raccoon kills all of your chickens. And I don't know what ancestors would've done in some idealized 2,000 year history, maybe it would've been

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exactly the same thing. But there's something about coexistence here, which strikes me as well, when it comes to how many humans will be migrating and how we are going to have to let in our human kin that may appear so fundamentally different to us, but who essentially also need home and place to live in. So, it's a deeper question on how we begin to work on human beings' internal relationships to duality or otherness. And I would believe that the same skills we cultivate on a human level may transpire into how it relates to other creatures if we're deliberate enough about it.

Nate Hagens (00:37:43):

So, on the emergence and hope rabbit hole, if it were possible to tap into the love for nature that you think resides in all or most humans, we still are in an economic system that's based on profits, tethered to energy, tethered to extraction. And so, that's the cultural goal. But I'm just wondering if there could be, you can pay 5% of your taxes in this currency or in this thing, and that thing you only get by doing rewilding or regenerative activities in the area where you live. Could something like that happen from the ground up if there is the political change of consciousness in lots of people?

Alexa Firmenich (00:38:39):

Is the question, the feasibility of putting in a tax like that or that some kind of tax like that would change people's minds?

Nate Hagens (00:38:46):

Well, I guess I'm looking for a way to link the love for nature and the powerlessness we feel in our current economic system to exhibit our love for nature. And this way is linking the incentives with the behavior a little bit.

Alexa Firmenich (00:39:04):

Michael Sandel, Harvard professor, wrote this book, *The Moral Limits To Markets*. And you're nodding, maybe you've read it and-

Nate Hagens (00:39:14):

Heard of it, not read it.

Alexa Firmenich (00:39:14):

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Yeah, it's a good read. I recommend it. He speaks about some of the dangers of replacing intrinsic values with extrinsic motives. So, specifically, I've been swimming in this because I've been concerned about the monetization of nature, which is happening anyway. But how do we design that more intelligently? Time and time again, it's been shown that if you replace a civic desire to do something that's coming out of collective restraint or some sense of duty to the common good with an extrinsic motive, namely money, the initial intrinsic or moral reasons for doing that erode.

(00:40:01):

So, for example, a town in Switzerland was asked if they would accept to be a nuclear, I don't want to call it waste site, but if they could bury nuclear waste in it. And initially, something like 60% of the town said, "Yes, okay, we'll do it." And then, the government said, "Well, let's try and get that a little bit higher as a percentage, and so we'll offer you also a financial reward on top of that." And it's astounding the amount of people who consented actually dropped half because you replace the intrinsic good civil care with this sort of carrot, if you will.

Nate Hagens (00:40:39):

So, that's a microcosm of our global situation in ways, yes?

Alexa Firmenich (00:40:44):

Well, I think relating it to... Heal nature and here's some money needs to happen, this is the dilemma we're in. We have a very, very narrow window to get life through this bottleneck. And if we don't create financial mechanisms right now to protect and restore nature inside of this current economy, then we'll be losing a lot of our life support system and all of the other things I stated earlier. But if we only do that and if we don't think about the more fundamental psychological relationships we have to nature and also healing that divide, I'd be very concerned about the deeper humanness, if you will. So, I think that putting in a tax like the one you described, people may accept it or they may resent it because it wasn't chosen by them and it's not arising out of some deeper intrinsic incentive.

Nate Hagens (00:41:46):

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Well, it wouldn't be taxing people, it would be relieving tax if you did these pro-regenerative, pro-rewilding things. So, it would almost be like a subsidy, but yeah, I hear you.

Alexa Firmenich (00:41:57):

I think we should an experiment on it. There's also experiments being done on universal conservation income. So, what happens when you give communities just UCI to look after ecosystems and what does that do to values? I think mapping the values inside of pilot schemes like that would be very meaningful work for someone to try and do.

Nate Hagens (00:42:18):

Okay, so someone listening, start that up. Keep me posted. But yeah, this gets at one of the core arguments within the field of ecological economics. There's a lot of people within that field that want to put prices on ecosystem services and include those in the market. And others are like, "Those things are priceless." And once you monetize them and put a dollar marker on them, it changes their value to us as human beings, and they become part of the economic extractive system. Granted, with probably more accurate prices, but they are prices nonetheless. So, is this kind of what you're getting at? Being the natural world in the financial world, are they compatible at all?

Alexa Firmenich (00:43:07):

I think the question is less, are they compatible? Because with billions of humans on the planet, we need some kind of system of value in exchange, but it's under what conditions or what changes the financial system do they become compatible? What are some of the tenets that need to be upheld? And I was curious about a few weeks ago that I didn't know the etymology of finance. Have you looked that up recently, the root of the word finance?

Nate Hagens (00:43:35):

No, the root of the word, I don't know.

Alexa Firmenich (00:43:37):

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Yeah, right? It's interesting. It's the repayment of a debt, if you will. It's having an obligation to something, a restitution. Isn't that so interesting? And so-

Nate Hagens (00:43:51):

So, the relationship of humans to the entire natural world of Planet Earth is financed in a way because we have an enormous debt to nature.

Alexa Firmenich (00:44:01):

Exactly. And so for me-

Nate Hagens (00:44:03):

And yet, we're using debt to extract more and accelerate the destruction of nature.

Alexa Firmenich (00:44:10):

So, the question is, and I think the Capital Institute wrote this paper, Regenerative Finance, but it's more how do we design finance to pay that debt back more intelligently? And I think that we must think in terms of time horizons here. So, in the short term, there are very meaningful schemes that we can develop and design that I think are important for ecological and social regeneration. And it's more about how those things are structured. So, for example, what do we do about the commons, right? Finance has to answer the question of these ungoverned vast expanses of landscapes and how we incentivize our protection considering that all harm can be externalized into them? That must be answered.

