

The Great Simplification

Nate Hagens:

You're listening to the Great Simplification with Nate Hagens. That's me. On this show, we try to explore and simplify what's happening with energy, the economy, the environment, and our society. Together with scientists, experts and leaders, this show is about understanding the bird's-eye view of how everything fits together, where we go from here and what we can do about it as a society and as individuals.

I would like to introduce my longtime friend and colleague, DJ White. DJ is probably not a household name. He was a co-founder of Greenpeace International and started earthtrust.org 40 years ago. The first few minutes of this podcast, I talk about a long list of environmental activist accomplishments, especially in the oceans, that DJ is responsible for, and thankful for. DJ is an interesting character. I met him as a commenter on the Oil Drum 15 years ago. We became friends. He co-wrote the three textbooks for my Reality 101 class.

What I find so fascinating about DJ is he thinks differently than most people. He was responsible for the Taal, which stands for Through an Alien Lens, in our books because he does think in an alien way. He connects things that wouldn't normally be connected and integrates all the different topics of our current situation. He's a very colorful, though shy, human being, and I think you will enjoy this first conversation with my friend DJ White.

DJ White, great to see you, my friend.

DJ White:

Hey there, Nate, good to see you. Yeah, we're finally doing this.

Nate Hagens:

So you and I have not talked much the last couple years, but I hazard to guess, without sounding hubristic, that I know you and your thinking better than most humans, with the possible exception of your wife, given our thousands of emails and conversations, and you co-writing the three books for my Reality 101 class with me. So I am honored to be able to take a deep dive into your history and your brain and your hopes and plans for the future.

DJ White:

Well, cool. And yeah, you're probably right about that. You and I have spent a lot of time talking and collaborating, and it's all good. I've enjoyed your podcasts and stuff. We'll see if I can continue to uphold your quality standards.

Nate Hagens:

Well, this is a little awkward for me because knowing you, I know that you're not someone to just grab the mic and brag about what you've done and say why people should listen to your ecologically literate worldview and systems ecology perspective. So I don't really know where to start. I have 50 questions written down that I want to ask you, but maybe I could just give an arc of what I know about your past and then start from there because I doubt that you would say it yourself. So here's what I understand,

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and then I'm going to ask you some questions. So your name is known in environmental circles but really is not a household name. And let me just speak for a few minutes, and please correct me if I get anything wrong when I stop. You grew up in Indiana. You went to college. You were a geophysicist. You kind of had an epiphany, and you left it cold. You started your own environmental group in Hawaii to confront the whalers on the high seas almost 50 years ago.

DJ White:

Oh, yeah.

Nate Hagens:

Wasn't it? '76, so that's...

DJ White:

Oh yeah. No, I was just ruefully flashing on what 50 years is.

Nate Hagens:

Yeah. Well, about 45 years.

DJ White:

Please, continue. Continue. Yeah. Well, it's rounding it off to the nearest half hundred, but continue.

Nate Hagens:

Yeah. And so that effort was joined by the nascent Greenpeace movement, and together you guys bought the first fully owned campaign ship and confronted Soviet whalers. And you and I have talked about how you, at that time, went to pillbox, little Japanese concrete structure on the hills of Oahu, actually thinking about, "Would you be willing to die for a whale?" And we'll get into that. You subsequently wore many hats in the Greenpeace movement. You co-founded Greenpeace International. You created and ran the International Dolphin Campaign along with many of its signature policies and interventions. You also conducted cetacean intelligence research starting around the same time. A story I tell to my students, and is in our materials, you formed a personal bond with a dolphin that you got to know very well, which you've told me has influenced the course of your life deeply, and the promises that you made, yourself, to her.

You've co-founded many independent groups such as Species Survival Network for CITES and EarthTrust that you still run now. You've been referred to as the patron saint of the global Driftnet Campaign, shutting down the world's largest destructive fishing fleet in the '80s, saving millions of dolphins, whales, and many other species from the invisible mesh of those deep-sea driftnets. You also personally created the first international labeling regime for dolphin-friendly tuna. And we can maybe get into that later. You convinced the world's largest tuna firm to legally bind itself for years to your organization's criteria for dolphin-friendly products.

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You and your wife, Susie, set up entire practice of illegal whaling globally by creating an undercover network. Through your direction at EarthTrust, your teams oversaw the bursting of illegal trade of many endangered species globally. You've also successfully stopped an ongoing national drive kill of dolphins, which still is being discussed and shown in the movie *The Cove* although no one's ever heard of your efforts, which were successful. And all this was focused on wildlife.

But as we wrote about in our book, *The Bottlenecks of the 21st Century*, about 30 years ago, you sent your ecologist EarthTrust teams to Kuwait, where they managed to break through blockades and show the world the hydrocarbon pollution hell that was unfolding, shutting down gushing oil while avoiding landmines and leveraging the leadership of Kuwait to open the shutting out of those oil fires to international firms, and perhaps, shutting in 2 billion barrels of oil. The estimates would vary. So other things could be said. The first thing I would say is, as someone who cares about other species like you do, which is probably why we came together 15 years ago, I thank you for your lifetime of work on behalf of other species who don't have a voice in our economic system. But let me just start here, Don, why did you do all these things, and what puts you in a position to be able to affect them?

DJ White:

It all comes right down to it. If you only get one life, you want to spend it well. And as a child of the '50s, as a boomer kid, you take the jobs you could get. And so I went through college and ended up as an oil geophysicist, of all things, looking for oil in the field, which is an interesting parallel to some of your backstory, being an oil expert. But my heart was never really in it. It was actually an epiphany to me, having lived so cheaply to get through college and stuff, that when I started being paid for doing the oil exploration, "I don't have to spend this all on myself. I can keep living cheaply and spend this on other species." And so for a period of time while I was doing that, I was spending at least half of my paycheck on bigger and bigger donations to people who were doing things for other species, as sort of establishing that dual identity.

And then I did have, what you might call, an epiphany in a beautiful Louisiana salt marsh and just decided I was going to quit the next day, go off and save whales and dolphins. I had, at that point, never met a whale or dolphin, but it seemed like something that needed doing and something that I felt about. It seemed like it would have meaning to me. And it did, and it does. I mean, that still has meaning to me. And I'm really glad that I took that path. Each of us gets a chance for multiple paths, and I've never been sorry about that. And I've recommended that sort of path to some of your former top students who I've gotten to know.

Nate Hagens:

So in your early 20s, when you had your first job, you, at that point, were already carving out part of your income to allocate towards species protection.

DJ White:

Yeah. That would've been 22 years old in 1973. And by the way, I still think that. You don't have to go out to the boonies and start a soybean farm, a person that works for Exxon gets a good salary and puts half of that into effective programs, might actually be having more of a positive effect than if they

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just lived the change they want to see on some low-key level. So I think that's an option for people. I wish more people would think of doing that. But for me, I decided after a while, it just felt so personal, and I felt like I could do stuff, just with my crazed motivation, if nothing else, that I figured I would do that. And I set about doing that.

Nate Hagens:

So my understanding is you had this epiphany. You got a one-way ticket to Hawaii because you knew there were no dolphins in Indiana. And then what happened?

DJ White:

Everything else. As you might imagine, there were no ready opportunities to get to know dolphins, really, anywhere in the world. And with a degree in geology, geophysics, it's like, "Oh hey. Well, how can you get into doing that?" Well, I ended up scraping the shit off dolphin tanks, let's cut right to that, in order to find... I found that there's a university that was doing research, and that was the entry point I found. They found that putting bleach in the water would give the dolphins eyeball opacities, which is gross. So instead they let the algae and stuff grow in the dolphin poop, and they'd have to scrub it out every week, and nobody wanted to do that. So I offered myself as free labor, and there was a lot of slipping and falling and algae and poop and stuff like that. But it got me into it. And as you know, I was a bright guy.

So gradually, they started realizing there, at the University of Hawaii, that my expertise, such as it was, was good enough that instead of just cleaning dolphin tanks, I could actually be helping conduct the research with the dolphins and do their little computery things, and I actually was grounded in science and stuff. So I sort of... By scraping the tanks, I got into that. But as you've also alluded, it also led to me getting to know one particular dolphin very well, which is something that not many people ever... It's a shame and not many people ever will get a chance to do. I mean, it's not a shame, in the sense that a little, bitty horrible tank is no place for a dolphin to be. But I had been very interested, all the way back in college, with speculations about the nature of intelligence, of being, what does it mean to be a conscious being in this universe?

And the notion that maybe humans weren't the only ones, well, it was fascinating to me. And so I read this book, by the name of John C Lilly, who I recommend if you... And who I got to know later in life, actually. But he had written speculations about, "Well, dolphins have got brains larger than ours, and they're social, and they communicate, and who are we to just assume that they are necessarily these inferior beings just because they're alien and different to us?" And I was fascinated by that, but I didn't really necessarily buy it or believe it.

And so one of the things I wanted to do is, for myself, sort of confirm or deny the hypothesis that these were people and not just... I mean, I agree, dogs are people, and I've all kinds of non-human friends. But are these people in the same sense we refer to other humans, that is, an abstract self-awareness of themselves and a sense of humor? And are most of the self-aware, conscious beings on earth, are most of those species non-human? Because that's what it would add up to being. And I came to the conclusion that, yeah, that is the case. The dolphins that I interacted with, and particularly this one dolphin, they're as much people as any person I have ever met. And I don't take away from horses and

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dogs or any of that kind of bond, but I'm talking in terms of just not being able to predict what they're going to do. The feeling of another mind in there.

And it was important to me because... It may be obvious to anybody listening to this, but I'm probably a bit on the spectrum, as they say these days. I don't think in words. I've heard that most people tend to have sort of a running monologue of words. And that ain't me. I think in pictures. I've had to learn some words. They're coming in handy now. But when I started out as a little kid, I was pretty much a screaming headbanger, and that is stuff that's still in there. So my wondering about, "Well, okay, what does it mean to be a person? And who are they," and stuff like that... A lot of this stuff just gobsmacked me. It's like, "Holy moly, not only do these aliens exist, but we're in the middle of a holocaust. They're being wiped out kind of on my watch, and oh, man."

