

The Great Simplification

Nate Hagens (00:00:00):

Greetings, welcome to episode 100. What? 100 episodes this time flew by. This has been the most challenging and the most rewarding thing I have ever done, hosting this podcast. Challenging because we're covering a lot of issues, not just one. And invariably, these issues infringe on people's understanding or belief or ideology. And it's difficult to host a multi-topic podcast. Rewarding because I feel less alone, I feel motivated by the hundreds of thousands of humans around the world that are wanting to learn more about this story. And that ultimately is the work is we are trying to help more people normalize conversations about how everything fits together in a system science sense. It is threatening, it is daunting, it is scary, some of the information that we're presenting, but I'm not selling fear, I'm trying to sell understanding.

(00:01:12):

Actually, I'm not trying to sell anything at all. All of our content is free. We've turned all monetization off on social media. We, of course, would accept and do need donations, tax-deductible to the the Institute for the Study of Energy and Our Future, but it is my belief that anyone in the world that has internet could access this for free. There's a lot planned going forward. I do want to have more podcasts dealing with responses as opposed to just the problems. As things get more threatening, I'm hoping that I don't fly too close to the sun and get burned, but I'm all in on passing the baton to more humans working on this. I have asked for episode 100, a friend of mine who works in a related space to interview me. Without further ado, here is episode 100 of The Great Simplification.

Kate Raworth (00:02:13):

Today's guest is Nate Hagens. Nate is the director of the Institute for the Study of Energy and Our Future, an organization that works with many others to assemble road maps and off-ramps for how human societies can adapt to lower throughput lifestyles. Nate holds a master's degree in finance from the University of Chicago and a PhD in natural resources from the University of Vermont. He also happens to be the host of this podcast, The Great Simplification, except not today because we are turning the tables and I am interviewing him. So please welcome Nate Hagens. Hi Nate. Great to see you.

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Nate Hagens (00:03:07):

Hey, Kate, thank you so much for being here.

Kate Raworth (00:03:08):

Well, it's a big pleasure, and this is the 100th episode of the podcast, and I'm very honored that you asked me to turn the tables and interview you. And I just want to say that I think you very generously create this space and interview many people and give them space to put out their view, their knowledge, their experience of the world. So it's my pleasure to do that in reverse for you.

Nate Hagens (00:03:33):

Yeah, it's not anything I really ever planned on doing, and fortunately, I have a lot of friends like you that have a lot of knowledge and wisdom to share. So here we are, a hundred episodes in, and thank you for being the hostess.

Kate Raworth (00:03:53):

My pleasure. So how are we going to go? I'm going to kick off in a way that you often start. I'm going to ask you to give me lots of one-minute messages, just like the top line of the way you think, and then we can dive in deep into things. Okay. You ready?

Nate Hagens (00:04:08):

I want to share one thing. Yesterday my girlfriend's daughter brought me this little screaming goat. And I'm thinking if there's really difficult questions, because I'm kind of nervous right now and the tables being turned, I might just defer and do the screaming goat. Because when I prepare for these podcasts, I've gotten used to it where I do... Lizzy, my curator prepares me for the scientist or whoever it is, and gives me an arc of a conversation, and I kind of prepare, and then I just sit back and I ask you questions. Right? But now you're asking me questions, so I'm a little nervous.

Kate Raworth (00:04:46):

Well, thank you for saying that, and thank you for putting yourself in this situation and experiencing what it's like from the other side. And I think it's going to go well.

Nate Hagens (00:04:57):

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Let's do it.

Kate Raworth (00:04:58):

Let's do it. So let's jump in. I'm going to ask you just some big concepts that you use regularly in your work. Just give us a one-minute summary of that message. Okay? Tell me about energy blindness.

Nate Hagens (00:05:13):

Energy blindness is the fact that our society misunderstands energy and its role in our current living and our expectations. There are four aspects, one is that energy underpins everything in nature and everything in human systems. We need energy for everything. Number two, that we don't realize the scale of how much energy we use, effectively 400 to 500 billion human workers equivalent of fossil energy. The third is that this stuff is depleting very rapidly and culturally we're treating it as if it were interest, but it's actually a principle, a bank account that is being drawn down millions of times faster than it was built up. And the fourth aspect of energy blindness is that when we burn all this energy to give us the modern conveniences and transport and consumption, there is a pollution and a waste that comes with that. And I think our cultural stories don't include any of that, and yet so much of our future and our expectations and institutions and culture depend on energy. So we're energy blind.

Kate Raworth (00:06:34):

And I've sometimes heard you say that energy is the currency of life, yes?

Nate Hagens (00:06:39):

Yes. In nature, those organisms and ecosystems that have surplus energy have had advantages. So there's lots of things important in life, but if you don't have energy, you can't move or eat or do anything. So energy is the currency of life, and it always will be.

Kate Raworth (00:06:59):

I fully agree on that. And so then if energy is the currency of life, tell us about the carbon pulse.

Nate Hagens (00:07:05):

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Well, the carbon pulse began when humans started to discover first coal, then oil, then natural gas, and farm under the earth instead of on top of the earth. And if you look at a 300,000-year aerial view of our species, this little sliver of time where we're drawing down this ancient carbon and propelling our civilization using it can look like a pulse, like an EKG pulse that starts from nothing, goes to a high amount and then goes back to nothing. And we're all living in the middle of that, probably near the peak of that. And that is another thing that's not included in our cultural conversations, is on a 500-year timescale, we're a couple of hundred years into the carbon pulse and what will the downslope of the carbon pulse look like? So I think this is an ecological deep time framing of the human cultural situation that is so prevalent in our lives, but we don't talk about it.

Kate Raworth (00:08:22):

Okay. And that's exactly what we're going to talk about today. So if we are somewhere near the peak of this carbon pulse, what's the story with the economic Superorganism? What is that?

Nate Hagens (00:08:35):

So there are superorganisms in nature like a termite mound or an ant colony where all of the individual organisms collaborate towards a larger unspoken goal. So the human Superorganism is not an actual biological entity, but it ends up being, de facto an economic superorganism that humans in this culture self-organize as families, as small businesses, as corporations, all the way up to nation-states, and the whole world to maximize profits. That is our marching orders by our culture. And those profits are tethered to energy. There's a 99% correlation between GDP, our economic output, and energy consumption, and a hundred percent correlation to material consumption. And that energy is over 80% still tethered to fossil carbon.

(00:09:40):

So what we're doing is rushing forward trying to optimize profits and GDP, and we've built all of our institutions and expectations around that without any other plan. And what's happened is the momentum of that system, the momentum of that way of doing things is stronger than the individual wisdom and restraint that people within it try to imbue on the organism itself. In other words, we're in a runaway train shoveling more fuel into it, and there is no conductor. There's not a politician or a billionaire that

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can say, wait a minute, this is the wrong objective. We need to change it. So the Superorganism is this metabolic system that is out of control, and all it wants is more the lowest cost energy and other material things to power growth.

Kate Raworth (00:10:47):

Okay. We're going to come back to this runaway train with no conductor later. What do you mean when you talk about the Mordor economy?

Nate Hagens (00:10:56):

J. R. R. Tolkien was so prescient in so many things. There's so many one-liners from the Lord of the Rings and The Hobbit that are so apropos to our current civilization. So our economy is based on energy, materials, and productivity from technology. And a lot of our productivity has come from just adding more fossil energy every single year because it's so potent. So some of our productivity has come from just more energy. And so the Mordor economy is instead of tightening our belts, instead of having ecological civilization, the default is that we will continue to have rule changes and go and borrow more money and invent technology that might give us some energy, but it takes a lot of energy and materials to create. And so what will happen is we will grow our GDP, which is our gross energy, but the amount of energy and materials and environmental impact that that will have will take up an increasing amount of the whole.

(00:12:15):

So in 1999, we hit a seven-century low of how much energy it took to generate GDP for the rest of society, it was around 5%. Now we're over 10%. We're using 10 or more percent of our energy just to get the energy and refine it and deliver it to the rest of society. As we go higher to 15% or 20%, we gradually become more and more of a mining economy, aka a Mordor economy. And as you're well aware, the pollution impacts not only climate, but biodiversity and sperm count drop and insect loss and deforestation and all of that will increasingly take a toll on the human system, and we're going to have to use more energy materials to remediate what's happening there. So in short, a Mordor economy is currently the default path. And depending on your boundary of analysis, many people could rightly argue the Mordor economy is already here, but what it basically means is that we optimize growth over ecology and our entire system becomes one of mining and consumption.

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Kate Raworth (00:13:38):

And just to go into the stats you just gave there, so you're saying some years ago it was at a low like in a positive way that we were using around 5% of the energy used was to get access to energy, and now that's gone up to 10%, and you spoke as if that's inevitably going to rise. I'm sure some people are thinking, but isn't that possible to bring it back down again with new technologies, with nuclear fusion or other kinds of breakthroughs in energy technologies that we could bring it back down now and even lower? What's your view on that?

Nate Hagens (00:14:11):

Yes. Well, that would be the argument that some are using on artificial intelligence, that it will rapidly find new ways of using our resources more efficiently or develop new technologies like nuclear fusion. And if those are done cheap enough, then you're right, maybe we do go back to a period where 7% of our GDP is energy creation and delivery and refining. But first of all, that's on the come, that's not the direction we're heading. Second of all, if that were to happen, we would still probably have a growing economy. And this gets into the issue of Jevons paradox. As the economy is growing, more efficiency and better technology doesn't result in lower energy use, it results in higher energy use globally. And so the ecology side of the Mordor economy equation would be even more dramatic if that were to happen.

(00:15:28):

But yeah, there are a lot of things out there that are being developed, but it's the net energy of them that I worry about. And this is one of what I've referred to in the past as the tragedy of the energy investing commons is suddenly, especially with Ukraine and Russia and now war in the Middle East, people are recognizing, holy crap, energy is really important. Let's do this or that technology to get more energy. But the actual energy and material spent to procure that energy for society ends up being a lot larger than what has been 50 years ago when this whole civilization was kind of built forward on really cheap oil, gas, and coal.

