# The Great Simplification

[00:00:00] **Nora Bateson:** I remember sitting around tables in 1992 in Silicon Valley and wondering, do you think we're gonna be able to make money on the internet? What we weren't asking in that moment was how many decades till the billionaires to over the government that are running the internet? So we weren't asking the right questions.

[00:00:23] Then is there any chance that we could ask some of the right questions Now, if we could look back on the other forms of technology and say, oh my God, I wish we had asked this question. I wish we had gone slower. I wish we had been more careful.

[00:00:46] **Nate Hagens:** On today's reality Round Table episode, Nora Bateson and Zak Stein return to the podcast to discuss the impact of artificial intelligence on our cognitive health, on our ability to form healthy relationships and attachments. Zak Stein is the co-founder of the Civilization Research Institute, as well as the Consillience Project.

[00:01:12] Zak has a doctoral degree in human development and education from Harvard University and specializes in the relationship between technology and education. Nora Bateson is an award-winning filmmaker, research designer, writer and educator, as well as president of the International Bateson Institute and the founder of Warm Data Labs.

[00:01:34] In this. Quite freestyle episodes since they're my friends. Nora and Zak explore from two very different disciplines how artificial intelligence chatbots like chat, GPT, and other similar models, contribute to growing cognitive atrophy, as well as hijack the human ability to form intimate relationships.

# The Great Simplification

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[00:01:57] Taking advantage of the already lonely and isolated state many of us find ourselves in today. Together, we pull on the thread of what this means for larger societal risks to our world as we know it, and what it means to be human alive today. Lastly, before we begin, if you are enjoying this podcast, please consider subscribing to our substack newsletter, where we're gonna have a lot more written content and other information about The Great Simplification in the near future.

[00:02:29] You can find the link to subscribe in the show description. With that, please welcome Nora Bateson and Zak Stein. Nora Bateson. Zak Stein. Welcome both back to a multiple appearance on The Great Simplification.

[00:02:45] **Nora Bateson:** Thank you.

[00:02:46] **Nate Hagens:** Thank you, Nate. Good to see you both. these are my favorite conversations 'cause it's, I know your work, I know you as people, as humans, and, we just roll up our sleeves and talk about the important issues affecting, humanity, the biosphere and the future.

[00:03:04] And one of them, is. Artificial intelligence, a technology that is scaling increasing in complexity, and multiple impacts and effects on human behavior, our biology, our global infrastructure, and all that. I'm late to this, risk. I kind of poo-pooed it. A couple years ago, Zak, you were warning me about what was coming and everything that is unfolding is things you told me about.

[00:03:35] you know, 20 22, 20 23. I know you both recently had an event, and a conversation on the topic during a recent warm data lab session. but let's start here. In addition to all your other work, both of you, on improving the default future path, for our species, what inspired you or triggered you both to start discussing, researching, understanding the dangers surrounding humanity's relationship with ai?

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[00:04:05] **Nora Bateson:** I think what is inspiring me to wanna talk about this and think about it deeply and carefully, is basically an affection for life and, a really deep concern that, with the speed with which we're going into this new technology that there are. Vital, critical, relationships that are necessary for cognition, for, all, kinds of interdependent processes between not only human beings, but other organisms as well.

[00:04:50] and that these relationships that actually generate life can be broken, if we're not careful. And, so the, issue for me right away is, are we being careful? And, right now, I don't think so.

[00:05:11] **Zak Stein:** Similarly, I, it was a concern for intergenerational transmission. Meaning the continuation of this human form of life, which is the transmission of culture, the raising of young people for 20, 30 years.

[00:05:23] So I was looking at that and realizing that education has always been tinkered with by technologists. It's actually, they've always been trying to reinvent education through technological intervention. I've been looking at that for a very long time. Back to BF Skinner and others who were doing that, you know, before we were born and, long ago, the ambition of using a science of technology and control to get intergenerational transmission handled, not as an organic thing, but as a mechanical predictable thing.

[00:05:58] **Nora Bateson:** This

[00:05:59] **Zak Stein:** has been a deep concern of mine for a while. So I saw the AI tutoring systems coming and then when chat GPT was released in November, 2020, November, 2022. I was shocked 'cause I thought, oh, they're gonna do it. They're gonna build the perfect AI tutor. So I talked to Daniel Thorson about that.

[00:06:18] That's when I started wording you, I was like, dude, like, yeah, there's the Terminator scenarios and there's all of these other AI risk scenarios, which are horrifying. But this one's kind of like, it's easy to sleep on this issue because it, it's seems like maybe it's a good idea to have our kids tutored by machines.

[00:06:33] Like, and perhaps, there are a whole bunch of ways that AI could accelerate, you know, the, domain of education and specifically, so it's been flooding in there. Like, one of the most rapidly adopted adopting populations was college kids and, high school kids.