So all of a sudden, I had this relatively rare knowledge base that I had, and these realizations that I felt I had, and it was in the context of these friendly aliens, these intellectual critters with a sense of humor being wiped out, potentially in my lifetime. And man, there's motivation for you. It's like, "How can a person believing that not try and put 110% of their lives into making that better?" And that is what I decided to do. In a way that was an easy call for me. I mean, there were things like nuclear war that I wanted to not happen. There were things like environmental devastation. But being up close and personal, and to know individuals of species that were very probably going to be wiped out, it was not just a vague large existential thing. It was like, "Hey, hardly anybody but me knows this stuff, and nothing much is being done about it."

Nate Hagens:

So in our book, you did write some small anecdotes about your relationship with this dolphin. And you just mentioned that this species, this alien species, dolphins, not really alien, endemic to planet Earth, just alien from a current cultural perspective, had a sense of humor. Can you tell us some stories or shed light on how you came to learn that?

DJ White:

Well, of course it's a bit subjective, as is everything as you get past abandoning solipsism. It's like I think you have a sense of humor and stuff like that. And it's, how do I quantify that with you either? And it's the feelings you get. Of course, it's subjective, but there are a million clues when you're closely interacting and tactilely interacting too. I mean, a lot of the time I spent actually in the water, in the tank with the dolphins with the dolphin doing the sonar on me, communicating back and forth. And it was a very amazing kind of a deal. But one example, I suppose, would be one of the pieces of research that I was doing back when I was doing it, not in my lab but back for University of Hawaii, was they were doing visual acuity experiments on a dolphin. And the setup was very crude by modern standards. But it had two targets. And if the dolphin made the correct visual choice as to the one it was supposed to choose, showing it had good vision, it would push the paddle associated with that one. And then the person running the trial, which in that case was me, would be hidden from the dolphin. In theory, the dolphin didn't know that anybody was back there, just you'd throw a herring over the edge of the pond, or the pool, and the dolphin would get it, operant-conditioner-type thing, the stimulus- response reward kind of a thing. Problem is, this dolphin clearly knew that I was in there. She'd just see the people go in

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there, and she knew that I was running the experiment, and she also knew that she was going to get fed the same amount of total food, to the ounce, no matter how she did in experiments.

So she just had fun with it. And she'd do all kind of different games. And dolphins, in general, I find do that. They'll flip the game on you. But in this case... And I had no flexibility. There was a specific protocol I had to follow because it was not my research. I was just running the things. And so she'd get them all right for a while, but instead of eating the fish, she'd put them in the tank. It was only five feet deep. She'd build a pile of herring on the bottom, and then she'd start getting them a hundred percent wrong.

Nate Hagens:

Not chance. Not chance at that point.

DJ White:

No, no, no. When she got it right, I was supposed to push a button that made a reward siren... That meant you got it right. And then she'd get the fish, and she'd bury that. And if she got it wrong, you'd hit a buzzer. There was a claxon buzz... You got it wrong, and she'd get no fish. So she'd make this pile of fish on the floor down there. And here I was, skulking behind this plywood thing, opening and revealing the things. Now once she had a big enough pile of fish, she'd start getting them all wrong. Of course, you have to see just as well to get them all wrong as to get them all right. But she'd get them all wrong, and then she'd pick up a fish and cock her rostrum back to throw it.

My observation was through a five-by-five-inch hole in the plywood, which she wasn't supposed to be able to see because they didn't think dolphins could see that well. And it was dark in there. So I'd be looking to see what she was doing, and she'd push the wrong one. And I'd hit the... claxon thing, and she'd wing a fish through the hole and smack me in the forehead. And so she ended up shaping my behavior. She'd keep doing that, smack. And it is amazing how accurate she was. All right, every one didn't hit me in the forehead, but most of them did, wack, wack, just herring against my forehead.

And after a while, she started shaping my behavior. I got so tired of getting slapped in the face with herring that I would wait. Even though I wasn't supposed to, I'd wait in terms of pushing the claxon buzzer... And she would wait too. It's like she'd get it wrong, and she'd go, "I know you got to push the buzzer, dude." And I'd wait for 60 seconds and finally... There's a pow right in the... So anyway, I'd walk out of there with a data sheet that showed she was virtually blind, and covered with little silver scales on my complexion. And then later on, of course, I'd go in with her, and we'd swim for an hour, and she'd sonar my skeleton.

Nate Hagens:

What does that mean, sonar your skeleton?

DJ White:

Well, they see... A dolphin's primary perception modality is sound. And it's like we had a little flashlight in our heads. I mean, when they look at a human with their sonar, they're looking with something like a x-ray, like an enhanced ultrasound. In other words, they can see the contents of your stomach, the air

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spaces, everything like that. And it was very interesting to be friends with a person who could see you in that way. And it was just amazing. And by the way, dolphins... Yeah, she weighed 325 pounds. She could have killed me at any time. Any full-size bottlenose dolphin could, at any time, kill anybody that they're in the water with. They don't. It's to their credit. But interesting, the whole process of getting to know and trust each other and stuff, and over many months of spending time, in with this dolphin, it was intense. And it was definitely one of the most meaningful experiences of my life that is with me still today and will be always.

Nate Hagens:

Is this the same dolphin that you regularly did yoga with listening to music?

DJ White:

Yeah. With this particular dolphin, there was a lot of contact, and you're sliding against each other and stuff like that. And one of the things she liked to do is, it's like we'd be on the surface, and she would do it, it's kind of a twist, to balance my nose and her blowhole out of the water and then sing. Well, holding onto my hands with her pectoral fins, and then we'd just sort of swim to the center of the pool and just... yeah, it sounds weird, but just sing little... song sort of things. And with her eyes closed, and I closed my eyes too, and it was sort of a meditative thing.

So I don't know if that's dolphin yoga or whatever it is, but it was a thing. It wasn't my creation either. It was something that she created and decided to do. And that's just one of thousand different things that she would innovate to do. I was just in there to be friends, and she would say, "Okay. Well, we've got nothing to do. Here's all of these games. Here's all these things that we could do." And I will note that this particular dolphin was kept in solitary confinement, had not been in with another dolphin in many years.

Nate Hagens:

Are dolphins social creatures?

DJ White:

They're incredibly social, and I say that as a human introvert. But dolphins are incredibly social. It is not right to keep dolphins away from other dolphins, in solitary. But this particular one was in solitary. And although I wanted to know her as well, I also felt a bit of an obligation because of this social deprivation that she was... So I'm sure I was a very poor substitute for other dolphins, but I didn't have control over that situation. And I tried to be as good a friend as I could, and not just for her. But also while doing that, realizing, "Okay, this gift that I've been given, there's no way I'm ever going to be able to pay this back. But one thing I can do is save a bunch of other dolphins that I'll never meet." And I have, and I hope to continue doing that. And it's such a small payback for such a wonderful thing to have lived.

Nate Hagens:

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That's beautiful. And I've never experienced anything like that other than when I happen upon a moose in nature, and the moose looks at me, and we look at each other. And then my relationship with dogs, of course. And I've had some beautiful nature moments but not to that extent. But my other feeling, in hearing your story, is our culture currently thinks of dolphins as big fish or that they do tricks at SeaWorld and things like that. And we miss the emotional deep, sacred connection, organism to organism, interspecies relationship that you're talking about. And I mean, maybe that's why we became friends 15 years ago because we both recognize how precious that is. So what do you know, I assume you know, what is the current status of dolphins in the world? And when you say that they're in peril, can you explain what you mean by that?

DJ White:

Well, their peril is not exactly the same as it was. Some of the things that you mentioned in the intro, like dolphin-friendly tuna and getting the huge driftnet fleets out of the oceans and various other things like stopping the trade of dolphin meat as whale meat and stuff like that... A bunch of the things that I was able to do when playing around in the human-mischief space, as I called it, because they didn't need to be done, those things are not happening to the same degree. Although, dolphins are certainly under assault from the myriad of things that most of the... sound pollution, plastics pollution, entanglement, everything else. But really since about, well, right before the time I ran into you, I transitioned from doing these interventions in large ongoing kills and stuff, partially because they weren't ongoing anymore, but to figuring out, "Okay, what are the existential problems for humans?"

'Cause I like humans just fine. I have a lot of humans who are friends, as you know, and what are the big issues? And the big issue for dolphins and whales and, indeed, any creature in the oceans with a skeleton now is the big thing that we're... We worried about CO2 because of people worry about climate carnage, which is a real thing and will happen. But really, ocean heating and stratification and acidification, those present, really, doom unfortunately, unless something changes, to a lot of the really large slow reproducing critters in the sea. I'm not talking just dolphins or whales but seals, tuna, fish, other stuff like that. The things that are wiped out by rapid ecological change are the ones that are big with a low reproductive capacity, so that's why... And you see things like the KT extinction of dinosaurs and the Paleocene-Eocene Thermal Maximum. You end going down to small rapidly reproducing simple species.

And I'm sorry, but dolphins and whales are not going to make the cut. Now humans are in that same basket. We're not going to have air conditioners either, even though people think we will. But unfortunately, whereas humans are very adaptable and can probably get away with surviving in reduced numbers well into the future, there are some hard thresholds in the oceans, like the thresholds of calcite and aragonite crystallization. How acidic can things be? I mean, a child who's born today is now generally expected to outlive coral in the oceans. Now how messed up is that? And what, it's something like 30, 40% of all ocean species that spends some part of their life cycle in coral reefs? And beyond that, there's a bunch of critters, in the plankton and even invertebrates who require calcium for their skeletons. If you knock that many pieces out of the food webs, then the things that are guaranteed going to be knocked out are the K-selected critters that take a long time to mature, who have very low reproductive rates.