Kate Raworth (00:16:20):

Okay. And since you just started mentioning some geopolitics in the world, can you just briefly explain what's meant when you and others in conversation on this podcast have talked about the metacrisis?

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Nate Hagens (00:16:32):

I'm suppressing the impulse to ask you what you think.

Kate Raworth (00:16:36):

No, no, no, Nate, we've turned the table, my friend.

Nate Hagens (00:16:39):

I know that. I'm telling you, I'm suppressing the impulse because-

Kate Raworth (00:16:42):

Great, Thank you. You keep going.

Nate Hagens (00:16:43):

Yeah. Well, the meta crisis... I mean, there's a lot of terms out there, the poly crisis, the meta crisis, I used to say the human predicament. It's when all these things are intertwining and coalescing and in a interconnected way, creating a really large capital letter problem. There's the environmental crisis, there's the poverty, inequality, Global South issues. There's debt, there are biological existential risks from bioweapons and CRISPR and AI and things like that. Just the ecological planetary boundaries issues alone is a meta crisis unto itself. I mean, I'm sure we may talk about this, but one of the things I've learned from doing this podcast is there's so many bright people working on a part of the meta crisis, but they don't see the other parts because it's too big and they're experts on their parts, but any one of these seven crises is huge on its own. And so that's kind of what I've tried to do is connect how they fit together. But it's a big challenge as you're well aware.

Kate Raworth (00:18:16):

Okay. So I've got two more of these concepts that you often use that one-

Nate Hagens (00:18:22):

Oh, okay. We're still in the speed round. Okay.

Kate Raworth (00:18:23):

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Yeah, we're still in the speed round, mate. Okay. Four horsemen, who are these horsemen? You'd sometimes talk about the four horsemen, I think of the 2020s, so explain.

Nate Hagens (00:18:35):

Yeah. I'm increasingly talking about that because it feels incredibly relevant, more relevant than other topics. So the four horsemen are briefly financial overshoot, which is when we've had economic problems in the past, instead of tightening our belt, we actually do the opposite and we widen the spigot of credit creation and Central Bank guarantees and stimulus checks. And so the whole world is between 350 and 400% debt to GDP, and all of these financial claims on reality will require energy and materials to be manifested. So we keep creating more and more monetary what people think they own claims on an ecological and energetic reality that is going to shrink in the future, and so this disconnect, I refer to it as a bend or break moment, is coming soon. So that's the first horseman is the financial recalibration.

(00:19:49):

The second is the move from a unipolar, the United States, effectively world to a multipolar world, China, Russia, Europe, the various BRICS+ nations. How the resource pie, how the monetary representations of who has access to what and 13,000 plus nuclear warheads, how we navigate that early 21st-century game of risk in a peaceful, cohesive, non-disruptive way is one of the horsemen. The third is the complexity of our six continent, just-in-time supply chain of medical, pharmaceutical inputs and spark plugs made in South Korea only that get delivered to the United States. Food is delivered 1500 miles to the average dinner plate in the United States. We have an incredibly efficient but non-resilient system for delivering basic goods and services to people around the world that is predicated on cheap oil, global peace, and credit.

(00:21:18):

The fourth horseman is the social contract and the trust and collaboration and interaction with citizens where you live. And I don't know enough about British politics, but in the United States next year we have an election and I think no matter who wins, a third of the country is going to be ballistic and upset and distrusting. And with AI and polarization and just the general stress of society, how do we keep the social contracts? So I personally think that any... And this is why I think this is important, Kate. Any social change towards the better in the long run, we need to put a price on

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carbon because we're burning more than the biosphere can take, and we're burning it millions of times faster than it was sequestered, and we should save some for our grandchildren as one example.

(00:22:26):

Any major wealth distribution, any social programs that make the future better off, any issue that people are concerned with that radically changes our economic system will then first have to navigate these four horsemen. And that is kind of the focus of my work is no matter where we're going, we have to navigate these four horsemen first. And so that ultimately my work surrounds how do we prepare and respond for those sorts of economic social speed bumps.

Kate Raworth (00:23:03):

Got it. Right. So we're going to come back to them. I have one more thing for you on this speed round. Okay? And it is of course the mothership concept. The Great Simplification, what is it, Nate?

Nate Hagens (00:23:18):

I struggled with thinking about the name of this podcast. That one had a triple entendre, one was that for many people listening to this show in the Global North, a simplification of their lives could actually be great. We don't need all this energy and pecuniary trappings to live a good meaningful life. So simplifying is a good thing. Another is I have so many complex topics in the news, and I try to simplify them in a way that people can understand, but the main choice of word is an academic interpolation of Joseph Tainter's work that he wrote a book called *The Collapse of Complex Civilization*. And what humans do is we solve problems. And as the system gets bigger, we solve more problems. When we solve problems, we need more energy to throw at the technology or the supply chains or whatever it is we're solving. And so what we've done on the upslope is we have incredibly complexified our lives.

(00:24:37):

And all this has happened every single year, other than 2020, 2009 financial crisis, a few years in the 1970s energy crisis, World War, and a Great Depression, all the last 150 years, we've had more energy added to the human system than the year before, and we just naturally assume that this will continue. So The Great Simplification is when we are unable to continue to add energy to solve our problems, the inverse will

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happen. A simplification where we have to do more with less, technology becomes really important, efficiency becomes important, and we're going to have to live more locally. And the word great is because I think it will be one of the greatest events ever faced in modern history, this simplification. What does it mean in the vernacular? I think one of the next three recessions will be a depression economically. And the reason for that is had we simplified 50 years ago, then it wouldn't have been so bad, but now we've got all these financial claims that we've created. So the first step off will be a doozy.

Kate Raworth (00:25:59):

A what?

Nate Hagens (00:26:03):

A doozy. I don't don't know if that's a British term.

Kate Raworth (00:26:05):

What does that mean to everybody else?

Nate Hagens (00:26:06):

Really? You don't know what that means? Doozy, D-O-O-Z-Y means a really big one.

Kate Raworth (00:26:11):

Yeah, spelling isn't helping me.

Nate Hagens (00:26:12):

A big one.

Kate Raworth (00:26:12):

A big one.

Nate Hagens (00:26:13):

A real big one.

Kate Raworth (00:26:14):

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Okay. It'll be a big one. Okay. Okay, great. Okay, well that is a big one. I mean, these concepts you-

Nate Hagens (00:26:29):

We're probably going to have to edit that out but keep going.

Kate Raworth (00:26:29):

These concepts are big. So we're just going to take a break and I just want you to appreciate my studio here. Have you seen what I've done here?

Nate Hagens (00:26:38):

Yeah, that is...

Kate Raworth (00:26:38):

Do you like that?

Nate Hagens (00:26:42):

I only see you usually from the narrow window, and now I see that you've got a Great Simplification podcast studio London style. Thank you so much. I've always been impressed by your creation of visual aids. Did you do that just for this show?

Kate Raworth (00:27:01):

Of course, I did that just for this show. I borrowed a little globe from my neighbors and little paper lanterns from somebody else. And yeah-

Nate Hagens (00:27:07):

You are the best. Thank you.

Kate Raworth (00:27:09):

... just had to inhabit the studio, so it's great. I like it.

Nate Hagens (00:27:15):

Well, for the record, you so could do this. I know you're very, very busy with donut and deal and everything, but you would be excellent at this.

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Kate Raworth (00:27:26):

Well, you're very kind. Actually, a podcast is high in my sights. I really think this method of exploration, of ideas, of conversation is where so many people learn and have time, whether you're doing the washing up or the ironing or taking kids to school or... Right? Certainly, for many adults, I know this is the only place I get to listen and get ideas rather than reading. But I think conversation between people is a fantastic way of all of us opening our minds, which is I think why this podcast has become so popular in the way you host it. So you've given us the big concept of The Great Simplification. Now let's just step back. How did you get into all this then? You didn't start out doing this work. Take us back to what you were doing before you were doing this. I want to hear the start of that journey and what triggering events have led you to be sitting here.

Nate Hagens (00:28:30):

How far back?

Kate Raworth (00:28:32):

You're going to have to choose that. Take us to the place where we'll be like you were doing what?

Nate Hagens (00:28:38):

When I was three years old, I was sitting on my mom's lap in the front seat of the car, scanning the horizon for animals. And I would always want to go for a ride in the car because I wanted to see what animals we could see, either on the road or on the horizon. And my mom said that by the time I was 6, she had taken me to more zoos than probably any other 6-year-old in the United States. So that's the foundation of it, is I had a deep love for animals in the natural world when I was a child.

Kate Raworth (00:29:09):

And can I just jump in and say that's just a beautiful connection between deep love for nature, dependence on energy, fossil energy to connect with. So it's this wonderful complex story that you've inhabited right from the beginning.

Nate Hagens (00:29:23):

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Yeah, I didn't think about the energy part. You're absolutely right. I lived in Southern Oregon when I was in grade school, and every day after school, I would rush home and get my dog and we would just go for hours in the foothills and look for salamanders and climb trees. Well, he wouldn't. That was my formative thinking where you let your mind wander and you're just in nature. I mean, to have a childhood like that and the formative impression that that has on your mind and your soul is really a privilege because I don't think that many people have that freedom and access today, but I think that was my rosebud to use as Citizen Kane term is those free hours every day in the foothills of the Siskiyou Mountains in Southern Oregon.

(00:30:26):

Then I got hijacked by status-seeking and trying to make more money to get a better car and a better apartment, and the American cultural dream in the '80s. And I went and got my master's at the University of Chicago, and I went to work on Wall Street, and I managed money for billionaires effectively. I had to cold call people, but I wasn't allowed to call anyone if they were worth less than \$100 million. I'm serious. This was 1993. So those were my clients. And over time I realized that these people were no happier than the clerks processing their trades making 25 grand a year. And one of them started to trade, invest, speculate in oil, so I started to learn a lot about oil and I realized, oh my God, it's going to peak and decline in my lifetime. Oh my God, it's incredibly powerful. I never heard the word energy mentioned my entire master's program in finance. And what? We don't pay for any of the pollution and the externalities, those aren't included in the prices.