[00:06:51] **Nate Hagens:** You know, I we're, gonna talk a lot, about a lot of things, today, and I had always thought that AI was gonna be, energy constraints and, geopolitics and drones and, taking energy away from people using it and directing it towards the servers.

[00:07:14] But increasingly, I see the risk to our brains, to our humanity, to our cognitive security and development. And I witnessed it in my own life, with people around me. But maybe in your own words, just briefly before we get into all the details, like what's your biggest concern, about AI in the future?

[00:07:36] **Zak Stein:** For me, it's the re as I was saying, the replacement of teachers. The replacement of socialization as a human to human enterprise. This is. A deep, concern. So there's, almost like a tipping point where you're able to simulate relationships so well that you start to have the majority of time young people spend in relationships, quote unquote being with machines rather than with humans.

[00:08:03] That is a very historically unprecedented situation, psychologically, culturally. And so that is a deep concern for me. I don't know how to express the concern 'cause it's such an abstract concern. 'cause it seems like that could never happen. Right? It's like a kids will always talk to other kids will always talk to their

parents, but if you look honestly, it just has social media use, which is a less advanced technology.

[00:08:27] It's already happening that kids are not talking to kids and kids are not talking to parents as much as they used to. You used to have no choice but to just hang out with your parents and brother and sister maybe. So that's clear. This is not even, this is such a different approach to. To the disruption of the nervous system, as you're saying, biotechnology than social media.

[00:08:45] Social media is like in almost again, BF Skinner behaviorist type way, inducing you into getting social rewards from other people. This thing is inducing you to getting simulated social rewards from a machine. Right? So it's hacking the attachment system rather than hacking the attentional system, which means you form a relationship with it that becomes more important than relationships you already have.

[00:09:10] If we cross a tipping point where the majority of kids are forming a relationships with machines that are more important than the relationships that have with their parents slash peers, we're in a catastrophe and it'll be hard to recognize that we're there for a little while.

[00:09:23] **Nate Hagens:** So social media was, designed to grab our attention, and AI is actually not attention, but attachment.

[00:09:34] It's disrupting our attachment. Yes. Wow. And Nora, I, imagine your concerns rhyme with that, but what is your biggest worry about ai?

[00:09:43] **Nora Bateson:** well, I think that it stems back to, sort of the history that, AI is landing in. So I think it would be a mistake to think that this thing is just arriving. it's actually part of a, long continuum of technologies that have arrived within a, spirit of industrial progress.

[00:10:13] And with that spirit and that logic, there is, a justification for breaking very important relationships that make life that's been going on for a long time because that was how you could essentially generate control. so for me, the, big concern is that this history is, in a sort of peak of its pros of its continuation and the various forms of physiological understanding that we actually, we don't really have enough research existing right now that has been done through the multiplicity of complex forms of cognitive process.

[00:11:06] It's, not just one type of research that has to take place here. we're thinking about the microbiome, we're looking at the way, visual and tactile and intellectual, cultural, relational, verbal. All these different forms of sensemaking are, combining to create an impression and understanding of what it means to be in, in communication and interaction with each other and with the world around us.

[00:11:41] So this process of being in communication is at the core of life, the absolute core. So if you think, you know, it's, nice to say it's all interrelationships and we're all interconnected and it's all interdependent, but. If you really look at, you know what it is that creates interrelational life?

[00:12:07] It's communication and communication between organisms, communication between cells, communication between the, bacteria that are in the soap

[00:12:19] **Nate Hagens:** is communication with a machine, not, allowed. Then

[00:12:23] **Nora Bateson:** it's, but it's disruptive because it's actually a simulation and. The, very sort of meta strangeness of simulating a machine that's simulating communication or emulating the machine as it's emulating what it has been taught about what communication can be.

[00:12:45] And so in this, there's a lot of information missing. I mean, that would be the information I would call warm data, but, basically there's a lot missing. There's the, rhythm of breath, there's, yeah,

[00:12:58] **Zak Stein:** exactly. So this is exactly the point about, think about the evol, the evolved environment in which humans first accomplished intergenerational transmission.

[00:13:07] Right. So this would be like long ago when we realized that our culture was complex enough that we had to put aside time to show the kids how to use the tools, how to find the water, how to make the fire, how to do these things. If you think about the embeddedness of conversation in that context, if you think about all of the things that are occurring, and then you think about what happens if you move into today, where many of our social interactions are like this on a screen, so I can't smell you, Nate.

[00:13:37] Like, we're not in the same, thank God, but we're not in the same, we're not in, we're not in the same physical container. So it's not even the same time of day for us. so already that's a step down. Then if we're on the phone, I can't even see you right then if we're texting, I'm just getting text, right?