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We're talking about dolphins and whales. And what we need to do to save them is the same stuff we need to do to save us, but we need to do it quicker. And yeah, I know. We're not doing it at all now, in effect. But no, that's the deal. It's not just us. The only thing that's just us is we can make a difference potentially. We can decide. An individual can decide they want to save a million dolphins and potentially go out and do it, or they can decide that they want to advocate for... I mean, we've got the largest brains that we know of in the universe. Not we have them, we the Earth has the largest brains known of in the universe talking to each other right now under the ice in the Arctic Circle, the ice that we're melting. What are they saying to each other?

They've had self-awareness and advanced cognitions and huge brains long before we did. And here we are looking for fossil bacteria on other planets while turning these enormous communicative brains, yeah, effectively into dog food just because we convert them into money. We can financialize them. And unfortunately for critters with a slow reproductive rate, it can actually make financial sense to wipe them out, bank the money rather than waiting for them to reproduce more. I mean, that's been kind of the economics of extinction for the whales in the past. And yeah, I've been involved in the whole whaling thing too. We were talking about dolphins, but I ended up getting a lot into whale stuff as well. And if you want to ever do... talk to you about the whale stuff. I would love to see humans talk to whales, and in principle, that could happen. You introduced me to Aza Raskin, who is seeing about doing that. I've told some of your other students, going back many years that that's one of the things that I'd like to see happen. And it's interesting, my approach to doing that is actually quite different than his. So, maybe there'll be some cross fertilization, but there are amazing things that can be done on the planet. They're just not the amazing things that people think they want, and the amazing things that people think they want are also incidentally not possible. So, there's that.

PART 1 OF 5 ENDS [00:32:04]

Nate Hagens:

We're going to get into that. Sticking with dolphins and cetaceans, I have a side question, and then, a profound and potentially depressing question. The side question is one of the videos that you called to my attention, but I showed to my students every year, was a young dolphin who had come afoul of some fishing line, and was all tangled, and couldn't swim, and it approached some humans defenseless. Can you describe the importance of that and what happened briefly?

DJ White:

I think it's important. To other people, it's just a cute YouTube clip, like kittens in a box or something like that. But there should be a hundred scientific papers written just on that one video. We had a wild dolphin, looked to be a young female, approach scuba divers underwater because there was a hook cut in her and submit herself to what basically was knife surgery to cut the hook out of her while she held her breath. Now, I know people generally figured that, well, dolphins, if they were smart, why don't they build airplanes? Why don't they build oceans? Why aren't they wiping us out in their fisheries? And it's like, this dolphin, you imagine, what does your IQ have to be, 300 in order to? There were no escaped

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dolphins. This wasn't a trained dolphin. And popular wisdom has it that dolphins can't talk to each other.

If she hadn't heard this from another dolphin, how did she come to the deduction that she could swim up to these foreign creatures with metal tanks on their back blowing bubbles at night while holding a single breath, submit herself to them while they got knives out, and cut into her flesh and just... You need more than a theory of mind for that. You need to have confidence in your deduction that these critters have a theory of mind that they will probably be motivated to help, that they can help. And then, you have to have the absolute presence of thought to let these alien creatures, an alien in the sense of no common ancestor in 80 million years or so, cut into your flesh and then, okay, see you later.

Not that IQ is even a useful concept really between species, not really even between humans, but how smart did this dolphin have to be? What human would make a series of corrected deductions? She nailed it, first shot, swam right up to them, submitted herself... And see, but this has been out there on YouTube as far as I can tell, other people saying, "Oh, that's really cute. Oh, dolphins are smart." It's like, why aren't there a bunch of papers on, what's the minimum number of cognitive benchmarks that have to be clicked off in order for this to have occurred?

Nate Hagens:

And so, you and I co-wrote these books.

Some of the concepts, I made this movie *The Great Simplification* earlier this year, you were not involved in the writing of the script, yet you are in the script credits because some of the concepts were things that you coined in our writing. And maybe it makes sense to get into a couple of these meta concepts that are foreign to most humans, but central to our worldview. Maybe we start with the biggie, which probably we could have named the book this, the carbon pulse. Can you unpack that, what it is, what means to you, why it's important?

DJ White:

Well, it's important to me, and you, and everybody listening because it's the biggest wrench, the biggest monkey wrench that has ever been thrown at humans. It's slow in rolling out, but it may be the equivalent of the Chicxulub asteroid smacking down the dinosaurs. I refer to it as the carbon pulse. I originally coined that in other things because it's so brief. I really, we're just talking about two, 300 years in time when time goes millions and billions of years in other directions. It's this aberrant period in which we've got essentially free energy by using the oxygen in the atmosphere and stuff we can dig up and burn, and we're messing everything up in so many ways. And I don't know that we need to belabor that here a whole lot because it's conventional wisdom now that we're messing up the atmosphere and stuff like that.

But I think what people don't necessarily get, and we lay a lot of this at the door of mythology like neoclassical economics, is that the main currency of life, of human life anyway, is cleverness. That the universe has been constructed in such a way that there will be cheese at the end of every maze, that our main resource is cleverness. We're obviously clever, and we're not going to run out of cleverness. Therefore, *Star Trek* futures.

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Well, that's one of those crazy blind spot things that just sticks out to a person who thinks visually because it's just not right. Because just being clever doesn't really get you anything. And that's the case of humans with what I don't call fossil fuels. It's fossil carbon, fossil hydrocarbons. They're only retroactively fossil fuels if you burned them. And that's a dumb-ass thing to do with him. We've only got so much, and to the extent we should burn them at all, we should probably burn them before an ice age and not like to create a reenactment of the thermal maxima of the past.

Nate Hagens:

Do you think that we could have avoided the carbon pulse? Or with human trajectory since the agricultural revolution 10,000 years ago, was finding and scaling fossil carbon and hydrocarbons inevitable?

DJ White:

Well, certainly, from the point of view generally of a species like us arising from some other planet, or certainly, you could posit an Earth in which coal was not sequestered, that there were microorganisms that would break down the malignant stuff like that, or that geologically, there wasn't oil sequestered. That's just a cosmic coincidence, a big trap that was set for some creature with brains, and thumbs, and a fetish for supernormal stimulus.

Nate Hagens:

And sexual selection.

DJ White:

Yeah, we can go into... Read our book, folks, our books, plural. But I don't think it was inevitable, to answer the question. On this planet, I think it was clearly that access to it was so ubiquitous. But even not all cultures would've necessarily done it the same way, and it didn't have to spool out the way it did exactly. There are a lot of cultural things that have accelerated our burning of stuff. And even now, although a lot of people think, well, we're either doomed or everything's going to be fine. No, it's not the case there. There's enormous degrees of freedom still in what can happen. And people have a hard time in taking that onboard to realizing that there's an enormous amount of stuff that could be saved. But not everything.

Nate Hagens:

Well, people talk about collapse, and I think one of our mutual friends recently said, "When people talk about collapse, they mean when is collapse coming for me?" Because collapse is already happening to many species on Earth. It's happening to the country of Madagascar, and Syria, and Ukraine, and perhaps Bangladesh, and others. So, the future is already here. It's not evenly distributed. Let me put a pin in one of the things you just mentioned, which further defines the carbon pulse in that it will never happen again because the carbon was sequestered and maintained before the evolution of termites on this planet, which is something that Taal, AKA you, wrote in our book that if we get through this period, fossil fuels are unlikely to ever get stored up in Earth's hydrocarbon battery again. Because when they

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first did, the termites and lignin-eating bacteria didn't exist. So, they were stored and heated, and geologic pressure to turn into burnable substances later. Do you want to add anything to that?

DJ White:

No, I think it's true. It is true. And people can even look at that as good news if they want to. Most people are not really thinking in the way that that would be good news. But no, the carbon pulse is a one-off deal, and not only for humans, but for any other species that might try and arise. They're never going to have a hydrocarbon intensive civilization, or for that matter, probably copper or anything else we're using up. Everything that's, we've been burning these fossil carbon and hydrocarbon compounds, and at the same time using up all of the geologically-sequestered concentrations of damn near everything else useful.

So, no. Future civilizations or self-aware folks on earth, one thing that we can know is they're not going to be industrial. They're not going to be probably building skyscrapers. They're certainly not going to be orbiting satellites. It's a one-off deal. And it's good that it's a one-off deal because we're really screwing things up. And I say that as a person who is, I'm totally into science, and I always have been. I've been to the space program. I think that stuff's really cool. I feel commonality of feelings of people who look into space with awe. And I've known a lot of people there. Our dolphin research lab was primarily funded by Arthur C. Clark. That community, I think really needs to refocus on possible futures.

Nate Hagens:

There's a difference between science and technology, and the technology community now is largely energy blind. Can you explain, and we do this in our books, and I've done this in my podcast, but I'd like to hear it from you, why we couldn't have industrial civilization without fossil carbon and hydrocarbons in the future? Can't we replace that with other technology that isn't pulling ancient sunlight from the ground?

DJ White:

We could accomplish some very cool things. Now, people here don't know it, but you do. My house is festooned with solar panels, but that's not because I think that solar panels are going to get it done. And in fact, renewable energy is just a phrase. It's one of those thinking in words things that I talk about. There's no such thing as renewable energy. And the solar panels and things themselves aren't really renewable either any more than a pickup truck is. They're things you could rebuild again. But the more windmills and solar panels and stuff we make, the more the CO₂ goes up because we're burning more stuff at the same time. And of course, most of the power we use, on the order of 80%, is stuff we're just burning. And then, these things, so-called renewables make electricity, and that's cool, and that's neat. But that's what? 20, 25% max of the current civilization we have?