(00:31:50):

And I became so obsessed with learning about ecology and energy that eventually I wasn't doing my job real well because I was obsessed on learning all this other stuff that I quit. I gave my clients their money back. I had a backpack full of books and a golden retriever, and I went to British Columbia and Alaska and hiked and thought and read for six months. And then I came back and Herman Daly introduced me to Josh Farley, who you know, and Josh and Jon Erickson were my PhD advisors along with Robert Costanza at University of Vermont. And that broadened out my awareness. It's not just energy, it's not just oil, it's human behavior. It's aggregate anthropological momentum of the human Superorganism. And I became really intellectually curious about how all this stuff fit together. I became a contributor on

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The Oil Drum, and eventually co-ran The Oil Drum, which was an interesting model because we had over 30 PhDs that were volunteering their

(00:33:03):

time for the greater social good to share information. And it was a neat little cafe sandbox of intellectual collaboration for a while. And then I got really freaked out about the debt versus energy thing in like 10 years ago, and I approached Homeland Security looking at how we would buttress our supply chains if there was a Minsky moment where we realized we weren't able to service our debt.

Kate Raworth (00:33:37):

So more Minsky than the housing market?

Nate Hagens (00:33:39):

Yeah. Minsky with a capital M.

Kate Raworth (00:33:45):

Okay.

Nate Hagens (00:33:45):

Yes.

Kate Raworth (00:33:45):

Do you want to just explain, because some people might not know what Minsky moment means.

Nate Hagens (00:33:49):

Minsky moment is where you can no longer solve a credit crisis by adding more credit, and it's the moment where everyone recognizes what's happening and there's an exodus and you can't solve the thing by adding more credit because there's no trust there. And right now the markets are approaching new highs and people are still dancing because the credit spigot is still on, but they're dancing closer to the doors in talking with them.

(00:34:24):

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But anyways, getting back to your question, which I'm giving way too long-winded of an answer. I then started realizing that the people in middle age between 25 and 60 had no bandwidth because their status and identity were attached to the jobs and the positions they were in. And this story, the great simplification, which wasn't fully formed back then, was too abstract and threatening to their current work. And so I did a barbell approach where I started to teach reality 101 to young people, and I talked to retired politicians above 70 years old who had time to learn about these things.

(00:35:14):

And then two years ago, just about now, I started this podcast. And I've learned a ton, and I'll echo what you just said a few minutes ago, that I have a pretty strong opinion about how the world works and where we're headed, but I also know that no one can know everything. And there's so many things that I learned from all of my conversations. And so I'm just trying to connect this tapestry of how things fit together, but not only facts, also the humanity of people and how everyone on this program that I've hosted really cares about the future. And not a lot of us have answers on what to do, but I think there's this emergence of this intellectual heart led understanding and hope for a better future that there's something building there that I think is potentially important.

Kate Raworth (00:36:22):

Right. And then on that journey from say, working with those multimillionaires to now, just if you could name one big cognitive shift that you've made, one big emotional change that you've made in your life, and practical changes about where and how you live?

Nate Hagens (00:36:43):

A big cognitive change. The cognitive change is the Superorganism is incredibly powerful. And 15 years ago, I wouldn't have imagined that on the dawn of 2024, we would still have this amount of debt and this amount of energy. The cognitive change is that this Superorganism got gold-plated scales and is very difficult to stop. So I've cognitively come to respect that. Though at the same time, the more it grows and expands, the worse the biosphere and other species are generally. Emotionally, well, I've grieved for the future that our society tells us is coming long ago. So my expectations are lower than the average person. So emotionally I've come to terms

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with that. But emotionally, there's a bifurcation, Kate, on the one hand, the stuff that I carry is increasingly feels like a load stone because I'm trying to stay on top of neuroscience and oil depletion and debt and biodiversity loss and endocrine disruptors. And each one of those categories is fricking depressing. And when you aggregate them all, humans didn't evolve to carry that amount of stress about the future with them every day.

(00:38:37):

And the antidote to that, as you might know because we were just together last month two months ago, is being with people like you and other colleagues that are working on this is like a balm because I don't feel so alone and I don't feel the burden as much because other people are living through thinking the same things. So emotionally that's the battle.

Kate Raworth (00:39:03):

And before you go on third one actually, I just want to jump in there and say I recognize that as well, the value of connecting with others and just to recognize that through the work I do with Doughnut Economics Action Lab, what I've discovered is there are just so many people who share this but will never be on a podcast or their name will never be known or will never get publicly recognized, but in their communities, in their classrooms, in their town halls, they are leading and doing this and holding this as well. And I get huge energy and solidarity from that as well, that there's so many people who actually in their own way are holding the recognition that the complexity and what has to change and starting to try and make it happen.

(00:39:50):

The third one was how have you changed where you live and how you live?

Nate Hagens (00:39:53):

I live on the border of Minnesota and Wisconsin. I think it's a reasonably good place for the future. Low population density people are generally Scandinavian socialist here. They help their neighbors. It's close to the Mississippi River. All the people I know and love, I mean, my family, are in the United States. For the longest time, my girlfriend and I grew maybe 30 or 40% of our own food and we have horses and hazelnuts and apple trees and we were selling garlic to the local farmer's market because we grew thousands of bulbs.

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(00:40:42):

But when I started this work like in earnest a couple of years ago, all that changed because I'm too fricking busy. So I'm trying to advocate that people simplify and my own life is suddenly complexified, and I struggle with that. Because I don't have time to do the weeding and wood chopping and the planting and the things that I was doing myself four years ago.

(00:41:12):

And the other thing is, one of the things I really recognize as a roadblock to sustainability and living differently is our connection to social media and computers and instant stimulation technology. And I rail against that, especially with my 19-year-old students. And yet I'm being pulled right back into it myself, unavoidably as an externality of this work. And I joke that I'm using the devil's tools to do Gaia's work and there has to be a middle of the fairway response there, but that's something that I'm struggling with in what I'm doing.

(00:42:00):

I mean, I could live in a 10 by 10 shack on the property here and use very little resources and live on the land, but then I wouldn't be hosting a podcast and passing the baton to other humans who are trying to make a difference on our collective issues. So it will probably perpetually be a challenge that I'm sure you also deal with.

Kate Raworth (00:42:25):

Yeah, so couple of things. So when you say I don't have the time, and I always think time is the ultimate constraint of our energy budget because in a way what you're saying is I don't have the time to use my own energy, my own bodily energy to chop wood and to plant food, and to do all the other things as well because using my own energy, doing a great simplification, requires more of my time budget. So we're back on. Well, of course we're always talking about energy. Everything is always about energy, because it's the currency behind everything else we're doing. But I'm really struck the way energy keeps coming up, of course, in the story that you're telling.

(00:43:09):

I want to ask you one thing that I find challenging, and you are one of many people I know, and in the UK as well, I know quite a few people working in the climate movement or environmental movement, and I live in the city of Oxford or they might

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live in London. And then there comes a moment when they leave the city and they go rural and they buy land and they buy high land and they start growing food. And as a city dweller, I think is this prepping? And what challenges me is that we can't all buy that land because there's not... Mark Twain, "Buy land, they don't make it anymore." Well, there isn't enough for everyone to take that route. So I stand firmly in the city and think, well, we have to make it work here too because most of us are here. So I would just love to hear your, a little bit of a challenge there, and we just want to hear your response to that. We can't all go rural and buy land and grow our own food.

Nate Hagens (00:44:10):

I don't own the land I'm on. And I totally agree with you. And this gets to a larger issue of the messaging and the help of this podcast to various people around the world. Everyone is in a different situation. There is not one size fits all. And that is something I struggle with. As far as land, I just love living rurally and I always have. I just hated New York City. I had to get out of there. It was sucking my soul.

(00:44:43):

As far as prepping, this gets back to the economic concept of comparative advantage. I've learned that one unit, one family, they can't do everything. And so I like to think of pro-social prepping, that the first and most important thing there isn't land, it's community and getting to know others and sharing responsibility and you grow this and I'll process this or whatever because there isn't enough time for every family to do all the things. But yeah, the rural versus urban, I don't know the answer to that. I think cities have ecological footprints, orders of magnitude larger than their physical proximity. And I don't know how that's all going to work out, but I hear your challenge there. And I feel so privileged and lucky to live on the land and have animals, horses, chickens, geese, no geese, ducks, guinea fowl and dogs and cats. I don't have children, but I do have animals.

Kate Raworth (00:45:59):

Yeah. I like the concept of pro-social prepping because that's something we can all do everywhere. And David Sloan Wilson will be the first say, we should all be doing pro-social prepping all the time because we're going to need it. That is one technology, one connection that we are all going to need whatever.

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Nate Hagens (00:46:17):

Totally agree.

Kate Raworth (00:46:18):

Yeah. So you've told us the story of how you got your journey to here. So let's hear your view on humanity's journey from here. Okay? So I want to come back to the Superorganism concept. And I've heard you in some of your Franklys or in some conversations with people, it sounds like the Superorganism... And by the way, as you know, I asked on Twitter, "Hey, I'm turning the table on Nate, has anybody got any questions?" And people brought so many questions and thank you to everybody who brought in questions. I'm weaving in as many of them as I can, but quite a few questions were around this.

(00:46:57):

So, do you think that the Superorganism is beyond control, it's just going to roll? You recently interviewed Robert Sapolsky who said, "We are hardwired to get it wrong." Well, are we hardwired to get it wrong? So are we hardwired to get it wrong? Are the systems of finance and the structures and the supply chains that all that contribute to this Superorganism? Do you believe it's just locked in inevitable that this is beyond our control? Because that's a pretty strong conclusion to come to.