[00:13:54] Then if I'm talking to a machine, I'm just texting and already not even with a human, right? So then think about mirror neurons. One of the reasons I wanna see you is 'cause I, my mirror literally. 'cause we're neither of us, none of us are psychopaths. Our mirror neurons will be really active in this conversation and it helps to see each other.

[00:14:12] Right? So there's that sense of like, oh, I'm modeling your interior instinctively without trying to, right. like I know you have an upset stomach 'cause you ate some sardines. So like, I'm like holding you a little bit actually in my awareness because of that. So that, so old, some 20-year-old sardines.

[00:14:28] Yeah. Keep going. So you see my point. So like, this is appropriate mirror neuron, near mirror neuron activity. 'cause you're have fewer people if I'm texting with a bot and actually starting to activate weirdly enough mirror neurons because the simulation is powerful, right? So the bot says, I love you. And then I get a hit in my brain of like, mirror neuron activity because I'm holding that.

[00:14:50] There's a, there That's loving me, right? There's not a, there that's loving you. Right? So then you're in a situation of having delusively induced mirror neuron activity. Right. Which is a horrible thing to have a technology that does to people, first of all. But it's doing that at scale and it's so many steps as I reconstructed far away from the evolved environment where you were sitting with someone who you knew who you could smell in the same time and space using language where your mirror and activity is completely appropriate.

[00:15:20] Like mom's mad, you know, like she is like, and it's good that you know that. so this is to make socialization mostly that mostly interacting with machines based on delusional mirror neuron activity is super freaky to me.

[00:15:36] **Nora Bateson:** And just think about all of the communication that's taking place non-verbally.

[00:15:43] that's, in the, pace of the blinking of an eye or that your, pheromones are picking up when you're with somebody around whether or not they're telling the truth or are they nervous when they're talking to you, or are, you know, there's so much information that is there in our analog, time together that is disrupted by the technologies as they stand.

[00:16:12] like, like Zak was saying, zoom calls and telephone calls and text messages. But then when it comes to, the artificial intelligence and the LLMs and where that's going, which is another whole dimension of this conversation, what.

What I think we're seeing is something that's happening too fast for all of these different forms of cognition to catch up with.

[00:16:43] And so instead of generating this, these multiple processes, they're just getting hijacked. And then unfortunately we have the experience of being in, you know, the AI was nice to me. We have the experience of, you know, having an interaction where we have respect for the machine 'cause it's giving us information and respect is something we recognize.

[00:17:08] So our, systems are glomming on to various. detached pieces of possible communication instead of being in, in the kind of communication that our entire system, is built to be within. I'm not a professional of, technology. AI is not my thing. but life is, my thing. So I'm coming to this question, not to, derail, the, studies or the, engineering, but to, raise a cautionary flag about what could be disrupted within the living process.

[00:17:57] **Nate Hagens:** There's a lot of different ways. I, could go here because I, really, Suddenly see this as one of the main risks to our society. it, precedes all the other things that I normally talk about on this channel because if we have screwed up attachment and are outsourcing our cognition and wisdom to the machine, and losing, bleeding out our creativity and our humanity a little at a time, as we, defer more and more to the large language models, how the hell are we gonna solve biodiversity laws, climate change, energy depletion, and all the things.

[00:18:42] But before we get too far, I, want to go back to the, history and the origins, of this. Just to be clear, because Zak, you have spent quite a lot of time researching this. So you have pointed out that we need to understand how and why artificial technologies came about. So maybe right now you could just briefly cover the history of AI philosophy and development, just, so that we get on the same landing page.

[00:19:10] **Zak Stein:** Again, I'm an educator who was brought into the technical conversations here by necessity. I'm not in the field of ai, but I am in the field of the history of education as it relates to technology and looking way, way, back before there were schools at the interface of technology and how we domesticate the human, right.

[00:19:29] So just the other day there was some, I wish I remember the guy's name, but he was a DJ and just like yesterday, and he did a, show at the Great Pyramids, about quantum computing. This was the show. So it was this thing where he was making a reference to the idea that how would you build the pyramids?

[00:19:48] I mean, he wasn't saying this, but technology that's very hard to understand. That's very inscrutable. That allows for a tremendous amount of planning and calculation. So long, ago, we started to make technologies that scaffolded our ability to do abstraction, that scaffolded our ability to do intelligence and to work at scale, to control things.

[00:20:11] So if you look at ancient Mesopotamian, river Valleys and you start to see the, cities that start to self aggregate there, they're based on computation, which means calculation, which means documentation, taxation. This is where you start to get the thing that looks like a, calculator that wants to self replicate begins actually long, long ago.