Now, could a civilization hypothetically be built that was entirely electrified? Yeah, probably could, but it wouldn't be this one. So, yeah, there are probably very cool paths that could be taken, but they're not going to have the kind of material wealth overage in terms of physical wealth that we see now because even back of the envelope, you could tell that's not going to happen. And nobody is probably going to be able to make a solar panel. If you put somebody on an island, say, "Okay, here's a pile of sand.

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Make a solar panel." I'm not going to be able to do that. I frankly don't even know... I'm sure it's never happened, but I don't know if it ever will happen that a solar panel is ever made with anything other than burnables. I don't think we'd probably have solar panels or nuclear power if wood had been the only burnable that we used. Our civilization would look a lot different, and arguably would've been a lot better.

I don't know if you'd like me to go down that road, but I think by about the year 1800, if we had just kept burning wood and doing other stuff, I think we very well might have gotten easily to the trillionth human childhood on earth. Whereas I think now, that is a real long shot. And to me, that underscores, it's not just about whales and dolphins. It's about the things we risk losing are most of the human lives that haven't been lived yet because we are actively precluding them.

Nate Hagens:

There are other books in the news, What We Owe the Future, MacAskill, and Nick Bostrom's Existential Risk, which are talking about a trillion humans could live in outer space in the future. But they have the same ethical bottom line that you are. But in reading them or actually reading reviews of them, it seems incredibly energy blind because it assumes that we are inevitably headed for the stars. And they never mention coal, oil, and natural gas as being the fundamental driver of industrial civilization. And the assumption is that even after we use less hydrocarbons, either voluntarily or because they deplete, that AI and other technology will replace the need for hydrocarbons and that we are destined for the stars. Can you talk about that a bit?

DJ White:

But it's just not possible. It seemed then back in the day when we were putting people on the moon real fast and everything, oh yeah, maybe this was possible. And who knows? Maybe if a large part of the earth's fossils had been put into that, it might not have been impossible. But in retrospect, it was probably impossible even then.

But here, there is a place for trillions of humans, and all it requires is that we don't break the planet. If you look back, like I said, say year 1800, and if you don't say, we never got significantly, and there wasn't much oil to burn, we never burned much coal, we just burned wood. Well, then the human population probably wouldn't have ever gotten much above about a billion, and we would've wiped out some things and everything. But we wouldn't have wrecked the atmosphere. We wouldn't have acidified the oceans. Most of the critters in the world would fine, just because they were... Sailboats can only get to so many places, wood fired boats. Most things that we're screwing up would've been energetically remote.

And in that case, there's nothing... The average mammalian species lasts about a million years. The average large species lasts about 10 million years. We are way beyond that in that we are distributed all over the whole planet right now. So, what should we expect? A million years, 10 million years, more? If that's the case, and if we were to average just a half a billion people living in 1800s horse and buggy stuff, we would get to the trillionth child without... If an asteroid didn't hit us or something, get easily, we hit the two trillionth child. We might get to 5 trillion children. As it is right now, there have been a total of maybe a hundred billion humans that have ever existed in history since homo sapien started.

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How many will there be? Why would an intelligent species not primarily care about what the total deep time footprint of that species will be? I don't get it.

Nate Hagens:

Because the species is intelligent, not wise, and there's a difference. What if our culture broadly understood your experience with dolphins? That they're self-aware, they have personalities, they have senses of humor, they can communicate all of it. Would it matter? And I'm afraid to know the answer to that. I would like to think that it would matter, but how many people think beyond this weekend, let alone care about a trillion humans in some distant era or epoch? I think most people are, and it's not their fault, it's our education system, and our culture, and everything else. But what are your thoughts there?

DJ White:

Well, how many people even now care about... There's the human phenomenon of it. It's easy to have empathy for an individual, but humans just don't have empathy for large numbers. And in terms of what if everybody thought dolphins were people? Well, people, humans knew that Native Americans were people, and they still gave them smallpox blankets, unfortunately. Not everybody did, but we're all reaping the benefits of that, quote unquote. Hasn't been that long since in the United States that people of a different color could be imported and used as slaves. Unfortunately, it's not aggregate human nature to care about stuff that's outside their own tribe.

Having said that, I think that expecting humans en masse to change in a major way is not going to happen anyway. I think the way change happens is by small groups of folks getting together, and individuals having ideas, and pressing those. I set up a bunch of seemingly impossible things to do, and did I get them all done? No, but I got 80% of them done. And I'm not finished trying yet. It's I think not just the way we perceive the world, it needs fixed, it has blind spots, but well, even once we decide it needs fixed, the way we think about that has blind spots too.

Nate Hagens:

And you've long advocated that individuals in small groups are where the action is. And I think cultural anthropologists, Margaret Mead, had some famous quote that "individuals in small groups are the only thing that will change the future because they're the only thing that ever had." Can you explain why you think that is the case and why you're an advocate of that?

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DJ White:

There is no consciousness in a mass of people. You get a million people say, they're conscious in some sense. Well, yeah, they sort of solve problems in some sense, but they're not conscious. It's not an over mind or anything like that. It's akin to an amoeba. At this point it's an amoeba after energy and raw materials to service the dopamine and other reward needs of its individual constituents. But there is no understanding going on there.

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Whereas individual brains, that's where thoughts happen. And small groups can work together productively. I don't know how far you want me to go on this.

It was interesting to me to go from running the global programs of Greenpeace, which was a fairly rich, very well known organization with all kind of contacts and then switching and working on the exact same issues with a very small organization, which, frankly, I ran as an executive just saying, "Okay, I think that this can be done." I generally say, "Oh well, I'll give it a try, but there's no way that this can happen." But it was enormously more effective.

The little group with no money, but that was not following the game plan of trying to be an international mega corporation, but just trying to be effective, was actually able to solve all of these quasi impossible things that the big group wasn't.

In both cases I was the person in charge and the same brain was at work. But just by freeing up the sort of strategies and innovation and reaction time and stuff like that, a bunch of things that had actually been impossible to do as Greenpeace became possible to do with a very small and unknown organization.

I actually think that we have not really even yet begun to tap what small groups of extremely motivated people might be able to do. If somebody wants to make a difference now they ask, "What can I do?" It's like, "Sign this petition or put solar panels on this house or let's cause universities to divest. So the hedge funds own the oil so they have better carbon. The hedge funds own the oil stocks." And it's like, "No, those are not things that are going to work. Those are things that affect how you feel." Things that actually reach effective specific goals in specific ways, in defined time scales. That's what effectiveness is. And you can do that. Anybody can do it, an individual, you don't need to join a group. You can individually decide what is sacred to you, what's your personal mission.

And frankly, I think everybody should have a sacred mission and you don't need to tell anybody else what it is. Just figure out, go sit alone by yourself. Figure out if I was to have a sacred mission, what would it be? And maybe it's to follow somebody else or maybe to champion a single other species that nobody else cares about. Or maybe it's to save some part of human culture or just to be nice.

I think this universe doesn't hand out meaning. The physical universe doesn't have meaning it's this electrochemistry going on inside our brains where the meaning and the color and the love and everything like that, live. And people need to focus on that. What is there? And don't just figure out you need to join something. I think it's very easy for elusory movements to start where there's a very low buy-in. It's like, "Okay, yeah, send five bucks and you're part of this movement and protest here, come to this protest, maybe get arrested."

What does that actually do? And in my experience, it doesn't do very damn much. And I can say that as a guy is, by the way, I was not a founder of Greenpeace per se. That's only Canada. But I've founded a bunch of Greenpeace things, Greenpeace Foundation, Greenpeace USA, Greenpeace International. I did the activist thing for quite a while and my heart goes out to the people who are motivated like that.

But just going out and being seen to be striving mightily against the high odds, that doesn't cut it. It's got to be results oriented. It can't just be a lifestyle. It has to be what did your existence on this earth accomplish? What's the end result? And since we all are causing an impact just by existing in this

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society, that pretty much dictates that if you want your net impact to be positive, you're going to need to try and accomplish something a lot larger than the scale in which you live.

Nate Hagens:

What about all the tens of billions of dollars? I don't know the exact number, but it's huge, dedicated towards environmental protection and climate change and large organizations and yet we see CO2 and environmental damage just accelerate every year. Is this what you're talking about, that joining these movements gets you a paycheck and some social credit and perhaps gets you laid once in a while but doesn't actually have results?

DJ White:

I'm not trying to cast aspirations. I have great admirations for a lot of folks like this, but really wake up and smell the coffee people. Our various movements and stuff are failing. Look at the Keeling Curve. It's going up. I mean we are failing. Full stop. We need to try something else.

I suppose the good news that I might have is that we haven't tried everything. It feels like we've tried everything. There's certainly a lot of disparity, young people who'll go out and join protests and stuff and then figure, "That didn't accomplish anything, so nothing can be done." I don't think that's right.

I think we're just not approaching it the same way. And it's like, you can have large movements of people who are convinced that the big problem and the only problem is that there are sociopaths in charge of fossil fuel companies. But no, that's not it. We're all demanding those. And the problem with an illusory movement that is that epistemological scaffolding is not going to hold up in terms of what we've got coming and coming decades. It's going to crumble down and you're going to have a lot of these same people demanding coal.

Nate Hagens:

It's not even holding up right now in Germany and the east coast of the US and other places, energy security and is trumping CO2 reduction as a policy. But you and I expect that to get much more intense as the decades unfold.

DJ White:

Indeed. And it will. It can't not get more intense. It's a finite amazing material that the oil in particular and basically the last nation with oil wins. And some seem to understand that better than others now. It's not cleverness via economics, in a very real sense, it's not even just coal it's mostly oil.

And that's why most of the big wars recently, World War II, even World War I, were mostly about energy. And in fact even wildlife, coral reefs and stuff like that, most of the conflicts are about energy.