Nate Hagens (00:47:41):

I think we have a lot of wiring from our successful ancestors that can be soft or hard depending on culture and the circumstances. I love my conversation with Robert, until the free will part. And granted, I'm not an expert on that.

(00:48:06):

But the way that I see it is there are ecological and biological laws that are unfolding. One is the maximum power principle, which is organisms and ecosystems in nature self-organize so as to degrade basically an energy gradient or an amount of energy surplus. And we as a civilization have been doing that. And sometimes I think that we had to come to this point of finding fossil carbon and building this monstrosity of a Rube Goldberg machine, nature eating mousetrap, in order to really have this gut check as a culture, as a species, on a deep time perspective of where we are, where

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we're headed, what we know, how we can do it, to actually change the default path that we've created.

(00:49:07):

And I am uncertain about what's going to happen, but there are certain things I'm quite confident in. Growth will end. That is a certainty. What's uncertain is how long in the future that will be, and what sort of a drop that will be, and what happens afterward. So the Superorganism is in control. Just look at the prime minister in your country and the president of my country are both ostensibly climate aware, yet they're approving new leases in Alaska and in the North Sea because the momentum of the system demands that we have that energy. So I just don't know that any group of humans as powerful, even as they might be, could stop this system until it stops of its own momentum, which is that debt gets too big or there's a war that cascades everything down, or any number of things that would actually stop it of its own accord. Other than that, I think we will...

(00:50:26):

Well since 2015, the Paris Accord, we've, all the industrialized nations, perhaps with the exception of the U.S. Except that climate is happening and it's because of emissions. Yet since that time, we've grown our coal capacity by over 200 gigawatts globally.

(00:50:48):

So, all the scaling of renewable energy and everything that's happening that is ostensibly good for climate in the local region where it is, hasn't done a thing to slow emissions globally. So from an ecological climate, CO₂, biosphere perspective, the Superorganism is still completely in control. And so what I'm trying to think about is what are the things we can do now to anticipate and change the initial conditions of the moment when the Superorganism of its own weight and momentum and metabolism starts to splinter? And I think that's coming in the not too distant future. I don't know that I answered your question.

(00:51:42):

I mean, I do interviews all the time, I'm on someone else's podcast, but to have you interview me on my podcast, it's a little strange. But did that make sense to you, Kate?

Kate Raworth (00:51:54):

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Yeah, it did. And so I want to ask, I mean, there's so many things coming up for me. So you said we've done nothing at all to slow the growth of global emissions. And I want to say, wait, well, we don't know the counterfactual, what we know, we haven't stopped them from growing. But perhaps, I mean for all the civic-

Nate Hagens (00:52:12):

If we hadn't have done these things, then emissions would've been 10% higher than they are now.

Kate Raworth (00:52:16):

Okay. So that means that there is resistance, there is intention to transform, and it's having some impact, which of course for people who are dedicating their lives or their weekends to resistance to transformation, that's really important to know that we can actually make a dent on this thing. We can start to shift it and we can believe that if we mobilize the right way and a lot of things come into line, we can move this. I mean, I just want to offer some counters. Yes, okay, the US and the UK still opening up licenses for new oil. And yet other countries, Columbia signing up to the fossil fuel nonproliferation treaty, other countries committing to move away from it massively investing in renewable. So there are other countries that are doing differently. So there's evidence that is not every political leader is locked into only going this direction. And of course we need that evidence in the hope of possibility that change can be made.

Nate Hagens (00:53:19):

Boy, so lots of things to say here. First of all, our entire civilization is based on carbon. And so if we stop burning coal and natural gas and oil, indirectly, all the things in Walmart and Home Depot and whatever the shops are in London, all of those have indirect carbon in there. I'm not a degrowth proponent. I think degrowth is what we should do, but it's not going to happen because of the Superorganism dynamic, post growth is what we're going to have to prepare for. And so, I just think that every scrap of cheap fossil energy, when economic times get tough, will probably be sought after. I mean, India right now, and China, China has the most renewable energy, but they also have the most coal and they're scaling coal dramatically. But my larger point is this, and it's something I really struggle with, Kate, is I'm trying to act as a witness and a

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translator of what's going on, both in my own analysis and in the people that I interview. That is different than being a cheerleader and a spokesperson and an activist. So I really struggle with this podcast at times on being accurate or being helpful.

(00:55:04):

And I really do think that a lot of the discussions in the climate and degrowth space are energy blind, and they don't realize the critical importance that oil and other energy has to every aspect of our society. And that if we were to do the right thing ecologically and really crimp our use of hydrocarbons, that would entail a massive collapse in the state of our world, unless it happened gradually and it was planned for. And I am trying to tell the truth but also be inspiring and helpful to people. And sometimes that's hard.

Kate Raworth (00:55:51):

So much to say in response, I recognize that you may struggle with am I being a witness and am I being helpful? Because of course, I'm sure you're very aware that your voice and your opinion also has influence. It's not just from the outside. So you might say, I'm not an activist, but the position you hold and the forecast that you see has influence upon the world. And so in a way its an action, it's playing into it.

(00:56:24):

But I want to pick up on, I mean you are the person from whom I know the phrase, will we bend or break? Now that tells me that there's an option there that this isn't just, we're going to roll it out, we're just going to use it all. There is a choice and there's a possibility that we could bend and we have left it late as you've said, but that we can bend. And I see your podcast as informing us so that we can be as informed as we can. How do we now bend rather than we're just watching this thing slide towards break?

Nate Hagens (00:57:02):

Yeah. So the bend versus break initiated with my work with Homeland Security on the financial recalibration. Because when that happens, and things cascade, it could be really bad. And of course nuclear war or all kinds of other things could precipitate that. I actually am hopeful that humans will navigate what's coming and that we will

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bend as opposed to break. But bending isn't just turning off coal, natural gas and installing solar panels. The ask is much, much deeper than that.

(00:57:44):

I'm agnostic on whether renewables globally, and as you know, you've watched my stuff, there's no such thing as renewable energy. The ball of gas in the sky is renewable and the wind is renewable. But these components that we build to harvest the sun and the wind will have to be rebuilt every 20 or 30 years. Very little of the components that go into them are being recycled.

(00:58:10):

So without this giant amount of energy surplus that we take for granted, how will we build those things 20 years from now, 40 years from now, 60 years from now? So the answers are we're going to have to use less, but we're not going to choose to use less as a society, as individuals and communities, maybe we can choose to use less ahead of time, psychologically becoming more resilient by consuming less, prepares an individual for a simplified future. And then I think that the social capital of having conversations about this in communities wherever you live in the world, looking two or three steps ahead and trying to ignore the siren song of AI and cooler gadgets and markets are near all time highs. And we've always had problems before and technology solved it. And look at what's really happening at the ground level. I do think humans will have some emergent practices and new things that I can't even offer to you right now. I just see it in a lot of places that these conversations are happening. I lost the core of your question there.

Kate Raworth (00:59:32):

That's fine. So we're on bend or break. I was really struck and I was glad to hear you say, I'm hopeful that we can bend and it's going to take a lot more-

Nate Hagens (00:59:43):

Let me make a clarification on something earlier. I chose the word simplification because I think we're headed for a smaller, less global, less material society. I did not use the word collapse. First of all, collapse is binary, it's yes, collapse or no collapse. The simplification is more of a spectrum. Second of all, the Great Simplification is already here. It's just not evenly distributed. I mean, there are many places in the world that are already suffering a post economic peak.

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(01:00:24):

For instance, I had a young woman from Lebanon on the podcast. Lebanon's economy is down 50% from three years ago. That is a simplification, and I'm sure people following the news, all different places in the world are experiencing natural resource problems and economic problems and currency problems. So I don't think collapse is inevitable. I think a simplification is inevitable. But I guess it depends on how you define the terms.

Kate Raworth (01:00:56):

Right. And just to come back, I heard you say several times over many episodes, degrowth is what we should do, post-growth is what we probably will do. Can I just clarify? Because people mean very different things when they use this language. By degrowth do you mean a planned... I mean when I listen to leading thinkers in the degrowth movement like Jason Hickel and Giorgos Kallis, they would say Degrowth means a planned reduction in material and energy use of the less necessary consumption and production. So do you mean well we should plan to reduce, but you don't think that we will do it and therefore we'll get post growth, which would be a forced reduction. Would that be a way of putting it?

Nate Hagens (01:01:41):

Yes. A little more, I'll add to that. From a ecological deep time ethical perspective, degrowth is what we should do if you had a benevolent pro-social alien philosopher looking at earth, our consumption is massively unsustainable. So to protect the biosphere for future generations of ours and other species, we should use a lot less. And we should be living within our means. I don't think that will happen.

Kate Raworth (01:02:16):

Can I just interrupt you that moment and say, here's a donut they made earlier, it's the same thing, right? An alien looking at this would say, "Humans sort yourselves out. Come back with planetary boundaries by reducing your energy and material through flow, meet the needs of the poorest people in the world." And to me this is a visual of very similar to that same message of planned reduction that meets the needs of all. So we're agreeing. So degrowth and donut and yourself on that would say, yes, this is what we should do.

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Nate Hagens (01:02:48):

That's the should.

Kate Raworth (01:02:49):

Yes. Okay, continue.

Nate Hagens (01:02:51):

Well, on the donut, what I would say is that human behavior individual and aggregate that the inner part of the donut will not want to stay within boundaries. It will want to expand. And so the inner part of the donut will want to be greater than its planetary boundaries. And that's what we face of sorts. So I think the donut, to use your work and your example, is a great carrot for an Overton window of where we need to go. But what I mean about degrowth not happening is I don't think there is a way politically for a country or a world to consciously with a plan degrow because there would be riots and craziness and financial market collapses and nuclear war. And actually, if we did have the authoritarian means to degrow voluntarily, I think it would trigger the four horsemen in quite bad ways. What we can do-

Kate Raworth (01:04:02):

Wouldn't the continued pursuit of growth, I've also heard you say the continued pursuit of growth is likely to trigger those very same things.