(00:44:58):

We must answer what we can do about land privatization and ownership. Because if ecological economics, or let's say, I don't know, impact investment goes in and you can start spending a lot of money off doing things with land, with biodiversity and otherwise, how do we make sure that we naturalize in a way those gains is the way that I think about it, which is it's not just those landowners or those real estate funds are real asset funds benefiting from the income from that carbon or biodiversity, but it's cycled back into nature and communities in the same way that nature would have it. So, I think these are all design constraints that have to do with land tenure, land ownership. Biodiversity credits is a huge conversation that we're in the middle of because we're creating this measurement layer for biodiversity. And in the terms of

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biocredits, the question there is should we enable offsets at all? Well, offsets have existed for 20, 30 years.

Nate Hagens (00:45:54):

What would a biodiversity credit offset physically would that be? Can you give an example?

Alexa Firmenich (00:46:01):

Yeah, for sure. I mean there's a whole taxonomy of them. So, there's about six different categories that a group that we work with, Nature Finance, has outlined. I can send you that paper later. Most offsets are hyperlocalized. So, you're a developer, you need to raze down a forest or you want to raze down a forest to build a shopping mall or an apartment building. Some ecological value will be lost there. And so, you must recreate that ecosystem elsewhere. Replant trees somewhere else. That's a biodiversity offset. Or then you have biodiversity certificates, which are essentially, "I'm Nestle and upstream in my value chain, I've replanted some trees or done some watershed restoration."

(00:46:44):

And there is different ways now via MRV, which is monitoring, reporting, verification. So, it's a combination of ground truth, sampling and satellites, remote sensing. You can show that you've committed some good deed in restoring that ecosystem and you can essentially have a biodiversity credit showing, "Hey, I've done a good deed." Now, that can just remain there. It's emitted, but it's never sold or traded. And in a way, it's a way of showing your investors or stakeholders, we're assuring the long-term viability of this business. It's not just a do-good action, that's the point. It's like protecting nature means you're ensuring the viability of your business in the long term because you're supporting the very fundamental assets that your entire business depends upon.

(00:47:29):

A big question right now is whether biodiversity credits should be allowed to be traded, whether you should have secondary markets or derivatives, and all of these financial tools on top of that. The argument for that says that for markets to generate enough money, they need to be liquid, and so the tradability. Let's say we plant 100 trees in the Amazon, and that generates, I don't know, 100 biocredits. And let's say you

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have a profit share, revenue share with that local community whereby they get 80% of any future sales of a credit, which doesn't happen right now in some of the carbon markets. So, it's sort of benefit sharing, if you will. If you can trade that once, that community gets 80% of the value once, and then the developers get the other 10% or 20%, let's say, for the work that they did in developing and monitoring and reporting, if that credit can be traded 10 times, they'd get 10X money back. And so, you can see what's appealing-

Nate Hagens (00:48:32):

Which they would then go spend at Home Depot and Walmart and other places on things requiring carbon and extraction.

Alexa Firmenich (00:48:39):

It's a good question, but you saw the results coming back from that UBI experiment, right? The world's largest UBI experiment where actually-

Nate Hagens (00:48:47):

Yeah, you sent me that.

Alexa Firmenich (00:48:47):

... people don't always spend on consumption necessarily, but more money doesn't always mean better for the planet, granted. So, that's kind of the question on biocredits. I have an article that you could link to, which is called Selling Nature in Order to Save It. And in that I outline a lot of super interesting arguments for and against this financialization of nature and-

Nate Hagens (00:49:13):

I have a couple questions. First of all, I'm not a fan of the carbon trading schemes because I think they're mostly schemes, but at least carbon is kind of standard. But I would think biodiversity would have a biodiversity quality asterisk on just about everything because if you're going to develop a shopping center in Ecuador by the Galapagos, and then buy some credits to buy some farmland in Kansas and put some trees there, that's a little bit different of a biodiversity quality, yes?

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Alexa Firmenich (00:49:46):

Absolutely. And so, in the conversation of offsets, there's a few working groups right now on this biocredit conversation that are sincerely trying to learn from the mistakes we've done in carbon markets and saying that biodiversity can't be fungible in that way in an offset market across vastly different ecoregions. But there are other dangers. There are four main dangers and we can quickly, quickly speak about them. But one is ecological. When you create these ecosystem service markets, the way that they're structured often incentivize the reproduction of very strange and artificial ecosystems that nature wouldn't have. So, if you look at stream mitigation banking, which the US did, which is the oldest ecosystem service markets, they prioritized rivers that didn't stray, that didn't erode. And the proof of a good river restoration project was that it didn't erode, which is ridiculous because rivers move.

(00:50:42):

So, the carbon tunnel vision or the optimization of any one ecological variable, for example, number of species or proximity to a protected area means that you will begin to incentivize the overproduction of that one thing. So, we could get monocultures of specific types of biodiversity, which is happening now, which is why the tool that we're building at the Crowther Lab is attempting and really will be the world's most holistic measure of biodiversity because we're taking in all the possible variables across genetic species and ecosystem level diversity to try and negate, as much as we can, that over-optimization for one variable of what we call nature. So, those are the ecological risks of these markets.

Nate Hagens (00:51:33):

One thing that keeps popping up in my mind is a lot of this is happening fast and people are becoming aware and working on these projects and rewilding and regenerative agriculture and biocredits, etc. Except it's just at the margin of this juggernaut of the Star Trek Borg of an economic system that is still optimizing extraction and profits and all that, the Superorganism. And if those could be linked somehow... In New York state, they're outlawing propane stoves because propane, it comes from fossil fuels and it's bad for climate. The COP28, they're trying to phase out fossil fuels. Without the rest of the world agreeing that that's necessary, it's like a conversation within its own little tribe and echo chamber.

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(00:52:32):

And yet, the value system of 80% of humans having screensavers of nature. If there is a way to link those so that it's a much more agreed upon thing, which is why I think your work is so essential on this stuff, which is unpacking humans' connection to nature as a value system, the consciousness of what you care about in your life. Somehow that needs to be integrated with our incentives, and I don't know how to do it. But I think it would be much more scalable if people like you and working on these efforts for biodiversity, if that was acknowledged as one of our cultural goals.