It's like the nature of life. Energy is what moves things. And oil has been this extravaganza and it's finite. I don't actually expect that the proletariat's going to be able to jump on a jet to Disneyland or whatever they have a hundred years rather than Starship rides to orbit, stuff like that. I think airliners for the masses are going to be just an urban legend. It's like what if you've got a bunch of reindeer

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reproducing on an island and there's only a finite amount of food, but it's really the exact same energetic case.

Nate Hagens:

But the reindeer didn't have technology.

DJ White:

So it took them longer to die.

Nate Hagens:

So this is something that you and I always struggle with where we try to understand and explain energy and technology to people that largely have a technology lens. Because when you describe the carbon pulse and that we have this giant short term, couple centuries bonanza of fossil carbon and hydrocarbons, that's going to deplete. The natural response from people listening is like, "Okay, well then we'll use solar panels and renewables and nuclear and things that aren't fossil in nature."

So how do you see the relationship between energy and technology and why can't humans replace all this fossil hydrocarbons with technology after fossil fuels deplete?

DJ White:

Technology as we've come to know it, is really ways of using excess exosomatic energy. And we've had huge amounts of it for the last couple of hundred years and have used more every year. And that is the magic behind technology. That's how you make the little gizmos. That's what the gizmos act using.

So that's excess energy and materials, which are what you make technology with are exactly what is going away. We're going to very soon crest the all-time peak in excess exosomatic energy. And we've actually used up most of the geological concentrations of minerals and everything. So everything is getting more energetically remote. At the same time, the total amount of energy that we have to use to do things to get that and make it in the gizmos is declining.

Nate Hagens:

What did you mean by energetically remote?

DJ White:

It's a concept that I think it would be great if it was taught by Second grade. It's like energy moves matter or can move matter. It's the only thing that really can move matter and we move things around in all kinds of ways, and that's making things.

But think of a copper mine. Back when I was a kid, you could dig a hole and come up with big ingots of solid copper and it took hardly any energy at all. Now those are all gone. There's big, huge, yawning, open pit mines in their mining ore that's got just tiny fractional percentages of copper.

This comes about from using the best stuff first, which is logical. Who doesn't want to use the best stuff first, but using the best stuff first, the stuff that's least energetically remote that you can just pick it up

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and use it, pretty much, using the best stuff first means that the stuff you have left gets progressively worse.

And that's the case with everything that we want to do with energy and technology. And it's been amazing.

In my lifetime I would imagine something like 80% of the exosomatic energy of the whole human race has been expended and we're going to crest the peak soon and then there will be less every year on year for a couple of centuries. The way we think about technology now, we're sort of fish swimming in an energy soup, it's so ubiquitous, we don't question what it would be like without free exosomatic energy. But it's the thing that technology revolves around. It'll be going away. It'll still exist in books, we'll know how to do stuff, but you're not going to be able to fly a jet from New York to Florida in a hundred years. You just won't.

Nate Hagens:

We have not recognized this truism because every year we've had access to more energy and we can think about, we can envision having less energy. Actually there are a few years that we've had less energy. Those would be recessions and depressions. But we are expecting that to be ongoing in coming decades throughout the coming century. There'll be less energy available to humans every year instead of the last century where we had more energy available.

Can't technology cushion that blow? Couldn't we be using, hopefully no coal, but remaining natural gas and oil towards targeted ways of creating seed corn technology of solar panels and other things that in tandem could provide energy to meet basic human needs on the down slope? In other words, a combination of technology and fossil energy and materials.

DJ White:

Absolutely. There are any number of better paths and worse paths. Even the best paths are not going to match up to the Star Trek features or the things that the neoclassical economics proposed because they're just nuts.

But there's a huge range. I mean, you've seen in my house, it's festooned with solar panels. I love them. I think they're a very cool deal. But I look at them as what they are. I have grid-tied, I have an off-grid system and it's interesting and it's fun and there's all sorts of alternate things that can be done. But as I think I mentioned before, we can't power this civilization that we now have that way. We can come up with, you might want to call it, we can land this big civilizational species jumbo jet that's running out of fuel. We can steer it to a nice cornfield to bring it in for a landing where everybody gets off or we can just ignore stuff, keep flying over the mountains and assume the tanks will magically refill themselves. There's a metaphor for you. And at this point we are doing the latter.

Nate Hagens:

So what if we did land on the cornfield? What sort of lifestyle would we expect that's more or less sustainable sometime deep in the future?

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DJ White:

For one thing, just to get it out of the way, it's not going to have eight to 10 to 20 billion humans at once. There is a place for billions of humans and trillions of humans and that's the deep future. At this point they may not end up even being able to be there because we're breaking things.

There is a sustainable level of people that can live for a long time as long as we don't break the planet. And those people, even if they're energetically poorer and don't have as much material wealth, their life quality could well be better than the life quality that we all have now. They're not going to have air conditioners and stuff like that, but they can be surfers and poets and farmers and have some level of smart technology that's based on what you can actually make out of what you got and doesn't require globe girdling, supply chains.

There's all kinds of good stuff that can be done and to some extent will be, but you can't break the planet. You can't break the oceans. If you melt all the glaciers, you screw up the monsoons, you pump out all of the aquifers and do all the stuff that we're doing, which could go on for hours and discuss that, you're going to break it.

Nate Hagens:

So extrapolating that in the other direction, there is a large, I don't know if large is the right word, there's a reasonable size movement called the NTE, the Near Term Extinction movement, that thinks the planet is already broken and that we are in runaway Venus sort of climate change that are not only going to cause humans to eventually go extinct, but that we will go extinct in the next decade or so. And it's surprising to me how many people subscribe to that. What do you think about that?

DJ White:

Those guys are nuts. They're destructively nuts. They present an attractor that's equivalent to the attractor of, "Well, there's nothing wrong," because they resolve the dissonance.

If you adopt the feeling though, "There's nothing we can do, it's too late. Go live a life of excellence, go smoke weed, play your banjo and it's all over but the shouting, let's just all blog while we watch the world die." That's horrible, that's terrible and it's wrong.

I remember the head of one of these things was on Jay Hansen's list some years in the past, and at the time, and this was over 10 years ago, he said, "Within five years there's going to be hot enough in my suburban neighborhood to denature proteins. So why not live for the day?" Well, this is 10 years later and I'm not sure what neighborhood he lived in, but I doubt it's more than a tiny fraction of a hundredth of degree different.

I think the problem is when people focus super much, and particularly in the internet, focus super much on a certain problem, it acquires a counterfactual immediacy in their brains. And it's like, "Since this all looks bad and we don't know how to fix it must be going to happen soon." No, it's not going to happen that soon. The glaciers aren't all going to melt, but that's no reason not to save the planet.

A lot of the earth system effects that are already locked in are not going to play out for 500 years. That doesn't give us an excuse to not deal with them. It means that we need to expand our now, what we're responsible for the things that we're locking in the next decade or two that will be irrevocable in

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coming hundreds of years, such as messing up the seas and screwing up the tropics and killing off the whales and dolphins and yada yada.

Nate Hagens:

As you can imagine, I agree with you. When I talk to someone who said, "We're going to go extinct in 10 years because of the positive feedbacks of climate change are certain and near term," I don't entirely disagree with them. If they would say in the next hundred years and there's a chance that this will result in human extinction, I wouldn't disagree. But the fact that they're certain and that it's near term and that there's nothing we can do about it kind of gets my blood pressure up.

What about the general state of climate activism? The reason I ask this is you care about climate and oceans and dolphins more than anything else, and to my knowledge, and yet you disagree with the general thrust of the current climate movement. Can you expand on that a little?

DJ White:

I'm actually not an internet blogger, this is my first interview in like, 20 years. I started out creating organizations and experimenting by intervening in human systems and in world systems. And I've only started talking about what I've learned in recent years since I didn't think anybody would ever be interested in listening. Now, there are a few, apparently.

But the standard activism, which I did as a founder of a lot of Greenpeace campaigns and entities, I lived the activist life, but it's very, very incomplete. It has a lot of built-in attractors to mediocrity and ineffectiveness. And that's not to take anything away from people who want to glue themselves to the wall and after throwing soup on a painting, but it's not a real plan.

You need to actually figure out what's going to be effective. And in the real world, that's a stepwise plan where somebody takes personal responsibility on all the steps of the plan, otherwise you just got a bunch of people milling around like a kicked anthill.

I love the fact that there are millions of people that have signed petitions and stuff, but what kind of a movement really is it if the fundamental thing that ties everybody together is the myth that the transition's going to be easy if we just get the sociopaths away from running the fossil energy companies? No, that's not right.

I've actually worked in fossil energy. I was an oil geophysicist for a short time back in the day. And people are just people, humans are just humans. The problem is not that the people were running Exxon may be sociopaths, although that's certainly may be true from any given time. It's that we demand, including the people at Sun Expeditions, we demand there to be gasoline. We demand there to be, if we get the notion to cook 10 turkeys in our oven at midnight, we demand that we've hooked that switch and it's going to be there all the time. Unlimited base load.

We're blaming the pushers and it doesn't matter. You could put Mother Teresa equivalence at the head of the oil companies and I guarantee you that the people out there with the green bumper stickers now, at the point those people said, "I'm going to shut down the oil, we're not going to have it anymore." At the point that people couldn't fill their cars or charge their cars, their houses got cold in the winter and hot in the summer, they would demand, "On an emergency basis, we need to start these again."

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Nate Hagens:

Which is you're describing a scenario, but I actually think you're kind of describing the next 10 or 15 years.

DJ White:

The next 10 or 15 years, certainly 20 at the outside is when the wheels are going to start coming off our financial house of cards. And the financial house of cards is in turn, I kind of think of it as a half-assed load following algorithm for all the mischief that humans like to do.

And we'll probably, you've spoken certainly far better on this as in you have a Wall Street background, but we'll probably experience this initially as financial, fiscal problems, recessions, depressions, and then further on bank failures and nationalizations of things and rationing and money chain re-monetization of some kind. Who knows what a dollar will be in 20 years.