Nate Hagens (01:04:11):

Yes. And here we are, Kate. That's correct, but that's not immediate. And there are chances that we might design some new technology if AI were suddenly to imbue wisdom into its algorithms as well as intelligence, I'm not holding my breath. But there are possible ways that we could invent mushrooms that sequester carbon and that we change our GDP to include things that are of ecosystem service benefits or things that I can't imagine. But my larger point is that we can change the initial conditions, which is why a lot of my friends are in the Degrowth movement because we ultimately have to start thinking about how to organize our own lives, and that's of society, by using less material and resources. I just think it not only won't happen voluntarily, but it is incredibly dangerous for it to happen suddenly and voluntarily.

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Kate Raworth (01:05:20):

But to me, this is the home turf towards bend. If we're going to bend, not break, we have to, whether it's in the name of Degrowth or other movements that we need to move in this direction. You said you're hopeful that we can bend, so I want to take our conversation in that direction. Can we go there?

(01:05:44):

What would it take? In different areas if I can bring some different areas. So first of all, I want to ask you, do you think that civil disobedience and nonviolent direct action that we've seen rising up around the world in different movements, do you think that is a way that people can play a role in helping to make something happen that the system will start to bend.

Nate Hagens (01:06:07):

Let me clarify something. Bend versus break could be society as a whole. In the past I've largely used it to refer to the financial overshoot that we have. When we issue new money, that money is just digital or electronic or paper claims on a physical reality, and we spend it on building out our physical reality. At the same time, there's a liability of we owe this money in the future, so we're building our physical structure higher, and eventually there's going to be this Wiley coyote moment where those claims can't be fulfilled by our underlying reality. When I refer to bend versus break, it's that moment, but you also could say we're at a social contract bend or break moment. You also very correctly could say we are at a planetary boundaries bend or break moment. There's lots of different bend versus breaks as far.

(01:07:14):

As civil disobedience, I'm of two minds with that. A lot of the people that are out there with Just Stop Oil and other civil disobedience have the same value systems that I do. In that sense, I fully support what they're doing and their intent, but from the perspective of the four horsemen, which is my systems ecology vantage point, I have two problems with that. One is there could be a triggering of a disruption that could be the cure is worse than the disease. The second is that for all of these things that we care about, we're looking at a non-systemic solution, like let's make natural gas and propane stoves in the northeast, make those illegal, or let's shut down all the coal plants.

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(01:08:16):

Those two things would be good for climate change for the people that care about climate change, but everyone else is looking at that and saying, why are we doing that? That doesn't make sense from our economic, our current cultural value standpoint. We're solving things by using our lens of the problem without looking at the whole system. I think we need to have an extension of the degrowth conversation is how do we live and plan for a less connected global society where our aspirations are something more than consumption and dopamine, et cetera? I know that's embedded in the degrowth of scholarship in places and it's embedded in your work on the doughnut. I guess I'm too focused on the systemic risk aspect to be a big fan of civil disobedience.

Kate Raworth (01:09:23):

But we can't go on a march saying, make everything right again.

Nate Hagens (01:09:30):

Right. That's why I'm at a crossroads in this work, Kate, because other than individual preparation and designing bend not break policies for governments, I don't know what the movement is that would be popular. This is a big challenge with this podcast is there are so many different demographics that follow this show. There are energy experts and there are psychologists and there's degrowthers and there's a lot of climate people that follow this. It's hard to look at everything beyond the one thing that you care about.

(01:10:18):

What ends up happening is events in the world are getting dicier and worse. I'm expanding this conversation, but it ends up offending people that are in one area of their focus, and it's really hard. This could be a much more popular and maybe helpful podcast if I just focused on one thing and belted my heart and soul out on that one thing and attracted those viewers in the world that were knowledgeable and cared about that one thing, but the one thing is the system. It's how all this stuff fits together, and I do not know what the answers are. In fact, I don't even use the word answers or solutions. I use responses. In coming months, I'm going to have Franklys on responses for governments, for philanthropy, for communities, and for individuals, and these are just guesses, because I've spent 20 years trying to understand the problem

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and that qualifies me to say, well, no, I don't think that'll work because of X, but I don't know what to do, Kate.

Kate Raworth (01:11:36):

Yeah. Have you ever had anyone on the podcast who speaks from experience of leading and immersed in civil disobedience?

Nate Hagens (01:11:44):

Well, yesterday I interviewed Bill McKibben who has a very long success track record of building movements. As far as civil disobedience, no, I have not.

Kate Raworth (01:11:57):

Maybe that could be a cool one for the future because personally, I take my kids to their school when they were changing going to secondary school. You go in the classroom, see these schools and like who's on the wall? Emily Pankhurst, suffragettes, Gandhi, Martin Luther King. It's like all these heroes are on the wall, and we know that every one of them in their day were so troublesome, so annoying, so disruptive, and yet we celebrate them now for what they did to change this big system, so I deeply believe in the power of civil disobedience and nonviolent direct action at least to seek to persuade presidents and prime ministers not to open up that oil field and to transform. All these different pieces of pressure, but anyway, I would love to hear you interview...

Nate Hagens (01:12:50):

At a deep level this podcast, and if I keep it going in the future, is a form of civil disobedience because the things that I will be saying are going to be threatening to the status quo.

Kate Raworth (01:13:03):

Okay. I'll keep listening.

Nate Hagens (01:13:05):

But I will take your advice and if you could recommend someone for me to interview, I will do that.

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Kate Raworth (01:13:09):

Sure I can. I'm going to lean us into, okay, what if we could bend? I'm talking about a system as a whole now. It could bend if we align enough things or it will break, so I want us to lean into the possibility of bend now. I'm just going to ask you from different sectoral points of view, just kind of going back to short first take answers. Okay. The finance system, from here, what would we need to do if we were to bend finance as it has been created? I'm just going to recognize that it's entirely human constructed. It's entirely invented, so we can reconstruct it, but we are where we are right now. What do you think could be done to make it start to move towards bend? Other than what I see seeing coming is a great big snapping sound, and that's the simplification.

Nate Hagens (01:14:04):

On each of these topics, there is what to do now, what to do at the moment of a crisis and what to do that's more sustainable in 30 or 40 years. 30 or 40 years from now the financial system should be smaller. Leverage that got us into this weapons of financial mass destruction should not be allowed. Currency should be tethered to something real, like land or energy production, but for us to do that now given the gargantuan 100 trillion a day in currency swaps and things like that, you can't get there. What needs to be done to avoid break is if we go back to a 2009 moment when we were on the cusp of all the banks in the world failing, and they came through with tarp and the bazookas of central banks and government guarantees, many of which are still 14 years later in operation.

(01:15:18):

If that were to happen again, I think there should be a bend not break strategies within central banks and governments to maintain transaction capacity. There's going to have to be haircuts. There are going to have to be haircuts at banks and people won't be able to own everything that they think they own, which is itself an information hazard to talk about on a podcast, but this is popular in earth sciences, but in the broader public sphere, this isn't that popular of a podcast. All sorts of things there that governments can respond to.

(01:15:59):

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The things that will make the financial system more stable would break the financial system right now. This is the problem. We should have a carbon tax, but the carbon tax would prick the bubble of our debt fueled central bank led orgy of consumption. I think gradually, if we were to put a small tax on currency transactions, gradually if we had money creation that was tethered to ecological services or pro-social outcomes, that's some aspect of what we had... kind of like a local currency, but at a national level have this... I'm just totally thinking out loud right now, have it generated in a way that you can pay some portion of your taxes in this parallel currency, but that parallel currency gets issued for doing things aligned with the doughnut, for instance, that minimizes our consumption and keeps us within planetary boundaries.

(01:17:15):

That kind of makes sense in an intermediate term. In the short term though, here's the thing. The things that would solve our financial overshoot, we're doing the exact opposite. We're doing more of those things that make the bubble bigger, which gets back to the Minsky thing. I think the way to prepare for that is to prepare individuals, communities, supply chains, businesses for disruption so that they're not so beholden to a sudden disruption in material inputs from across the world, et cetera, a reshoring of basic needs. If that reshoring is effective, then the break scenario becomes less likely.

Kate Raworth (01:18:05):

I wish the Belgian currency theorist Bernard Lietaer was still alive because I would've loved to hear you have him on this podcast.

Nate Hagens (01:18:15):

He just recently died, right? He was on my list.

Kate Raworth (01:18:19):

He died a few years ago.

Nate Hagens (01:18:20):

A few years ago?

Kate Raworth (01:18:21):

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Yeah. I think the way he talked about the design of money and the need for an ecosystem of monies and currencies massively influenced me. I would've just loved to hear him contribute to the kind of designs you were starting to come up with there. Somebody who comes to my mind often with this podcast is Stephanie Kelton, one of the leading theorists known in relation to modern monetary theory. I would just love to hear, and lots of people on Twitter said, I want to hear Nate talk about modern monetary theory. Does he know about it? What does he think about it? I really, really hope you'll have her on this podcast. You may profoundly disagree, but I think you'd really respectfully listen and try and figure out where's the overlap in your worldviews, or you may really agree, but what would be your take on modern monetary theory right now?

Nate Hagens (01:19:10):

I will answer that, but I'll preface it with this. It is a challenge, and this is why I do the Franklys, because a lot of my guests... first of all, I invite people on that A, have some credible expertise on a thing, and B, that it's relevant to the great simplification, and C, that they're good people. What ends up happening is a lot of times I agree with my guest a lot on issue number one. On issue number two, I totally disagree with them, but I can't spend the whole... I'm not a debater. I don't want to stomp on their words and try to disagree with people at every point that I disagree with them. I've learned, and I've gotten better at this over time.