Alexa Firmenich (00:53:18):

I'd say that it's less fringe and mainstream than what it might appear. For example, this year we saw the launch of the TNFD, the The Taskforce on Nature-related Financial Disclosures. This was huge. It followed the TCFD, a very valiant effort of hundreds of people trying to calculate in impacts, risks and dependencies of value chains on nature, so corporations. It's very likely that most global companies will have to disclose their impacts and risks and dependencies on nature in the coming years. So, these are huge shifts within the financial industry, which is why this was the COP with the most amount of financiers. And the biodiversity COP that was in Montreal last year, the same. There's a lot of initiatives underway right now to reprice sovereign debt, for example, linked to nature, KPIs, key performance indicators. Central banks, there's the whole greening the financial system movement, where central banks are looking at, "Okay, how do we calculate the true cost?" Regenerative agriculture was niche maybe a few years ago, but I'd say now where we saw what was happening in its latest COP, which was the first COP where food was really hugely present, when 160 countries signing up to globally reform the food system. So I'd say that things like rewilding are still a bit niche, but fundamentally, calculating in the costs and the impacts of this massive debt that we've incurred on the natural world, and understanding that if we don't do that, the whole house of cards comes tumbling down, that is exponentially coming into awareness. And I think that all of the natural disasters we're seeing and people forcibly having to leave their homes, it's having us wake up. So luckily, it's not niche and I'm surrounded by so many initiatives that I can't even count them.

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Nate Hagens (00:55:12):

That's good to hear.

Alexa Firmenich (00:55:13):

Yeah.

Nate Hagens (00:55:13):

So you also are an ESG investor or in that sphere of environment, sustainability, governance. Can you unpack a little bit about your work in that field?

Alexa Firmenich (00:55:25):

Sure. Yeah. I think ESG is sort of, it can be a box ticking exercise I think we've seen. What we do with Ground Effect is that we invest with the worldview in a philosophy, which is this indivisibility that we have with nature. It's fundamentally saying, if I was this ecosystem or this species, what do I value? What does nature value? What are all of the voices that we're not bringing to the table from the other kingdoms, let's say, of life? So we're an animist investment vehicle. For those who haven't come across the term animism, if you think of an ecology as like a web of relationships, animism is the felt sense of those relationships. It's the sense that the world is alive, that we're embedded in this web of relationality, and that there are many other beings out there who are their own persons and only some of them are human. They are a genetic kin, they are our relatives, and they have just as much right to be here as we do.

(00:56:35):

So a lot of ESG or even impact investing I see is sort of what can nature do for us and for the human economy and how can we keep thriving? And that's just not how I feel the world. The way I feel the world is, how can I support the thriving and the regeneration of these other beings? And sometimes they value things that I don't necessarily value or that the economy doesn't value, but that are fundamental to the underpinnings of life. Maybe a little gnat, a little tiny fly is serving a critical purpose that I can't quantify or understand, but just because it doesn't make it into my calculation, doesn't mean it's meaningful. So very practically, we're using financial capital money to try and turn it into something that nature values. And we do that in a few different categories.

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(00:57:26):

So we fund Earth's living processes, so agriculture, food, soils, rewilding, biodiversity initiatives, large landscape restoration, preservation, core scientific research that really illuminates the awe and the wonder and this kind of ecological backbone of all life. So we've given some funding, for example, to the fungi, the mushrooms and mycelium that support everything we see above ground. We support kind of Gaian voices, if you will, of those who speak on behalf of nature. So advocacy and journalism activists. We've supported the rights of nature, which is giving other entities in the living world legal personhood inside of the human system. It's incomplete because who are we to grant them our personhood in our legal system? But it's still a bit of a hack. It's like ecocide. It's like, let's use the current legal tools that we've got in order to encourage more of this life to thrive. One of the latest categories that we're looking into for this next year is the development of human inner consciousness or wisdom. So the inner growth of human beings and how do we embed a much more wise operating system inside of our human systems.

Nate Hagens (00:58:49):

It's so impressive. I am such a fan of your ethos and your work. And I'm realizing that we have not even got to half of the topics I wanted to cover, and we're an hour in. So we might come back to the philanthropy and ESG investing, but I want to talk about, you have a podcast, it's called Life Worlds, which you started. And from the main page of your website, "The podcast series that explores how to orient your life around nature. We discover the mindset, skills and actions that are required to partner wisely with other forms of life and engage in acts of brilliant restoration." What inspired you to do this? And could you talk about your experience?

Alexa Firmenich (00:59:37):

It's always funny to hear something you've written read out to you.

Nate Hagens (00:59:45):

Yeah.

Alexa Firmenich (00:59:45):

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Right? I guess two main reasons. The first is, through this work, I was meeting such amazing characters, probably a little bit like you. It was like, I need more people to know about their work and have their voices and their initiatives and what they're doing in the world, right? So initially, the podcast was, I want to give a platform to all of these incredible actors that are really, really pioneering different approaches at this moment in time. But the reason why I chose Life Worlds and the focus I give to all of the episodes is that our culture is steeped in duality, in this I, them, me, this othering, if you will. And as I mentioned earlier, my frustration with a lot of the climate and nature movement is it's still for humans, for humans' sake, on our terms. I believe, and it's pretty certain, that the more that we think like ecosystems and take their interests in mind when we rewild, restore, do agriculture, do law, do finance, the more intelligent the intervention is, but also the more that we transform.

(01:00:54):

So at the core of the podcast is this question on the human separation of nature. So with all of my guests, they're not just exceptionally adept in their fields, but they are all cultivating a different worldview and relationship around nature where there's a different relationality, the integration of constituencies, of different voices. And in a way, Michael Ableman, who's an amazing farmer who came on with the form of the first episodes, says, "How do we make our way into the slipstream of the biological activity of all life and see ourselves as part of that system?" So what I ask with Life Worlds is how people cultivate their own internal worldviews and skills and being able to embody the perspectives of ecosystems, both because it leads for more intelligent intervention, and secondly, because that's one of the psychological and spiritual transformations that's really needed right now.