But this stuff is all coming up because we are really kind of at the inflection point of all time net energy. This carbon pulse we talked about. The pulse, it's like a sort of a sine wave pulse and we're at the peak of it now. And it's not even a coincidence that we're near the peak of it because exponential growth finds the limits really fast and we're at exponential growth in about every aspect of what we're doing. So it's no coincidence that we would live during the period at which things peak and start getting worse because we committed exponential growth and everything.

And I think, you think, what's in five to 15 years, like I said, 20 at the outside. It's not 50 years, 50 years from now we're not going to recognize things. And yet everybody from philanthropists to activists, everybody kind of more or less figure that things are going to be like they have been and they won't be.

Nate Hagens:

What should we be doing as activists or philanthropists? Or at least thinking about?

DJ White:

Oh man, there's probably no short answer to that, but align with reality, how about. Use the metaphor of NASA launching a craft to land on Mars or go ram into asteroids or something.

If NASA based the planning of its missions on the level of mythology and luck and social feedbacks that we do, that we use on everything else, and memes, not a single one of their missions would ever succeed. They'd blow up on the pad or they'd go skewed. It wouldn't work. Unless you have tight tethers to buy a physical and ecological reality, none of the stuff you do was going to be the right answer.

And it's unfortunate. I think it's a shame. There's a lot of well-meaning people, but if 200 years from now you were to ask whoever's there, "What percentage of the philanthropic grants and productive stuff, what percentage of that in the last couple centuries was wasted at this point?" It would have to be all of it. It was all wasted.

At this point, we don't have solar panels that last 200 years, which those guys would probably appreciate. We have solar panels that last 15 years, maybe 20. Why is that? Because our myths about the way things are going to keep going mean that the net present value of these things are such that

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why wouldn't we replace them and throw them away in 20 years? Because they'll be better then and maybe cheaper. And so we make stuff that's not meant to last very long. And meanwhile, our bridges are failing. There's not going to be asphalt to maintain the roads. We've torn up the nice efficient old railways that used to connect all of the cities in the United States in favor we're think we're what? We're going to use Elon Musk's electric trucks or something. Nah, that ain't happening. And anyway.

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Nate Hagens:

So how much of this is because philanthropists or the general public or activists truly don't understand reality as you're describing? And how much of it is that voicing the things that you're saying would go counter to the consensus trance and cause social status risk of people in good salary positions in the environmental field, for example?

DJ White:

Well, it's both. Reality, particularly the reality once you've worked yourself into a predicament as humanity has on this planet, is the perfect storm for denial. I've been talking about this stuff we're talking about now. I figure my career has been since mid-'70s and I've actually been in meetings and network philanthropists and stuff like that. And oh my word, I did not get invited back when I started talking about stuff like this, which was frankly ahead of its time back then, not only was there crickets after I would talk, but that network would never invite me back.

And even still, there's not people lining up say, "Hey, DJ, all of these impossible things that you did. Maybe it'd be good to do some more impossible things now." And yeah, there are definitely dynamics that there are attractors within the human sphere of events and there are repulsers and the stuff I have to say is full of repulsers.

And like I say, I spent a bunch, I thought I was going to die doing activism and that's still a part of me, but it became apparent when I didn't burn out like most of the other folks. Just kept doing this stuff decades after decade that a lot of the fundamental concepts of how to get things done, don't work.

Activism is incomplete at best, social activism and it's full of attractors, as I say to mediocrity. And that's why there's you, there's almost like an ecological progression of starting a new organization and how the original people get stuff done and then are gradually replaced and you end up with a group full of administrators with budgets and 401ks that are just part of the background business as usual. You see that cycle again and again. The good news for me is that we haven't really tried being effective yet. It seems like to a lot of people, a lot of the young people I've talked to that, "Well, what can we possibly do? We've tried everything." No, we haven't. We haven't started even trying stuff. But it's the kind of discussion that we do. And the way activism is largely done now, it's all cerebral it doesn't make those deep brainstem connections where you really get human motivation and creativity and you're working against the time limit and you force yourself to find the answer to situations that are obviously intractably impossible. And you keep doing that. And what you find is that some of the impossible things aren't impossible, but it's a grind.

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Nate Hagens:

You told me that 12, 15 years ago, and I nodded my head, and I'm not an activist, I'm a teacher, but I feel the burnout and the constant trying to do things against the societal narrative 15 years later. So I kind of feel what you're saying, but not fully. So you have had, as I mentioned in the intro, lots of environmental interventions that were successful. And why don't you pick one of those and unpack it or share with us some of the common threads that made you and your organization effective on those things. Is there some underlying logic or strategy that applies to all of your prior successes?

DJ White:

Wow, that covers a lot. I wouldn't say that there's one underlying strategy other than holding myself accountable for large scale outcomes. In other words, I don't hand anything off to anybody in terms of responsibility, and that's a horrible thing to put on yourself. And yet, I don't think I'd have succeeded at anything unless I had represented to a bunch of other people that I was going to lead them to do this impossible stuff. And the stuff did seem impossible, and it should have been impossible. But I wasn't bullshitting when I pulled the people together and said, "We're going to do this." It was a life commitment and one that I took seriously. But okay, I'll give one example because I think it raises another point that things that seem intractable, a lot of these campaigns, pretty much all of the things we look at now seem intractable, but there can be deep simplicities and you don't necessarily learn how to work with those until you've been doing this for quite some time and have failed a bunch and have figured out why you failed and why others have failed.

So I'll briefly compare two campaigns that seem utterly different permanently stopping the dolphin drive kill in Taiwan and stopping the oil well fires in Kuwait after Saddam Hussein set them on fire. And both of those campaigns, which succeeded in a very short time, were based upon getting to the issue first, securing the documentary evidence of an appalling thing that was going on, and then converting that to a victory without making the perpetrators seem evil.

In other words, there is, I can guarantee that you have never seen you... One of my old friends has never seen the horrible footage of dolphins and whales being killed in Taiwan. It's like nobody has seen the horrible footage of little children in a petrochemical hell under noontime, dark in Kuwait, coughing black goo into the street, and that's footage, it's right over here. I've got it, I've seen it. It lives within me and this sort of existential malaise that I keep going. But the point is, we were able to leverage that stuff. Instead of making our organization popular and getting a bunch of grants by demonizing folks, we went directly to the folks who had the ability to shut it down permanently. And we did. We went to the Executive Yuan of Taiwan, did a screening for them and say, "Help us write the end to this story." And it wasn't just that it eventually happened, we managed to get a kill stopped while half of the dolphins and whales were still in the nets.

And the law was changed in Taiwan permanently to the point that within three weeks we had some of the senators from Executive Yuan in Earth Trusts wetsuits helping us release the remains of the very dolphins that were being killed and with boats and flags and stuff like that. And the Buddhist community coming out with banners. And then we seeded the local area with teachers talking about dolphins and stuff for the students for the next few years. And that remains the only dolphin drive kill that's ever been stopped national drive kill.

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So the Kuwait oil campaign was basically the same thing. We were the first ones in there. We got our teams in while the scud missiles were still falling. Well, in theory, there was no way to get into Kuwait and all of the global media was bottled up in Bahrain. We just simply infiltrated it and got our people in there to do the same thing, got footage of this horrible stuff going on and managed to screen it before the Al Sabahs, the Kuwait royal family and say, "Hey, you guys," because at that point they had said that, "Well, no, these oil fires they can only be shut out by US and British firms. There weren't even any British firms that stopped the oil fires. There were only two in the US did it.

So it was projected that this oil was going to gush into the sea and these flames were going to go on for years and years and years, and that's just the way it was. And we did this and say, "Look, we've got this footage, we're going to put this out, but you have a chance to help us write the end of this story, open this up to international teams." And so in other words, the same campaign. And so we managed to do that. Now we not only didn't make any grants on that, but who's going to grant something that you do that fast? But I actually lost my life savings and retirement income by backstopping the Kuwait campaign that was hundreds of thousands of dollars I never saw again because the Kuwait royal family after agreeing to reimburse it didn't. So hey Kuwait royal family.

Nate Hagens:

If you're listening.

DJ White:

Yeah, if you're listening. Well...

Nate Hagens:

I didn't expect you to tell these stories, the Kuwait story you wrote about in our first book, but I don't think you've ever said the Taiwan drive kill story publicly. So thank you for doing that, and thank you for sharing. And I wonder, and in listening to this, is part of the reason that you and Earth Trust were successful is because you cared more about the outcome and not about the social accolades of telling people of the victory. This is some 30 years later that you're finally acknowledging these things and you never got recognition ever for these things in the intervening years. Is that some anti-current social activism dynamic that is important?

DJ White:

Well, who in the world strategizes about how to help the "Bad guys" win? I tell you; I mean just count them off on your finger now, who is right now trying to help the bad guys win? And it's not a common dynamic, and yet it's often the best. I mean the dolphin friendly issue, I inserted myself inside the tuna industry, the people who were responsible for literal Holocaust dolphin, I mean like 7 million Dolphins. These are people who I really hated on the level that a Jewish person would hate the Nazi SS. And yet I became, in a essence, a tuna executive because I had to find a path that aligned their interests with what the dolphins needed. And I did that. And your soul dies a little bit when you do things like that, but it's not about me. And that's the first thing I tell students.

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It's like, "It's not about you. It's about what the effect is going to be." And so I ended up binding StarKist the world's largest tuna firm to a via contract law to the standards by this little Hawaii incorporated organization for eight years. They had to follow our product acquisition standards. That's what made the entire dolphin safe thing work. And it was in the background and it was by helping these guys find a way that they could look good. And I mean that solution space is, it's not even looked at. And what it means also is you don't have that great hatred gridlock that builds support bases and mailing lists and notoriety.