(01:20:05):

I let the guests do 80 or 90% of the talking, and then on my Franklys, I kind of bookend it with my worldview, but it's challenging and if you end up being a host, I'm sure you are so gracious and diplomatic that that'll be not a problem for you. I'm actually happy with that because I'm kind of a talker. My girlfriend says it's my best skill as I just talk, so naturally I have a podcast, but I have become a better listener. Who knows. I may be really wrong about some of these things and my guests are absolutely right. That's why the universe of ideas, and this is in a sorts peer review in real time of talking, and there's no way it can be perfect, but I am learning and there are huge issues of complexity that are present.

(01:21:07):

Stephanie Kelton, I've heard wonderful things about her. I have friends that know her. I will ask her to be on the show. MMT I think of as follows. Modern monetary theory

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describes the money creation process better than conventional financial theory. It is true that a sovereign nation doesn't really need to worry about their debt because they can issue currency at will. I think the water works of describing treasury, debt, taxes, money creation by MMT are correct. However, MMT makes the same fatal flaw as neoclassical economics on how it treats energy, productivity, and resources. When we create money, we are in balance in the world, in the monetary world, but we're out of balance both ecologically and specifically with respect to the carbon pulse energy and materials. When we create new money, we're not creating new copper or trees or oil.

(01:22:29):

I think the problem with MMT is we end up at the same place with the great simplification is we have those governments that can print their own money, and that's another thing that gets into the inequalities and global disruptions because of using the dollar as the reserve currency of the world. There's a lot of countries that are tethered to the dollar and they can't create their own dollars, but we can. I think we end up in the same places that we're creating too many monetary claims versus an underlying energy and material reality, and that's going to result in inflation and eventually and the lack of trust in other countries have towards a currency, as evidenced by the recent slight downgrade in the US credit rating by Moody's. Is that a short enough overview?

Kate Raworth (01:23:23):

Yeah. That was just the right length and it makes me all the more look forward to hearing you and Stephanie talk. I don't know what the outcome will be, but I think... Actually I really appreciate talking about the difference between the podcast where you give space to the person you're interviewing, and I'm experiencing it right now. There's lots and lots of things coming up that I want to-

Nate Hagens (01:23:43):

I know. I can imagine. You're doing a great job because you probably would want to be pushing back on a lot of the things I'm saying. It's hard because if you push back on everything, it would be a four hour conversation.

Kate Raworth (01:23:56):

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There we go. You think, okay, I'll let that go, I'll let that go, but I'm going to follow this thread so I understand that.

Nate Hagens (01:24:03):

Here's the other thing, Kate, is you and I are close friends, so we could go back and forth and respectfully disagree with each other and learn, but some of these guests I've never met before and I have them on. For me to say, come on, are you serious to someone I just met, that's just not my golden retriever Midwest upbringing, for what it's worth.

Kate Raworth (01:24:25):

It's really helpful to hear you articulate the reason for the Franklys on the side, and that's a very nice, your little kind of release valve on the side, but actually I was going to say, I wonder if you could sometimes invite people who you've already interviewed or you've got to know and just have a session where you say, we respectfully disagree. Let's celebrate that. Isn't that interesting? I respect you, but I really disagree with your view on that. I just wish there was more debate in the world that just said, hey, let's celebrate. We respectfully disagree. Let's listen and find the edges of our own understanding without trying to win this. We're all trying to move forward. Anyway, just a thought. I think you could bring some of those into the podcast in the future. I'm going to keep us moving. We are leaning into the possibility of bend and I'm looking forward to the episode that you do in the future with Stephanie Kelton, and I think a lot of people would love to hear that.

Nate Hagens (01:25:21):

Do you know her?

Kate Raworth (01:25:21):

I do.

Nate Hagens (01:25:21):

Are you going to introduce us?

Kate Raworth (01:25:23):

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Stephanie, you've got to come on this podcast okay? Okay. We're going to move to education and you teach and are well aware of the power of teaching and that moment where students are brought into a worldview. I want to know from you if we are going to bend at the systemic level, what do you think needs to change in the world of education in terms of the concepts that are taught, in terms of the kind of skills that the students are taught, what it means to be well-educated for the 21st century. You can answer this across any discipline you choose or even beyond academia, but what needs to change in the way we educate this generation?

Nate Hagens (01:26:06):

Almost everything needs to change. Just to clarify, I stopped teaching three years ago because I was just too busy with other things, but I did teach for eight years and I miss it. It was the most rewarding thing I've ever done. Per my message I left you, I'm happy to guest lecture your class in the future. I'm actually trying to construct a round table. Maybe you would like to be part of it. Jean-Marc Jancovici and Simon Michaux and Sandra Faber who's a physicist and asked them, how do we need to change the academy? What are the questions that we should be asking postdocs and graduate students for their research ahead of the great simplification? I think there's so many aspects of the education system that are tethered to the Superorganism and energy and systems blind that we really need to change probably all levels of education. I think we need to start teaching ecology and systems to grade schoolers because by the time they get to college age, my students, they haven't learned a lot of these basics.

(01:27:23):

What are colleges now? We were supposed to, back in the day, have a liberal education so that everyone understood a little bit about how the world worked, but over time they've morphed into, okay, I'm done with high school now to get a higher paying job, I have to get this degree, and it's less about learning as it is to get a rubber stamp of I got this degree, now I can make 25% more money. I think we're going to need more education on how to human, how to be a human, which includes your psychological, spiritual, emotional, physical wellbeing. We don't teach that at all. That's going to be central in this world of deteriorating mental health. How do we have skills that are actually going to apply to the future that we're headed towards? How do you understand the systems ecology of the world? Sure, math is important,

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but the ecology and history and brain science and anthropology. Hubristically, the topics I cover in my course, Reality 101, that should be a 101 for all freshmen to understand the world we face.

Kate Raworth (01:28:42):

To go right back to where we began with energy blindness, I guess you'd say there's got to be an energy eyes wide open education that everybody should learn to see, sense and be aware of our deep dependence upon the flows of energy in the world because if it's the currency of life, we better get with it.

Nate Hagens (01:29:05):

Yeah. One of my students complained to me and to the dean that at the end of the semester I taught them all kinds of things about how the world worked and how messed up it was, but I didn't give an answer and they were paid to learn and have the answer, but I didn't have an answer and he was very upset about that. I don't think there are answers, but we have to empower young people with not a rose-tinted but an actual view of our reality in a way that we pass the baton to them in an encouraging and empowering way to do things, but I do think it's a disservice to shovel the uncomfortable aspects under the carpet and ignore them because they're too young and they can't handle that. I don't subscribe to that.

Kate Raworth (01:30:00):

Just picking up on that question of you didn't give an answer, I've heard you say before also in relation to this podcast and in relation to the well view you bring forward, I experience it more as a, this is what I see, this is the context I see. I'm trying to explain the system that I see that we're in, but you sit much more there than, and here's how I think we should solve it. Is that a fair description of the place in this ecosystem of making things visible that you've chosen to sit?

Nate Hagens (01:30:36):

Yes, but if you squint and look forward, it's kind of obvious what the direction of the things we're going to need to do. A lot of the things are in your work on the doughnut. We're going to need to live instead of just as individual lone wolves, we're going to have to expand our interaction with others. Social capital is critically important and

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we're going to have to probably have less material consumption and how to prepare for that ahead of time and prepare for that in your communities.

(01:31:12):

How we get from here to there could happen multiple different ways. Next week I have a round table on poverty, and I think there's great inequality in the world between countries, but there's even larger inequality within countries, including my country and your country. I think that's going to be a huge story in the next decade is the amount of have-nots is going to increase a lot. We're going to have wider and deeper poverty, and of course we'll try to overcome that with stimulus and social programs, but eventually there will be limits to that. Where does college fit in with that? Is it even the best choice for an 18-year-old headed into this world?

(01:32:08):

Yeah, you're right. I'm more trying to describe our situation in a politically neutral, science tethered way and pass that baton to as many humans that will listen, which is another issue, Kate. This podcast is not for everyone. I could with more funding broadcasted so that I paid for social media views and got a lot more people to watch it. This is not a message for everyone that I want to force on people. It's kind of a low bandwidth bat signal that I'm sending out to the world and those people that resonate with it, those are my sort of people and I want to be as honest as I can about what I see and what I think with them. There's a completely different set of messaging that needs to happen for the general public, for students, for community leaders, for Hollywood, for governments, and that's more than I can handle at the moment, but messaging is very important, and I'm just trying to be authentic and describe what I see now. Maybe I should do more thought in crafting discreet pathways that are helpful to people.

Kate Raworth (01:33:28):

Of course, there are people among students and community leaders in Hollywood and political leaders who are your listeners of this podcast, and maybe they are also taking it and translating it or making it accessible to their communities in ways that only they from within that community know how that will fly.

Nate Hagens (01:33:47):

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That actually is my deepest hope is that I don't know how these conversations are changing the actions and behaviors and emergence of others. I do have another call, a second call next week with an executive at HBO that wants to do a series on The Great Simplification writ large, like a six-part series, and we're kind of talking about what that might look like. Yeah. The time now is for this cultural conversation, and it's not just climate and it's not just politics. It's a large systems, human species level conversation. You and I are part of that conversation and it's evolving.

Kate Raworth (01:34:36):

I'm going to bring you back round to ways that we could lean into the possibility of bend. Okay. You've shared what you'd say about changing education. What about changing, and this is massively broad, but what about changing policymaking? Just think of policymakers in a country. I'm going to start with a country in the Global North. They're involved in a industry or sector that is material and energy intensive, and they came to you and said, Nate, how can I start changing to help bend? What can I think differently, do different, tools, language, worldview? I know this is a massive question. What can you see that could start helping if we believe that this couldn't fail, then critical mass could actually build amongst policymakers? What would you want to see a critical mass of building?