Nate Hagens (01:01:49):

In your experience, there's Mother Earth and we're talking about Gaia and all the other species and the ecologies, have you found that women and the feminine side of humanity is more in touch with that? Or is it 50/50 or do you notice anything along those lines?

Alexa Firmenich (01:02:11):

I think the feminine in each of us is just waiting to be expressed. No matter what body or whatever you find yourself in. There is a feminine principle which is more nurturing

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and life-giving and tender and in touch, naturally. Feminine leadership is something I exalt and only want to see more of in the world. And I would love that all of those who are more in their masculinity to also have the permission to be that in a way. It's like indigeneity. We are all native to this planet. So yes, more feminine in the world, but more feminine in all of us. And in terms of the podcast, the guests are completely split along those lines because it's more about cultivating a deep sensory skillset and acuities and perceptions than necessarily the bodies that we're in.

Nate Hagens (01:03:14):

So one of the points of your podcast is, it's important to view the world through a non-human lens. You and I, when we observe what's going on in the world and the ecosystems and the impacts, we do that. But do you ever actually go so far as to empathize and imagine some creature in nature you're looking at and imagine what it must be like to be a spider or a gopher or a squirrel or an orangutan or a leopard or whatever you're seeing? Do you go that far and try to imagine what life would be like living as such a creature?

Alexa Firmenich (01:03:55):

Come to one of my dance parties. No. I think that metamorphosis is a very archetypal and guttural inclination of human beings. So what I mean by that is, throughout time our ancestors developed ways through ritual: ceremony, dance, song, beat, whatever you name it, to embody the life worlds of other beings. I think it is fundamentally part of human culture. I mean, here in Mexico, I was in this crazy room the other day with about 2,000 tribal masks from across the country, dancing masks. Some were human, some were non-human, some you couldn't figure out what they were. But our ability to shape-shift and take the form of other beings I think has been culturally present in most continents of the world.

(01:04:58):

So do I personally do it? There are nature reconnection exercises that can train you in physically embodying the different acuities of another being. And it's quite interesting when you playfully give yourself over to that process, you're not going to do it very seriously sitting there, "I'm going to become a wolf." But what would it be? It's a fascinating process and we've done it with people you wouldn't expect, like very

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A-type, C-suite executives. But everyone has their own space and we can tap it to something very deep and very ancient if we do this.

(01:05:47):

In terms of an investment thesis quickly because it's some part of Ground Effect, it is like a permaculturist where they, say, spend 12 months observing the land before you make an intervention. I think that if you're trying to restore an ecosystem or create an intervention in any kind of nature-based context, imagining what it's like for that ecosystem to be, in the same way that if you're trying to design an intervention for a human system, whether it's shopkeepers or farmers, what is their life like? It doesn't mean you have to wear their clothes and become them. But a sincere curiosity is critical, I think, in this work.

Nate Hagens (01:06:38):

I agree with that. So do you think before organized religions way back in the day, we were all animists, that that was just the way things were?

Alexa Firmenich (01:06:49):

Many people a lot smarter than me on this topic have said yes. Animists just being, we understood that there were energies in rivers and rocks, and we existed within these cycles and life processes that also transcended our own planet. But these cosmological cycles of time, we really lost that cyclicity. And for me, animus is also systems thinking. It's like, things lead to other things, they're entangled, there's emergence, there's chaos, it's all of the kind of systems 101. And because we were so activated-

Nate Hagens (01:07:26):

So animus would be the world philosophy most linked to systems ecology.

Alexa Firmenich (01:07:31):

Oof, I would have to think about that one. It's a big statement.

Nate Hagens (01:07:35):

Keep going. Sorry to interrupt.

Alexa Firmenich (01:07:36):

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No, I think it's a good question. Let's entertain that for a sec. It's tricky I think because animism permeates a lot of world philosophies. I've practiced Buddhism for quite a few years, and in a way, animism is almost like a practice. It's a worldview of understanding that the world is alive, as I said earlier, and that things are entangled and that we can have relationships with them. You, I know from our conversations, have relationships with your animals. Right? That may seem silly, but it's true. And so-

Nate Hagens (01:08:08):

They're my family.

Alexa Firmenich (01:08:09):

They're your family.

Nate Hagens (01:08:10):

Only about half of my best friends are humans.

Alexa Firmenich (01:08:13):

Exactly. I love that line. So is that animist, or is that Buddhist, or is that humaning, or is that being an earthling? The boundaries aren't so clear. But being in our bodies and having sensory acuities to sense and feel the world is a fundamental part of systems thinking because you have to adapt, you have to watch how things move. And if we're cut off from that, from all of that sensory intelligence, we don't have access to a deeper form of knowledge. So that's the way I would answer the question.

Nate Hagens (01:08:53):

So here's a bit of an aside, but given the limits to growth and the peak oil and the four horsemen and the other things that I talk about, I think we're approaching a cultural transition, both in our economies and in our relationships, everything, the Great Simplification. I predict that as things get more chaotic and uncomfortable relative to the past, that humans' penchant for religiosity and for group cohesion around a purpose and a story that's larger than ourselves will become widespread. And I think there will be a lot of new religions that pop up from some charismatic person with a story. Many of them will be untethered from reality.

(01:09:47):

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I think the animist story of we are on this spaceship earth hurtling through a lonely, dark, lifeless universe, this blue-green planet, is special and the species that we share it with are precious. This is what I ascribe my meaning to and my purpose. I think that will be one of the religions of coming decades. The question is, will it be just a tiny thing on the far fringe or will it be serious and meaningful and maybe shifts our entire culture? I don't know. Any thoughts on that?