But you can come up with things that seem impossible and we could go hours and hours on things that were impossible on their face and turned out not to be. And I think that's salient because we're facing so many potentially impossible things now that need out of the box thinking and people are rejecting out of the box thinking.

Nate Hagens:

So let's go there. Extrapolating from your past successes, what are some of your current projects or ideas for projects to intervene towards better human planetary dolphin ocean futures?

DJ White:

There are a number of things that I would like to see done and will do. I think we need a mythological framework for this. It's not just a matter of people blogging and correcting each other and stuff like that. We need, I think there needs to be built, the kind of excitement that you get around the space community, the Elon Musk groupies and the folks like that. And I mean, I'm very connected to the space people and stuff like that. I think that that's very cool when I grew up liking that. But I think we need to craft some better mythology.

I would like to set up machines to talk to great whales while they still exist. I know that's something Aza Raskin one of your friends is talking about doing, but his approach is, my approach are utterly different. You may recall that I've built machines for dolphins to use computers and for dolphins to talk to computers and for adult and to construct hybrid languages, not just in the abstract, but I mean have done it for 15 years, ran a lab where dolphins could use a computer to help control their environment if they wanted to. No food reward, no training. It was like, "Okay, what do you guys want to do with this toy?" And it turns out getting back to my theme of dolphins being like people, you know how long it takes a dolphin to learn to use a computer? About as long as it takes a human, longer than it took my parents.

You set it up for them, they use it and immediately they figure out what it can do. Now they don't have thumbs, but for instance, I was able to come up with an idea and have a place build it. The initial thing I do, you've heard John McAfee that that's sort of maverick. Well, yeah, I'm sure a lot of people have the bulletins on their screen that their McAfee is expiring. Well, McAfee actually has expired at this point, but early on he helped me create a voice recognition board so dolphins could use phonations to interact with computers. And then half the dolphins didn't want to do that. So I also created a touchscreen with interruptible little lasers that they could interrupt with their rostrums. And so we ended up with a flexible interface to where they could actually do things. They could talk to dolphins and other tanks that they couldn't see otherwise. We could actually observe them thinking and acting as dolphins

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and stuff like that. And it's fascinating to do. Obviously it's more challenging to do this with great whales, free living and talking under the ice with brains three, four times the size of ours. But there they are. Here we are in the universe and here they are with not much time left due to things that we're doing. I'd love to see that happen in my lifetime and it actually could happen in my lifetime.

Nate Hagens:

Why did that stop 30 years ago with all the things that McAfee helped you create with the Dolphin computer interface? I haven't heard anything about that other than the couple times you mentioned it to me.

DJ White:

Well, you figured that when McAfee was involved or McAfee, that was back in the early days at IBM PCs computers, it's got hugely more powerful. And so the boards that he created became quickly outdated, and then we end up using Macs. And actually the max we got were like Steve Wozniak's personal Macs and stuff like that. But we never got funding from Apple. But we were on their webpage and stuff like that. And whenever Steve Wozniak was tired of one of his computers that they'd pop that one over to us and stuff like that. So it was interesting and there were things to do and there are things that could have really changed the culture about that too because it was made for the dolphins. We came within a heartbeat of being able to have Japanese students playing video games against dolphins in real time over the internet.

It was set up, they were doing, the dolphins were good at the games. It would've been a nice cultural end run. But when you're doing impossible things and some of the necessary things rest on others, sometimes they don't happen. And in this case, the Marine Life Park worried that one of their dolphins was going to die on camera or something like that. And then they pulled the plug on it. But you know, got to try stuff like that. And for all of the successes that you could list that you could probably also, it's an equal number of things that I tried that seemed impossible, that turned out not to be impossible, but basically didn't work or didn't work exactly the way I would've wanted them to. And that's it too. Trying and failing while doing this stuff, I think is what qualifies you to try and then succeed more of the time. And how many people are there who have been doing nonstop conservation intervention since the mid-'70s? Not many.

Nate Hagens:

So given the carbon pulse, given the energy blindness, given the state of climate activism and other activism, what should the head of a environmental pro future pro social foundation be thinking about? Are the priorities out of whack? Is there some path forward that could be both effective and keep them employed and respected in the status quo? I mean, what are some of these super important projects for the next 2, 3, 4 decades?

DJ White:

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Well, it's a good question and there are a lot of answers to it. But the big thing is take off your neoclassical economics blinders and realize, smell the coffee about the actual reality that we're heading into.

There are any number of things that we're going into like human giga famine. I know nobody else talks about that because I had to make that word up. We're going to see the up slope of the carbon pulse corresponded to what's known as the Green Revolution. Norman Borlaug, like a human population going up like a hockey stick as well. What's not generally appreciated is that there will be a corresponding downs slope. The human population will/must follow the energy curve back down again. And that's going to correspond to a lower human carrying capacity. And that in turn corresponds to billions of people going away. Now this could be handled humanely by planning for it in advance or it could be handled the way we are planning for it now, which is that, "Oh well everything's going to be fine. Let's go to 15 billion people and then let's 10 billion of them die off from plagues and starvation."

So giga famine is a biggie, but there are so many others. You need to realize that future people are not going to be rich. They're not going to have star ships; they're not going to be living in space stations. What we have coming up is an earth trek and there have been no new kinds of energy discovered in the last 100 years. There are a bunch of sentences out there right now, and it seems like anybody who wants to come up with a sentence that seems great, like, "Ooh, solar roadways, let's put solar panels on the roads," and everyone, "Wow yeah, venture capital, let's get that." There's a bunch of just crazy ideas that come and they're going to keep coming up. And Nate, you and I could be bloody wealthy if we just wanted to get on that train.

I think you've called it the tragedy of the energy investing commons. But any nutty thing can now be funded by crowdfunding, but also get funding from the government or from philanthropists because there's no real, like I say, bio geophysical tether, there's no reality check. This stuff can be discarded out of hand be the projects or strategies. And that is a real great sieve to narrow down the things that can be done and should be done. And likely if we've got spent fuel rides sitting in swimming pools, so as we saw in Fukushima, if the power goes out for until the emergency generators run out of diesel, well you've got smoking radioactive pits. Okay, those are all over the place because we don't think that'll ever happen. And there's all kinds of situations in which these discontinuities are going to give us problems.

Nate Hagens:

When people come across the biophysical story of energy depletion and the carbon pulse, a very common initial response is, "Well, what about nuclear? Nuclear is very energy dense. It seems abundant and or thorium and it's safe. So why can't we get off of oil and have a nuclear-powered future?"

DJ White:

Well, here's the thing. We would never, if we hadn't had flammable fossil stuff, we never would've had nuclear reactors or nuclear weapons for that matter. Just like neodymium wind turbines and acres of solar panels and stuff. Nuclear reactors are something that you make. There are mechanisms that you make with fossil energy. They've never been made any other way. There's no indication that they could be made any other way. All of these renewable, well, let's include nuclear with the other renewables. And then as long as we have a category that that's made up, yeah, they do work. But of course, nuclear

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waste is uniquely poorly suited to a race that thinks everything's going to get better and easier forever. So we've still got the fuel rods sitting in pools ready to melt down, and no real plans to do anything else with it.

Nate Hagens:

That's always one of my list of 5 to 10 challenges with nuclear is the biggest one is we assume that there will be continuity of the human civilized endeavor for centuries or inevitably because as soon as there is non-continuity, we have all the risk of the 450 nuclear plants and the spent fuel rods and everything else that don't have the energy surplus to hire people and to have the technology and supply chains to continue the remediation and cooling and all that stuff. So it's energy blindness on the back end as well.

DJ White:

And of course, the other thing that people don't really look at is if you look at humans energy use, only about 20%-25% of that is electricity. And that's all the solar panels and wind turbines and hydroelectric and nuclear plants. And even if they ever figured out fusion plants, that's all they make. So yeah, most of what we do can't even in principle be done. Okay. You could say, "Okay, well yeah, you could remake the entirety of civilization with long extension cords from mineral extraction to the ships, everything like that and batteries and that stuff." But no, you quickly run into materials shortfalls and really now time shortfalls. People look at complexity and the continuing availability of things like tritium and liquid helium, stuff like that. That stuff's not going to be available. It just won't be. And regular fission will work and fission plants can last 50-100 years potentially, but you're never going to be able to make a fission plant from the other fission plants. And like I say, even if you electrify the trains and stuff like that, okay, you're not going to be able to run everything on electric cars because where's, who's going to be mining the lithium's? They're going to be a super long extension cord to the lithium mines. There's a belief, I think, out there, ubiquitous belief that anything that works on a small scale ever can work on a large scale always, and it's just not the case. There are things that work on the small scale like orbiting satellites, that does not imply that you can orbit thousands of enormous solar power stations and beam power with microwaves down. But again, trying to sell what's actually possible, both physically and thermodynamically possible and probabilistically possible, in terms of what sequences of events are... In terms of what could actually fly in the world that we're in. Being the bearer of that kind of tidings is something you're very familiar with.

PART 4 OF 5 ENDS [02:08:04]

Nate Hagens:

We could probably talk for 10 hours, Don, but on this reintroduction of you to the public, I wanted to have one conversation, and we're at the point where I ask the same questions to all my guests, which I'll now ask you. What recommendations do you have for general listeners of this program who would like to influence the future for the better, but also prepare themselves, their families, their communities for the not-too- distant, on the horizon Great Simplification coming our way?

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DJ White:

I think my general recommendation is to go find yourself a spot in nature and figure out what your sacred mission is, what has deep meaning to you, and obviously protecting your family does, but is there something beyond that? What would you like your existence to have accomplished at the points you're gone? At that point, you need to stop listening to what people around you were saying and align yourself with reality. Learn some of this stuff like you talk about, understand the science synthesis of how humans think how our evolutionary programming interacts with energy and ecological realities. I'd say then, try and adopt an ethic... What I call is a life ethic, it's what is sacred to you and don't shy away from that. I mean, there should be sacred things to us and there should be things that we can define very simply as good or evil. An ecological basis for a life ethic, life is better than the absence of life. Conscious life that can talk across species is preferable to its lack. It's a very basic postulate.