Nate Hagens (01:35:35):

It is a massive question. In fact, every question you've asked me could be its own one-hour podcast. I've concluded that policies that actually could be implemented right now are only at the margin. The conversation that needs to happen is so, so much bigger on what we're going to have to do in the next decade, so I coined the phrase advance policy, which is those things that we will have to do, but that are politically and socially unacceptable now. The biggest thing is to educate as many current leaders and future leaders as possible about how these pieces fit together and build constituency and research and work on what they will have to do when we go into energy security and rationing and the early stages of the simplification in the Global North.

(01:36:33):

Now, that's a different answer for corporations and businesses. That would have more to do with... here's the thing. We so revere efficiency today, but efficiency makes things

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less resilient. On the down slope, once the economy starts to decline, efficiency, the Jevons paradox will become a Jevons dividend, because if we get 5% more efficient in how we use energy, that means whatever our decline is is 5% less. The challenge now is to look two or three steps ahead on what are the technologies that society are going to need in the next 10 or 20 years and start looking at that instead of what consumers are demanding now, but how do you do that? It's really hard because your market is what people are buying today.

(01:37:36):

I come back to education and systems are the no regret strategies. You're doing fantastic work with deal and Doughnut on the ground in cities. I just don't see that we're going to get off of fossil carbon because of ammonia and cement and concrete and fertilizers and all the other things, but to prepare for less and less intricate global supply chains is something to be considered. I've talked to a lot of politicians and this is too big of a thing for them to bite off, but I think five years ago this sounded crazy and now they're nodding their heads starting to listen.

Kate Raworth (01:38:27):

Is there anything that you think people are already doing right towards bending? Is there anything you think, okay, at least that's in motion, at least that's building mass?

Nate Hagens (01:38:42):

Well, I think psychologically too, there are millions or tens of millions of people that are already the walking worried that know that our culture is approaching an inflection point, so they're being more conservative, they're doing things more locally, they're meeting their neighbors, they're maybe growing a little food. I mean, this is without understanding climate change or oil depletion or debt overshoot or anything, they're just responding from the cultural signals. I mean, you're probably a better person to ask that question. Look at all the on the ground things that you're witnessing with DEAL around the world. I think that the biggest thing is that we're starting to talk about this, in lots of different places, and that talking kind of breaks the seal of creativity and working together and different projects. It's just that little flame is so tiny relative to the media and the cultural conversation and the Super Bowl and the advertising on TV, that you need to buy this extra little thing for your house and you'll be happy. So I think many of us are growing up and waking up to our

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reality, and I think that itself is a good thing and needs to continue to scale. By the way, this is a darker conversation than I anticipated.

Kate Raworth (01:40:24):

Oh.

Nate Hagens (01:40:26):

Is it not? It feels like I'm kind of a curmudgeon here.

Kate Raworth (01:40:31):

I'm not trying to put you in a curmudgeon corner. I'm inviting you to talk about the possibility of bend.

Nate Hagens (01:40:39):

Yeah, well-

Kate Raworth (01:40:40):

But that's where you ... Okay. It's interesting. That's where you are today.

Nate Hagens (01:40:44):

Yeah, it's where I am today. But, who am I, Kate, to tell people how I think what they should do. I also feel like I do understand how the system fits together, and I've spent a lot of time on biophysical economics, but that doesn't qualify me to be some advice person for people's lives. I know the general direction because I'm still trying to figure out what to do in my own life.

Kate Raworth (01:41:18):

Okay, I'm just going to pick up there, something I was going to bring later. Who am I to be an advice person? And I hear you saying, I'm witnessing, "I'm just saying what I'm seeing, but I don't want to be giving advice." But I'm going to come back to, "Well, I want to come into the place of the difference between the podcast and the Franklys. Right? And you've explained, quite clearly actually the difference and the reason for both, and that makes sense to me. But your Franklys are sometimes very strong, like very strong opinion, and you might not be giving advice, but the strength in which you

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give your opinion influences people, and it shapes many people's perception of what is or isn't possible.

(01:42:05):

So it has a big effect in the world. And I just want to lean into that a little bit more to ask you, how do you hold that, "This is my opinion." And you know that you've got a big audience. "This is my opinion." And sometimes for many people it can feel very dark, like, "Well, we're just going to keep using the oil." But whereas so many people are mobilizing in every way they can to move us off that and to move us into, not renewables, but solar based energies. It feels very heavy to hear you say, "I think we're just going to keep using it up." And I just wanted to ask you how you hold that knowing that it is influential, and it might not be advocacy and advising, but it has impact on people's sense of what's possible.

Nate Hagens (01:42:53):

I do have a strong opinion of the global macroeconomy, and I actually don't think that the tragedy is we're going to use more oil per se. I think it's the economy unwinding, is what we have to prepare for, and we are going to use less oil because we won't be able to afford it. I think that's the default path. The Franklys, if I had my druthers, I would do one a day and I have hundreds of topics that I would like to opine on. And it's interesting, Kate, it's something really strange that's happened since I started doing these Franklys, is I go for a bike ride or a walk and I organize things in my head and I come back right here and I turn the camera on and I just riff. And nine times out of 10, that's the final thing.

(01:43:49):

And sometimes I say something and my staff's like, "No, you can't say that, you need to redo it." But I've gotten better at speaking in 15 minute extemp summaries, but I can no longer write. I've lost the ability to condense those thoughts into 1,500 word essay. And so it's like working out certain muscles. I've been talking on this podcast and these Franklys, but I think the Franklys, at their core are a systems' integration of multiple topics that I've spent 20 years thinking about and researching and talking to other experts. And so it's where the disciplines overlap and merge is where the discovery and interesting things are.

Kate Raworth (01:44:42):

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Okay. Here's a question you invited me to ask, which I appreciate. Where might you be wrong?

Nate Hagens (01:44:49):

I asked you to ask me that.

Kate Raworth (01:44:49):

Yeah, you did.

Nate Hagens (01:44:55):

Oh, I think I want to start asking that of all my guests.

Kate Raworth (01:44:57):

You absolutely should. I think that's a great idea.

Nate Hagens (01:45:01):

Yeah. When I ran the Oil Drum and now that I run this podcast, I get emails from so many people that are all so unbelievably sure about their worldview. And I think it's part of the human condition, especially with middle age and older men, that they have this unbelievable certitude of their worldview and their opinion. And I think that is part of the human condition. And I'm a middle-aged to older man, and therefore I have to, recognizing that handicap, my certitude by some amount. I feel confident about these things, but I know that humans are oftentimes delusional and don't actually see things that they can't see. So I'm sure that I'm wrong about many, many things in what I'm talking about, at the margin, because I'm trying to stay on top of neuroscience and plastics and oil depletion and things are moving so fast that I can't stay up.

(01:46:14):

On the core things, I really don't think I'm wrong because I've looked at them so many times. Humans are biological organisms. We're mammals, we're primates, we're predators, we're related to all other things that are alive on the planet. And we're a product of our evolutionary past. And that has a bearing on our behaviors. I don't think I am wrong about that. Energy is the currency of life and how much net energy we have access to dictates what's possible in the human sphere. And this energy that

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we've been using is depleting and we've been alive during a part where it was growing, not depleting. And so we're immune to the imagination of what can happen afterward. I don't know what's going to happen afterward, but I can infer it.

(01:47:07):

And most importantly, the natural world is being severely impacted by the human endeavor. And this is kind of a shifting baseline sort of thing. We don't see it every day. Every day looks much like yesterday, but over decades and over centuries, it is absolutely deteriorating, relative to the way it was. I don't think I'm wrong about those larger arcs, but I definitely could be wrong about some things. For instance, what is the role of technology? What is the role of governance? What is the role of cultural evolution? I don't think I'm really wrong about those things because I'm not deterministic in what they will be. I am still learning, Kate.

Kate Raworth (01:47:59):

Aren't we all? And since you talked about your own identity in this, I'm just going to come in on that and recognize that, here's me, a white British woman sitting at Oxford in the United Kingdom, and there's you, white presenting North American man in the U.S. What do you think, that there may be things that people like you and I can't see that are trends in the world, that matter in the world, just some reflections on what other people, dissimilar from us might know or be able to see or sense that we can't see? Now, that's a kind of tricky question. Tell me what you can see that you can't see, but you get where I'm going.

Nate Hagens (01:48:44):

Fortunately, I have a lot of friends internationally. Many of them have been guests in this show, and I hope to do more international guests in next year. Everyone has a different perspective and what they care about is different. And I think we need to hear a lot more voices on how people process this and how they respond to it. This is one of my biggest challenges right now. There's 38% of the listeners of this show are in the United States, which means 62% are in other countries. I live in the United States. My social connections are largely here. When I talk about bend versus break and the great simplification, ostensibly, I mean for this country, because we are totally unprepared for what's coming.

(01:49:36):

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And yet, there are people in Kenya and Ethiopia and Lebanon and Ukraine listening and watching this podcast. I know because they email me and the message for them might be totally different than the message for people living in Minneapolis or Topeka, Kansas. I really struggle with that and I want to stay on target of how does the system science fit together of our predicament and what are the behavioral policy, economic, ecological ways out of it. But, like you said, I want to highlight the voices that can see things about this that a biophysical economist could not. And I'll need help on finding those voices, but I hear you on that.

Kate Raworth (01:50:29):

Yeah. And just reflecting that from my own economics education, economics was founded on the worldviews of rich white men from the global north with land. And so they saw some things and they missed a heck of a lot of things. And in my own rethinking of economics, it's been when you go to other people from the Global South, from women's voices, from working class backgrounds, people who come from elsewhere, where those economists, where they just bring that 360 degree completely other perspective. And as you said earlier, none of us can know everything. None of us can see everything. So it takes that ecosystem of views and experience to help fill in the gaps of our own understanding, our own ability to empathize or learn about other places. So here's two ecosystems of knowledge and podcasts, right back to the value of a podcast, just so many different voices. I can definitely think of people who you could invite on who would bring much more of that perspective, and I'm sure many of your listeners can too. So I'm going to move us towards the classic closing questions. Okay. The questions that you ask people every week and make sense to ask them to you. Are you ready?