Alexa Firmenich (01:10:28):

Yeah, it's a very good question or thought. I think the answer to it will be in relationship to how we're able to work on some of the things you spoke about earlier in the podcast relating to grief and despair and tribalism. As the crisis upon us will lead to massive displacement and the breakdown of fundamental ecological systems, food, et cetera, we could tip the other way and become deeply tribal and sectarian. That is a very possible outcome, which is why I think that supporting and working on the cultivation of much better human psychological tools and human wisdom and all of this inner work that some people think is woo, but no, it's just, it's leadership. It's like we need people to be wise leaders in this time. In a way, E.O. Wilson again, like paleolithic instincts, medieval institutions, godlike technology, if we're able to take those paleolithic instincts and make them a bit more sophisticated and that can constrain or bound our behavior in relationship to that technology and reform those institutions, I think we stand a very interesting chance.

(01:11:50):

Something I have seen, and this came up a lot in my podcast, is that when we heal the earth, we heal ourselves. We don't wait around to be a fully woke, enlightened human being to start doing all the good stuff. It's like sinking your hands into soil, right? People who work in inner city farms who have had a history of drug abuse or substance abuse, just sinking their hands into soil is so deeply healing. Or the Chicago Greencorps, going in under financially privileged communities who start to restore their parks, who've never had a relationship with nature, suddenly become much more deeply connected. So I think that that feedback loop between human and land will happen because we have so much to restore and protect, and the incentives around it are emerging and the initiatives are emerging and there is a movement. So we will see this earth religion happening.

(01:12:47):

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Now, something that I want to posit to your listeners is, any system of faith needs places of worship. And I would love to imagine different urban centers who have nature temples, or it sounds kind of cheesy, but where are places that we can go which aren't linked to a current world religion, where we can sit amongst others or do things amongst others who care for the earth. Whether you're a Hindu or a Buddhist or a Christian, it doesn't matter, but we're here for our relationship to the wider whole. That I think is a very interesting artistic intervention, for example.

Nate Hagens (01:13:22):

So do you think it's important to be able to attach oneself to some piece of land, somewhere one might call home, and considering and thinking about that place as sacred or even an extension of oneself? I mean, I've lived where I have for the last 17 years and I'm used to it. Sometimes it seems almost mundane because I know the trails and the trees and the animals because I have my wildlife card out, but I also become very deeply connected. I know when something's different. When I travel and I come back here, I can't wait to go on those trails again because I feel ... I don't own it. It's not that. It's that this is my place where I'm tethered. What do you think about all that and the importance of connecting to land?

Alexa Firmenich (01:14:17):

Well, first of all, I think that whether you feel connected to it or feel that it's sacred, it is, first of all. So it is all sacred and you are all connected to it, whether you're awake to that or not. You know? The importance, Simone Weil has this great phrase, she says, "Rootedness in place is one of the most important needs of the human soul." So fundamentally, the answer is yes. Now, there's a certain colonialist way of doing it, which is, I erect this land and you're mine. But there's this longing in my own heart, and it's to be claimed by a place. Instead of me claiming something, it's, wow, can some place in the world call out for me and have me come and tend to it and steward it and look after it?

(01:15:06):

Again, as I said before, we are whole by the nature that we make whole. So the more that people can tend to a patch. It doesn't have to be like a glorious mountain range. I mean, who has a mountain range anyway? But it can be an unglorified, very unsexy kind of local place that you tend to, but it's a relationality between you and the world

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and a place you get to know. You get to know it seasons, how it expresses in different moments. Jon Young, who I referenced earlier in terms of nature of mentorship, he speaks of this concept called sit spots, which maybe you've come across. It's a very common educational tool for kids and for adults really. It's, you find a place within 15 minutes of your home where you can sit, it can be a park under a tree, but you're looking into the natural world in some way. You're there. And you go there if you can every day, 10 minutes, 5 minutes, you sit, 15 minutes. You sit in that place and it's your sit spot.

(01:16:10):

And I can't tell you, Nate, the amount of people I know who have been given this practice and now do it regularly. I'm talking like 50, 60 people. Their relationship to their sit spot transformed their lives. And as Jon Young says, it's like initially your relationship is like a string. It's like a little string to the place. But over times and over sits, those strings become a rope, and then that rope binds you to that place. And then if you're bound to a place, it's like all this metacrisis. Even the word, it's like, what the hell is this? It's like this hyper object I can't grasp. So these local connections are doorways into caring. They're places that open the aperture for us to understand and relate to and process what's happening in these wider systems.

Nate Hagens (01:16:56):

For viewers of this show that found what you just said as beautiful as I did, how would you recommend that someone just get started to cultivate that relationship where they are? Just find a sit spot within 15 minutes of where they are? How else do you get started?

Alexa Firmenich (01:17:16):

I mean, you obviously have sit spot practices. There are tons of these practices. On my podcast, I have a bonus episode called Sensing Place, and there I share some different practices people can do. One of the basic things is like learn where you are, understand your watershed, literally map out your watershed. Where does the water come from? Where does it go when it leaves my tap? Where are the reservoirs? Where does my waste go? Situating yourself in a place and then looking at it across time as well, like what did it used to be?

(01:17:52):

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In the Regenesys Institute that train you how to be regenerative practitioner, it's a great course, there's a concept called the Story of Place. And in the Story of Place, you look at geological time processes, migrational, human and animal. Every single place has this latent identity or potential, just like every human has their own unique flavor, their own little charisma or way of being, their own color. So get to know that part of your place. You can do a Story of Place, for example, and just committing to being there. Pollinator Pathways and all these things that can sound very trite and kind of parochial are actually ... I mean, some of the wisest and most grounded people I have met who I trust the most are people who are embedded in their place through some of these very humble daily acts.

Nate Hagens (01:18:50):

Is this available to everyone? Or is this a little bit of a privileged elite western society where those have access to wealth, have access to parks and such? Or can anyone in the world start this in their local place?