Then, tie yourself to effectiveness, not just status and the regular thing that you think humans do, but figure out what it takes to be effective whatever you decide to do, whether it's choosing a species and deciding to try and be its savior or saving some cultural thing for the problems that we're going through or a patch of woods near your house or something like that, something larger than yourself and take that on. Not just advocating for things, but to take personal responsibility for the final outcomes, which can be hard to do and it seems masochistic, but it's really the only standard that'll get her done.

Nate Hagens:

Okay. Refining that advice down, and I know you have given this advice both in our materials and in person to some students, what suggestions do you have for young humans, 15 to 25 years old, who learn about our climate, oceans, energy, economic, political situation who have their entire lives ahead of them? What advice do you have for young people?

DJ White:

Well, largely the same, except that one of the things I tell them is, "Don't let anybody else guilt you into reproducing." We've got some fraught times coming up. My wife and I decided not to reproduce other humans, little redheaded humans running around, we have plenty of those. What we decided was that at this point in time, the way to reproduce physically is an endangered species and threatened species, and we have done that. We'll never meet them, but there's maybe potentially millions of dolphins, seals, seabirds, turtles and critters like that, that are out there that wouldn't have been if we hadn't taken the path that we have.

Nate Hagens:

You're saying that any young person can choose to do that?

DJ White:

I think a person of any age can at least try to be a superhero, to try to have an effect on larger scale than themselves. Indeed, just by existing in this society, we have a negative impact on the world, so you have to have an impact larger than yourself if you're not going to be part of the problem. I think being

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young now is a real challenge. Of course, it's always a challenge, but we're entering Frodo and Ring to Mordor times. We literally are on the path to Mordor right now, whether we walk that path back, that'll be determined on what happens in the coming 20 years or so. A lot of things are going to be locked in, in that period, and this is the most important few decades left. Arguably, some of the decades in the past were even more important, but we didn't get it done then. As I say, any rational appraisal would have to be that we, as a species, have failed so far for the other species, for our own species, for the distant future, and for the total number of human childhoods there will ever be.

We can, to some extent, turn that around and we're not trying yet.

I think it's good from time-to-time, reset your... What you might call your hedonic base load or whatever, the things that make you happy. We are all wealthy. Everybody out there, including any of you listening who may be on food stamps, we're all preposterously wealthy compared to the kings and queens of old. We just are. But we tend to pay attention to relative wealth, the things that people around us have, but we don't need to do that. We can live inexpensively and be grateful for the things we have. We also don't have to envy people that have more. Being able to see somebody who's got something that we don't have and be happy for them without trying to own that thing ourselves is I think a level of maturity to try and aspire to.

It really will prepare you for the things that are coming. It's like the phrase, "Collapse early and beat the rush." If the things that you truly value are the things that aren't going away, then you're going to have a happier life. If the things that you value and define success by are the things that are going away.

Nate Hagens:

I expect I know what you'll say to this, but what do you care most about in the world, Don?

DJ White:

Well, I care about all of it, of course. But, in deep time there has only been complex life on earth, animals and plants, for a relatively short period. The earth is four and a half billion years old. Of that time, we've had animals and plants between about four billion and four and a half billion, which is the now. Animals and plants are not going to even be possible after about another half billion years when the earth gets to be five billion years, it's just not going to work then. We've got that window to work in.

Nate Hagens:

Why?

DJ White:

Oh, a million reasons. The planet's going to get hotter is the biggie. The atmosphere gets stripped away, the carbon dioxide and oxygen can get too low, eventually you get too little CO2 for photosynthesis, of course the sun's getting hotter, the oceans boil away, all of that stuff. You just figure that there's about a billion years for complex life to exist, and that's half over. Of that, the age, if we even call it an age, of conscious, self-aware life has barely started, and it could end now with us. We

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didn't start it either, the whales and dolphins have had self-awareness long before we have had it, but we are in the process of ending them before we end ourselves. The entire self-awareness of the universe for itself is at stake. The age of conscious life is hanging in the balance, and I care about that. People talk about life on other worlds and stuff like that, well, the story of life on earth has been bacterial from the get-go from before the first billion years, and bacteria was bacteria up until four billion years.

After five billion years, it'll be bacteria again. There's probably bacteria all over the dang place in the universe. But, this special combination of things that happened here in a very special way to make critters whose DNA has accidentally created these virtual worlds that we all live within and created a bunch of them at the same time, so I could have been friends with an alien mind. I've known an intelligent alien. I mean, that's amazingly profound. There are aliens with giant brains, we no roughly where they are now, talking under the ice to each other, and we're focused on entirely other stuff. It's like let's get excited about what we have and what we can still save and infuse our culture if we can with the enthusiasm that we see for billionaires shooting rockets to Mars. By the way, that's not going to happen either. I mean, other than a few poor, pitiful folks who die there, maybe.

But we need some new compelling mythology, we need to get off our butts, and we need to prepare to be kind of surfers to surf the weird events that are coming up. When the wheels come off doesn't mean it's the end of everything that can be done, but it means we're going to have to be adaptable and use the skills that got us from the plains of Africa to where we are now and some near-extinction events, some bottleneck events that happened. We've got a lot of bottlenecks coming up, certainly biological species of bottlenecks, cultural bottlenecks in the sense of narrowings that could either close and end or could re-expand again.

It's like I say, dude, these are Frodo times, except that Frodo had it easy. Frodo was given a fundamentally reductionist task.

Nate Hagens:

Of all the issues that we discussed or maybe other ones that we haven't discussed, what single issue are you most worried about in the near-term, in the next 10 years or so?

DJ White:

Well, of course in the next 10 years, me turning 72 this week, that will be about the remainder of my life, probably. I worry that I will live to see everything that I've ever done come to nothing. The dolphins, turtles, seabirds, whales and stuff that I have temporarily managed to intervene and save, that I will see that they're doomed anyway by the fact that my species just won't stop business as usual, that we are on a path to Mordor and some of the very first casualties are going to be the case selected species in the oceans, in 95, 98% of earth living habitat, as the seas warm up, acidify, the currents slow, it stratifies, we get hydrogen sulfide bubbling up from methane bacteria in the bottom. That won't play out in my lifetime, which is drawing shorter, and it won't play out in the lifetime of your students, but it is something that we will lock in during the lifetimes of people listening to this today. That's what I most worry about, that despite any temporary successes, that it will all come to nothing. That's a big worry.

Nate Hagens:

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In contrast, what gives you hope? What are you most hopeful about in the next decade or so?

DJ White:

Well, one of your friends and advisors who was also an earlier preceded me in the Vancouver Greenpeace Organization was Rex Weyler, he's talking about a second ecology revolution. We don't need an environmental revolution right now. We don't need an environmental... I haven't called myself an environmentalist in a long time. We need to have an ecology based civilization that's energy literate, and that... All its charts don't stop at 2100, like the IPCC charts, "Well, this is what happens at 2100." 2100 has no significance. The things that are going to happen go out hundreds and hundreds of years, maybe thousands of years. Young people, why don't we restart a second ecology movement? It's not going to look much like activism looks now, and it's not going to look like being what an environmentalist is now. It's a matter of adopting a new mythology that is actually anchored to truth, because there are great mythologies that are anchored to truth and the sacredness of existence in this wonderful existence we're in. That can be done. It's like the early days of Greenpeace was a crazy time, but it was also an inspiring time because back then it was about people just balls to the wall going for it and creating not just new means, but new drawers in people's minds for concepts that they never would've thought of before, like a human being willing to have his head blown up by a harpoon to save an individual whale. Symbolism like that is missing now.

The people who have worked on my campaigns in the past as opposed to burning out, I'll run into them 20, 30, 40 years later and they'll say, "You know that thing that we did? That's the most important thing in my life. That's the thing I wouldn't trade for anything else. Even though I'm old now, if you ever ask again, you'll have me in a minute." That's the thing, doing these kind of interventions... Even if you don't do it for life, but only do it for a few years, if you do it and succeed, if you know you were part of that impossible thing, there's nothing like it. It's something that can be aspired to, and you don't always fail. Even the impossible things, you don't always fail at. If you actually commit to it as a difficult thing and not as an easy thing, then a lot of things can be fixed.

Now, do I have the answer to our current predicament? No. Predicaments don't have easy answers. We don't have problems now, we have a predicament, and it is the existential predicament of our lives and really of large, complex life on our planet. There will never be another. You asked about good news. Well, the good news is that if we get past all of these bottlenecks and the planet isn't totally screwed up yet, then any species that are still alive will never be able to get in this trouble again because there's never going to be another carbon pulse, and thus never this level of mischief by any species.

Nate Hagens:

Well, Don, thank you for your lifetime of work. Over the years, I've learned a lot of stuff from you. Thank you for spending your time today with this whirlwind overview of your thinking, your past, and your current projects. Do you have any other closing thoughts for our listeners and viewers?

DJ White:

Too many. Of the thousands of people that may listen to this, if there are two or three that are actually intrigued by this, drop me an email. I'm here, and investing in individuals and communicating with

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individuals is an important part of this. If there's one person who's heard this, who decides that they want to have an outsize impact on something, then it'll be well worth our time I think to do this today. Of the people listening to this, "Oh man, oh that guy, I heard about that guy." Well, okay, that's fine too. This stuff has predictive value and explanatory value and the myths don't. Neoclassical economics, there's this wacky series of rules of thumb that was created during a ridiculous period that will never be repeated during which we got free extra stuff every year, and those rules are going to be obviously nonsense in the future.

Nate Hagens:

Except humans are myth-making and myth-following creatures, so we may continue to follow myths and reject reality for a very long time as a culture.

DJ White:

Well, let's make some better myths.

Nate Hagens:

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