Nate Hagens (01:51:44):

Yes.

Kate Raworth (01:51:45):

Okay. What would be a practical response to the metacrisis that would be most effective for people to take? Nate, that's a really big question. You ask people about it just straight off the bat. It's just, do you feel how massive that is?

Nate Hagens (01:52:15):

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Well, this is why I do that, is because everyone has a factual expertise. Helen Thompson was on last week talking about money and energy and geopolitics. And I don't know that she gets asked those personal things. I frankly don't know what she thinks about the great simplification other than she specifically predicts energy security problems in the next five years. So, my belief is we're headed for a time when we need to have the head, the heart, and the hands acting in unison. And so much of the podcast of Sphere is about the head and analyzing things. So I append these questions at the end of the interviews to get at the heart of the human that is on the show.

Kate Raworth (01:53:13):

Nice.

Nate Hagens (01:53:13):

Because I think our humanity and our honesty and our care and who we are as individuals is going to be as or even more important than the facts we know about the world. So that's why I ask those. And I'm thinking about mixing them up a little because it's been a hundred episodes, but we do get really interesting answers. What do we do about the metacrisis? Depends where you are. I think I have a hundred pieces of advice. But the main one is, try to not go through this as an individual. Find a group of like-minded people on your values. Find a group of like-minded people on doing things, meeting the future halfway in your community or in your company or in your neighborhood. And find a group of people that you like to have fun with and do things that are unrelated to the metacrisis and feed your soul. And maybe those three groups end up being the same group of five or six or seven friends, or maybe they're different. But finding the dining car on this runaway train with like-minded people is an important thing to do.

(01:54:40):

One of my problems is I eat, sleep and breathe the metacrisis. My girlfriend now, I have a rule that if I'm on a phone call with any number of people, Daniel or D.J. White or Rex Weyler or Art Berman, I have to leave the house. She's tired of hearing about this stuff and I don't blame her. So, try to have balance as well. And I think there's a lot of things that are out of our control. So that means try to control one or two things about your future. And I try to do that. And I think ultimately where we are as a

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culture, what really needs to change as a culture, which is to recognize that most of this consumption is not making us healthy or happy and that once basic needs are met, the best things in life are mostly free. And for a lot of people, the basic needs aren't being met.

(01:55:46):

That if we look at the macro things of what our society needs to do, we can start to attempt to try to change those things in our own life. And you see how difficult it is to reduce the siren song of immediate gratification with either food or entertainment or novelty or stimulus and do the longer term thing like reading a book or planting something or attending a garden. And so if we really want to live more sustainably as a culture, I think that starts within. And that's a struggle for me that I'm going through all the time. So I'm sure people have heard me talk a lot about what I recommend and I'll have more stuff, but that's a short response.

Kate Raworth (01:56:35):

Okay. And specifically what recommendations for young humans who are becoming aware of this and may have stumbled across this podcast, had it recommended by a teacher, by a friend. Suddenly burst into this awareness of this world that was probably not centered to their education. And here they are.

Nate Hagens (01:56:56):

Do you use the word young humans or were you just mimicking me?

Kate Raworth (01:56:57):

You use the word young humans, not humans.

Nate Hagens (01:56:59):

Well, I do, I do. What do you say? Young people?

Kate Raworth (01:57:01):

Young people.

Nate Hagens (01:57:02):

Yeah.

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Kate Raworth (01:57:02):

But let's go with young humans.

Nate Hagens (01:57:08):

Okay, young humans, keep learning. Find like-minded people to travel, like I just said. Find things that you're really interested in and care about, learn skills that would be useful. Imagine the great simplification happening in your community. What would you want to be involved in and responsible for and partake in? And start thinking about that. The world will probably be worse than many of us expect, but probably a lot better than many of us fear. And don't let fear dominate your life. I'm trying to, with this podcast, give a broad arc of what's happening. And if you just happen upon a podcast without knowing all the backstory leading up to it, it can be a little overwhelming. And my best advice for that is, listen to it or process it with a group of other people or a friend. And talk about it, talk about these things. Get out in nature and get off your phone as much as possible. Those would be some of the pieces of advice.

Kate Raworth (01:58:30):

Nice. How can listeners reshape the way they think in order to best face the future?

Nate Hagens (01:58:38):

I don't think we can change human behavior, not on a dime. I think we can shift, we can use our cognitive skills to create speed bumps in the future for the ghost of dopamine pasts and our emotional proclivities. I think we can change how we think via awareness and meditation and having a little Kate, or a little Nate on our shoulder, chiming in and observing and commenting on what we're doing. And try to find people that disagree with you and steelman their arguments. And then come back to what you originally thought and you might have a deeper appreciation for the topic. And keep thinking in systems on how things fit together. But don't only think, I mean, thinking is part of the problem, that we're always just thinking. We have to also live in the moment.

Kate Raworth (01:59:47):

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Okay. We are now heading homewards. Are you ready? What do you care about most?

Nate Hagens (01:59:56):

What do you think I care about most?

Kate Raworth (01:59:57):

I'm asking you.

Nate Hagens (02:00:00):

I care about the natural world and other species that have no voice in our economic system or on the bend or break scenario. And this still is the only planet that we are certain has life and complex life in the whole universe. And this slowly unfolding metacrisis has a large backended cost on the natural world, and I care mostly about that. I care about a lot of things, which is part of the cross that I bear with this work. But I care about other species, insects, birds, mammals, trees, forests. At the end of the day, that's what I care about most.

Kate Raworth (02:00:56):

And especially dogs.

Nate Hagens (02:00:59):

Yeah, I care about dogs a lot.

Kate Raworth (02:01:01):

I've seen you with dogs. I've seen dogs passing in the street, and you just like ... A whole other, Nate, comes out, you just the dog, everything else is swept away. There's a doggy on the pavement. We're going to put the dogs aside a moment, come back. What is one thing you worry about for the next 10 years?

Nate Hagens (02:01:18):

Well, of course I would answer that differently every day. But I think the thing that worries me the most is what I care about the most, is the natural world. And I think we are approaching this cultural awakening moment of concern for the biosphere and

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climate and oceans and other species. And it's growing in the media. And I think that could be upended by energy scarcity, energy poverty and economic problems and a rightward shift politically around the world. And that all of this burgeoning environmental awareness is going to go to the back burner in our cultural focus, and it will become more dangerous to outwardly talk about these things, relative to today. That's one of the things that I worry about, not only because I have a podcast about nature and systems, but because now is the time that that needs to be prominent in our decisions, because ultimately what's best for nature and ecosystems is also best for humans in the long run.

Kate Raworth (02:02:36):

Indeed. What is one thing you have hope about over the next 10 years?

Nate Hagens (02:02:43):

I have hope in conversations like this, and I told you this in Sweden, is there are so many pro-social smart people that are starting to get it and starting to put things together and starting to ask, "How do I change things at my university, at my company?" I've been giving presentations to corporations that want to understand how this affects their business. So we have arrived at how all these things fit together, and it's really politically and socially difficult to say these things out loud, but it's starting. And that gives me hope, is these conversations are becoming less BS and more tethered to reality. That's a little scary, but it's also hopeful that we're going to have an emergent response to some of these events on the horizon.

Kate Raworth (02:03:42):

If you could wave a magic wand with no personal recourse to do one thing to improve the future, what would you wave it at?

Nate Hagens (02:03:55):

So the reason I phrased that question that way, is waving a magic wand with no personal recourse is different than being a president or a prime minister, because a president and a prime minister could have a dictum or a policy, but they're still beholden to their constituents who voted them and could vote them out. A magic

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wand, presumably is do whatever you want and it doesn't matter what other people think, you can do it.

Kate Raworth (02:04:25):

You could go for dictator too. But I quite like the magic wand alternative.

Nate Hagens (02:04:33):

I would change how people change the lens with which they view their own lives and their existence to a wider boundary one, and view that everything is connected and that we are part of this long, evolving, social-biological experiment that brought us to this moment and to care beyond their own tiny sphere into caring about other people, other generations and ecosystems. And I think a lot more things would be possible if we expanded the lens of where we measure our own boundaries of the self.

Kate Raworth (02:05:22):

If you had, I'm going to give you six months, just open up a little window in the fabric of time and you just get this pocket of six months to dive into one topic and explore it however you want, what are you going to dive into?

Nate Hagens (02:05:39):

The human brain and how to quiet down the dopamine consumption treadmill that we're on, and to heal and come from a place of equanimity and view the purpose of one's life and one's work towards the betterment of the future, rather than individual dopamine cascades and social status and monetary piles of digits. And really what would that take from a neuroscience/cultural/sociological perspective to heal more humans and involve them in a purpose for the greater good, given the challenges we face?

Kate Raworth (02:06:34):

Is there any question I haven't asked you that you're now thinking, "Oh, I really wish there was this question in the podcast that she'd asked me, because I actually want to answer that."

Nate Hagens (02:06:44):

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No, this has been great. I'm going to carry on with this. It feels like it's the thing that I was supposed to do, which is my Midwest Golden Retriever sort of personality, interviewing scientists and activists on what we face, and then peppering in the Franklys to give a goofy color commentary on some aspect. I hope it continues to scale and that it's inspiring others to have these conversations at their dinner table, at their town meeting, or at their companies. And if it happens and there's a Episode 200, I may invite you back to interview me again. Boy, what a world it will be at that point.

Kate Raworth (02:07:44):

Fantastic. Thank you very much. And again, of course, this is my show this week. So thank you very much, Nate Hagens, it's been fantastic having you as a guest on The Great Simplification. That's all for this week.

Nate Hagens (02:07:56):

Great to be there, Kate.

Kate Raworth (02:07:57):

And now we go to the theme music. (singing). There we go.

Nate Hagens (02:08:06):

Thanks a lot, Kate.

(02:08:06):

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