Alexa Firmenich (01:19:10):

It is a privilege to have access to green spaces. For example, I was reading a statistic about the UK recently, and it's abominable. Inner city underprivileged communities don't have access to a green space. And ironically, the most privileged people are the ones who spend less time in place, who move around from place to place and are the least binded. So it's interesting because it's like a function of privilege, but it also correlates negatively sometimes. But to answer that, I don't know if during COVID you saw this phenomenon of weed watching. It became viral. People became obsessed with the weeds that grew under their house.

Nate Hagens (01:19:52):

No, I didn't see that.

Alexa Firmenich (01:19:52):

Yeah.

Nate Hagens (01:19:52):

Wow.

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Alexa Firmenich (01:19:56):

I did a whole episode of urban ecologies, and it's like there are ways even in the city to create those threads and those ropes and those cords that I described earlier. In one of those episodes, I speak about the Chicago Greencorps. I think that if we can support neighborhood revitalization programs or inner city developments for some of those communities to just begin to participate in creating parks, which by the way, we will need because of climate mitigation adaptation, we will need more nature in cities because otherwise they become these heat domes. Even a few trees really shifts the temperature in a microclimate in a city. So it's incredible because both psychologically and spiritually, this is important, but climatically, there are all the right incentives to do this, and water catchment and erosion and flooding and all of these kinds of things.

Nate Hagens (01:20:54):

I'm going to put you on the spot with a hard question, and this is a question that I might do a Frankly on later today because it's just suddenly become a bit-

Nate Hagens (01:21:03):

Today, because it's just suddenly become a bee in my bonnet.

Alexa Firmenich (01:21:05):

A bee in your bonnet. I love it.

Nate Hagens (01:21:09):

You and I have spoken on the issue of the Superorganism and Moloch, and the surplus created from agriculture and then fossil carbon, and then currencies, world reserve currencies, and now AI, and it's just accelerating this power dynamic in human systems. Of course, we need bottom-up value shift, and all the efforts that you're working on and many other people, those are critical, but I sometimes wonder if the main thing to shift this planet away from the Wile E. Coyote cascade moments ahead is to somehow shift the consciousness of one to 2000 elite people in the world away from consumption, extraction, status, power, into recognizing that, well, first of all, they're going to lose all that on the default path, but secondly, that we have arrived at a species level conversation. It's not their fault that we're here, but it is within their power

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and their fiduciary, given where they reside, to maybe make big changes. That's a big question. Do you have any thoughts on it?

Alexa Firmenich (01:22:36):

I think if we don't attempt to do that with the right few thousand people, the damage that is happening will be greater, right? For me, it's not a question of if, it's a question of how. It doesn't mean that that consciousness shouldn't come at the expense of the just average people and everyone else, but I think that people who today steward disproportionate influence in power and capital, possibly, if they can have some deep embodied and there's no going back kind of notion of some of the things we've been discussing here, everything that then bursts forth from that place will be different, and the action they take, because it's not self-interest, it's something deeper. We need people who hold that to understand and redistribute and serve the whole more greatly.

(01:23:38):

How we do that, I don't think it's through facts. I think it's through ... David White said, "Poetry is the thing against which I have no defenses. Poetry is the thing against which I have no defenses." It's through something aesthetic and poetic and poignant and embodied, and people can experience this in a midlife crisis. In a way, these are rites of passage, and if you were to tell me one thing that you wish everyone on Earth could do once in their life, I would say hopefully when they're younger, in their teens, but bring everyone through a rite of passage, like a vision quest in the land, which is a transformational moment when you realize that you're embedded in and depend upon systems much wider than your own self or your own ego. This is how I would begin to go about something like that.

Nate Hagens (01:24:32):

Have you witnessed that with people that you've brought through your nature expeditions and such?

Alexa Firmenich (01:24:38):

Yes. Yes.

Nate Hagens (01:24:42):

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Well, maybe you need to have those nature expeditions for those 1000 to 2000 elites. Sign up, come with Alexa.

Alexa Firmenich (01:24:51):

I would not call them elites, because that's already stroking the ego, but if we could draw up a list of people who are willing to take four or five days to go deeply into the land and listen to actually some of their deepest callings of what they are, I would love to draw up that list with you. Let's do it. These things are happening. I mean, there are people who are working on this, right? I think it's just about also skillful action, and how we give those same people the tools once they reemerge to sustain that consciousness shift, because I've seen it. It's equally destabilizing, and some people have it after plant medicine journeys. You return to the default world, to your job, and you're like, "What do I do?" Many times your task was stewarding a system of thousands of people, so you can't just overnight say, "I'm going to close down Monsanto," because people are reliant on that. For me, it's not just what's the experience, but what's the follow-on and what's the viable alternative for them to exist within?

Nate Hagens (01:26:05):

You mentioned the importance of poetry, to which we have no defenses. Then, based on what you just said, is there a way that we can incorporate science and art together? What do you think the role of art and creativity is for the meta-crisis space, and specifically biodiversity and the things you're working on?

Alexa Firmenich (01:26:28):

I think that science helps us know what we need to know, and I think that art moves us into doing it or understanding it. Art-

Nate Hagens (01:26:40):

They're both necessary.

Alexa Firmenich (01:26:41):

Absolutely. Art, I understand almost as culture. Right? In a way, our art have emerged from culture or co-created culture, which emerges originally from nature itself, but

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culture is the edifices that we build towards. It's the gods that we build edifices for, and so if the biodiversity nature movement doesn't become a cultural movement, an artistic movement, a vocal movement, think about extinction. Extinction can be silent and just devastatingly heartbreaking, but what about if we had public spaces of mourning, or the memorial day to lost species, which does exist, right? It's, what are all of these ways of expressing the things that the science is telling us in order for it to become visible and undeniable and real? You and I were together in this, what was it called? Scandinavian Impact Safari, that Small Giants created. One of my big takeaways from that safari was, make it real. Let's make all of the examples of how we can live differently physical and tangible and touchable. How we live together, how we farm, how we do urbanism, how we do energy, and for me, that is art, that is culture. It is embedding something that is a philosophy or an idea into something real and lived for daily people's lives.

Nate Hagens (01:28:09):

Thank you. I happen to agree. You've listened to some of my podcasts, so you know some of the closing questions that I may ask you. I might mix them up a little bit. I am just so impressed by the work you're doing, and I spent enough time with you, that you are such a machine in ... Machine is not the right word, but you're just so productive and on the ball and capable. I just wish there were thousands or hundreds of thousands of humans like you. The world would be a much better place. For people listening that are resonating with your words and are aware of what we face, do you have any personal advice on how to be alive at this time? How to cope, how to engage with these challenges?

Alexa Firmenich (01:29:03):

By the way, Nate, right back at you. Right back at you. Yeah. I think there's three things. That's kind of my mantra. One is, learn to see beauty. The other one is, join your comrades. Join your comrades, your friends, and the third one is, contemplate death. Very briefly, learn to see beauty. This world is astounding, even in the depths of the war and the crises that we're facing. The fact that you and I are here alive, the amalgamation of different things that had to come together for this to be, for friendships to meet and form, for the ocean to be, so cultivating that beginner's mind and learning to see the world anew every day with the eyes of a child or the eyes of

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an alien just descending upon the earth and saying, "How did this come to be?" Right? Because in a way, that beauty is what sustains us. Nate, go back and please watch your Planet Earth shows and cry and see the beauty in them, and don't shy away from that.

(01:30:06):

The second one I think is join your comrades, which is, there are so many good people working on brilliant stuff. If you're ever bored, there's something wrong with you, or maybe you're being deliberately bored, which is also important, but there is so much that you can do and so many things that you can join, and you're not alone in doing that. There are incredible people out there doing this work, and so just go join them.

(01:30:30):

The third one is about contemplating death, and this I take from the Buddhist practice, and it's a Plum Village practice, but it's a 1000-millennia-old teaching. It's, every morning I wake up and I do my meditation and my little morning things and I contemplate that I'm of the nature to grow old, I'm of the nature to get sick, and I'm of the nature to die, and that everyone around me is of the nature to grow old, to get sick, and to die, and everything that I care for and everything that I love will one day die. You sit there, and there's some guided meditations online you can find or I can send them to you, and you contemplate profoundly what it is to slowly, slowly have all those things vanish and disappear, yourself included. If you do that on a daily basis, the wonder that you have and the sort of self-arising gratitude you have from just being here right now, today, in your senses, is profound.

Nate Hagens (01:31:32):

Do you do that every day, or repeatedly?

Alexa Firmenich (01:31:35):

Yeah.

Nate Hagens (01:31:36):

Wow. Wow. I've done it a couple times, and it was profound. Also quite scary, but I never thought you'd do it every day. Wow. Okay.

Alexa Firmenich (01:31:52):

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On that note.

Nate Hagens (01:31:55):

Yeah. No, no, no. I'm going to both do that and I'm going to find a sit spot on the land here later today. What about young people? I mean, you work at ATH Zurich, you're surrounded by a lot of young people. What advice do you have, especially for young humans who are resonating deeply with what you're saying about the natural world, but are aware of all these things? Do you add any others to the beauty and the joy and the meditating about loss and death?

Alexa Firmenich (01:32:29):

Yeah. I can only speak to things that have helped me, because I don't know what it's like to be an 18 or 19-year-old today, but there are youth movements that are growing that are wonderful. If I was in those shoes, I would join some of these youth movements and educate myself profoundly on all the ways that I've been, or unlearning, if you will. I love reading arcs of deep history, going back thousands of years. I love reading biographies of people who have built movements, who change the world. I think there is so much historical context and precedent that can get lost in today's runaway world of AI and tech and all the social media. As much as we can, situating ourselves in those longer arcs of history and human evolution, and those who've come before, I think, is probably incredibly important. Another thing I would say, which I mentioned before, is, don't be scared to feel and find contexts and containers that'll help you through that process, and where you can help others as well.

Nate Hagens (01:33:32):

Do you have any specific one, two, or three book recommendations on the grand arc that were meaningful, helpful to you?

Alexa Firmenich (01:33:43):

Yeah, for sure. I really liked Lewis Mumford, *Technics and Civilization*. He speaks about the ways that psychology shapes forms and technologies and vice versa. Very interesting. Very interesting. I really love Jason C. Scott's books, like *Seeing Like a State* or *Against the Grain*, that kind of contextualize the Great Simplification. Actually, Nate, his books are about simplification, deeply.

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Nate Hagens (01:34:12):

I have Against the Grain.

Alexa Firmenich (01:34:15):

Seeing Like a State is almost better. Then, gosh, I can't even give you a third one. I would even say something even like a Fritjof Capra book, something that speaks about systems dynamics and spirituality and these wider arcs. In terms of biographies, I'll come back to you because there's almost too many to name.

Nate Hagens (01:34:35):

You could send Lizzy a list and we'll put them in the show notes. Do you know Fritjof Capra, by the way?

Alexa Firmenich (01:34:41):

Not personally.

Nate Hagens (01:34:42):

Okay. I'm trying to get them on the show. I don't know anyone who knows him. Okay, awesome. I'm not going to ask you what you care most about in the world, because I already know, unless you want to add to that.

Alexa Firmenich (01:34:56):

Yeah. I mean, what I care the most about in the world is that everyone can wake up and realize their own divine nature. It sounds super cheesy, but we are all spectacular beings, and if people could wake up and perceive their non-duality with each other and with the world fundamentally, and that they're fine how they are, we don't have to consume, we don't have to strive, we don't have to postulate, we don't have to step on others' shoulders, this feeling of you-are-enough-ness and rightness, if I could just create a bomb and curve that around, that glow behind you around the world, just for everyone to wake up with that feeling, I'd be deeply curious what would happen.

Nate Hagens (01:35:39):

You are at a university, and I think there's 240 million college students, humans, around the Earth, and the university has good programs and is moving towards

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environmental and systems stuff slowly, but I think young humans, postdoc sort of people, have huge potential to weigh in on the research and the questions where society really needs to address. Do you have any suggestions there on research questions or programs, or how the academy can be in more support to a living world in the future?

Alexa Firmenich (01:36:24):

Yeah, so one of the things would be research on a post-1.5 degree world. I know it sounds a bit apocalyptic, and it's not necessarily what you'd expect me to say, but if we're looking at two plus degrees, which might be just a reality, okay, what makes the most sense to do today? Because, I think that a lot of the global initiatives we're seeing are not based on that understanding, and I know that you agree with this, right, because so much of your work is around this. How would we think about food systems differently? Where would the food growing belts be? How would we think about voluntary migration of people, already now? How would we start designing social systems? There's a whole lot of planning that we could be doing that we're not, because business as usual, a little bit more green, is the name of the game.

Nate Hagens (01:37:16):

It changes everything, and energy depletion changes everything. Within the academy, we have climate people looking at, we might be headed for a one and a half to two degree or higher world, but that doesn't make it into the rest of the academy and the law and the ecology and the agriculture, and everything. That's a great point.

Alexa Firmenich (01:37:37):

This would be critical research. I've been looking for a map. Please tell me if you have it or if any of your listeners do, of, let's say 2.5 to three degrees. What can grow where food-wise, in that? What are we planting today that doesn't make sense for that? What should we be planting differently? Food and forests, obviously, and the human implications of that are obvious. I don't have to state them.

Nate Hagens (01:38:01):

This gets to the heart of one of the dichotomies in our world, which is evidence at Dubai the last couple of weeks, is, for the academy, for a tenured professor to get

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resources to fund that and be an acceptable research project within his or her university, there has to be a phase shift in the thinking of the higher-ups and where the money comes from and everything. It's almost, "No, we don't want to go down that path," because if that research is needed, then it calls into question all this other stuff. I hope it can happen, but do you see what I mean? There's two conversations going on.

Alexa Firmenich (01:38:42):

I do. I would be curious to hear from people who have wanted to study that agenda, if they've struggled. I could imagine that there would be academic or other homes to host that work, and it could be inside of foundations, for example. I mean, the role of philanthropy is not to be underestimated, so maybe it's not inside of academia, but it's finding some good researchers to do that. Very quickly, the second thing I'll get people to study is sort of climate or biodiversity psychology, and, how do we really move people and how do we create incentive systems that are differently than what we've been doing before? Because things aren't working so well. How does the communication really work? Yeah, a lot around that human collective processing capability. I think a lot more concrete research on that, on the psychological component, would be critical.

Nate Hagens (01:39:35):

When I asked you what you most cared about, you kind of used your bomb to change people's recognition of what they're capable of, but instead of a bomb, if you had a magic wand, is there anything you'd like to add to that, to change the default trajectory of humans in our planetary future? If you could change one thing?

Alexa Firmenich (01:39:55):

Yeah, I knew this question was going to come, and I really don't have an answer for it. I hope that in the last hour I've answered it in different ways. God, because it's like, yes, let's give people vision quests, but then that seems trite when there's war happening. Then it's, okay, what do we do about peace and justice? That emerges out of a dual mindset, and so it's like, okay, well let's tackle non-duality, which is at the core of religion, but then religion can become tribalized. I don't know. You've heard a lot of these answers, Nate, over the last, I don't know how many episodes of your podcast. What would you do? What would be your wand at this point in time?

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Nate Hagens (01:40:35):

Well, Kate Raworth just asked me that on episode 100, and I said, very similar to you, that we need a change in consciousness to focus on the we versus the me, and to recognize that we're part of this interconnected natural world and that life is precious. If more people had that deep understanding, I think there would be ripples throughout the system, vertically and horizontally, and then better decisions, better research, better incentives, better institutions would emerge. Of course, there is no such magic wand that would do that, but we have podcasts, we have videos, we have conferences, we have education and work like people like yourself, so we're doing mini magic wands in our efforts.

Alexa Firmenich (01:41:27):

Can we crowd-source solutions from your listeners? Can you create a one website, Google form, that's just, what is your hack for the consciousness shift, and see what people respond?

Nate Hagens (01:41:37):

There's so many opportunities like that. I mean, we have three people here on my staff. I need to grow it, but that's a wonderful idea. Also, another thing that I'm thinking about, and I don't have the tech expertise to do this, but I'm sure some people do, to do a Discord on The Great Simplification so that in a city in Switzerland or in Mexico or in Kenya, those people that are listening to this and engage with it can connect with each other and form some local initiatives, because I think you're right. When we find others who are working on this stuff, it is uplifting and it gives a deep sense of meaning and purpose, and it will have impacts on the natural world. Yeah, I agree with you.

Alexa Firmenich (01:42:22):

Yeah, absolutely.

Nate Hagens (01:42:24):

I have so much more I want to talk to you about, so you have to promise to come back. If you did come back, what is, in addition to the topics we discussed today, is

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there one topic relevant to our collective futures that you are passionate about and would be willing to take a deep dive on?

Alexa Firmenich (01:42:42):

Thank you for the question. I'd want to deep dive on some of the solution sets around nature, or, let's say approaches, versus solutions. Nature markets, investments, initiatives, sense-make together. Which ones make sense, which ones don't. What are some false solutions that seem to portray themselves as salvation? Yeah, let's sense-make some of the ecological approaches that are emerging at this moment in time.

Nate Hagens (01:43:14):

Let's do it. Do you have any closing words for this whirlwind overview of your work on behalf of the natural world?

Alexa Firmenich (01:43:26):

I'm very grateful to have had a chance to come on this and speak. Thank you so much, Nate.

Nate Hagens (01:43:32):

Thank you, Alexa. Good luck with everything and I'm sure we will be in touch. Thank you.

Voiceover (01:43:39):

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