[00:20:33] So you can look back at the way you have a kind of like a, there's a sociopolitical history of quantitative objectivity and calculation, right. And technology that's coupled to that. so the, ability to know how much roughly taxes you're gonna collect to be able to then plan for next year is not something that indigenous people did.

[00:20:56] It's something that is done when you're building a city state and it acquires a class of people that have to be put aside to do calculations. So, right. Charles Sanders purse, the founder of American Pragmatism, a hero at mine, he hired teams of calculators. Gymnasium's full of people doing calculations on behalf of the US Geodesic Society, which is trying to figure out how to build the railroads on the east coast.

[00:21:20] Right? They just had to do estimating the size of mountains in terms of pendulum swings. It's a complicated thing, but the point I'm making here is that we were building computers before they were computers, and we made them out of people. this is Mumford's point about the mega machine beginning in his example is ancient Egypt.

[00:21:38] He is like papyrus, papyrus and runners and calculations and measurements. And this thing starts to go and it's, a distributed system, but it's also centralized it's calculations, but also people doing stuff. and then eventually we sublimated that made the, made it much smaller. We start to get actual computers, things we would recognize as computers, which go way back farther than most people think to basically the Manhattan Project and.

[00:22:07] Immediately you have the ambition with a Turing test, it's the same generation. Immediately you have the ambition to make a machine that can trick you into thinking it's a person immediately that like the, one of the main narratives in AI is can you beat the Turing test?

[00:22:26] **Nate Hagens:** Which, another person might define that as lying.

[00:22:32] **Zak Stein:** Yeah, you might, you could define it as, can you make a computer? 'cause the turning test isn't, can you make a sentient computer that is a person, that's not the turning test. The test is, can you make a computer that

ISN indistinguishable from that? That's the test. Or at least in text based communication can do that.

[00:22:48] Now there's another one that I think one of the founders of Apple came up with was, can a robot go into a house that does not know and make a cup of coffee? That's another one of these ones where they're like, robotics moves towards that as a vector. Whereas the Turing test is just text-based communication.

[00:23:03] Turing test is actually super low, right? But you could have tests for deep anthropomorphization and a whole bunch of other competencies where the whole point is to trick basically the human into seeing a technology that has replicated itself and all of the archetypes of AI emerge from that. It's, and AI was doing so much stuff for us before November, 2022.

[00:23:26] It was already curating tech doc. It was already curating Facebook. It was already self-driving, a lot of cars. It was already like on your thermostat in your house and it was doing optimizing supply chains and it was put into a whole bunch of military stuff. So AI was everywhere. It was called machine learning, basically when it started to talk to us, when it started to do the chat GPT thing.

[00:23:47] Again, not that long ago. that's when we started saying ai, there's an AI thing happening. And of course in the labs who were building these technologies, open ai, most specifically were just thrilled at the idea that they could associate AI itself with a particular narrow instantiation, which is these large language based models that do the anthropomorphic chat thing.

[00:24:10] but there's so much else going on in AI aside from that, which basically we're not talking about because chatbots have just flooded into the culture for a whole bunch of reasons. But again, they're based on a trajectory of technology

that has been can we make something that tricks you into thinking that it's a human?

[00:24:27] That's, it's a strange design ambition.

[00:24:29] **Nora Bateson:** It really is. It, you know, it, reminds me when I was a kid, My dad used to say this thing. So, he would say, be very, careful of, using words from Newtonian physics to describe life. Okay. So in, in the sense that you might talk about the family as being, like a machine that's operational or not operational, and to be very, careful using that language that should be in an engineering space toward life Now.

[00:25:11] In his example, he would say, you know, it's, okay if you get in the car and you pat your car on the dashboard and you say, oh, come on. Oh girl, let's make it up the hill today. But don't go to your family and think you're gonna replace a family member, like you're gonna replace a distributor cap.

[00:25:30] And as I'm listening to you, Zak, what is coming to mind here is that the thing happened in the opposite way that unfortunately, that cautionary tale of don't anthropomorphize or, actually don't, Newtonian i's life, but it's actually reversed on itself. So somehow this,

[00:25:55] **Zak Stein:** we've done both.

[00:25:56] We've done both. We've like, there's a, in my second book, I've got a whole table where I compare basically the mind as a computer metaphor. To the mind as an organism or ecosystem metaphor. And if you, think of the mind as a computer, you can do a lot of thinking that way. Like cognitive science is largely based on the metaphor of mind as computer.

[00:26:17] But if you think of mind as an ecosystem or mind as an organism, you can do a lot more. And actually you're better representing how life actually is. This is the lesson of the Neo Ians and Kurt Fisher. I could talk a whole podcast us on that. But the mind as a computer metaphor is dominant. The mind as a computer metaphor has led people to say that the LLMs that are being made by these labs, like the one behind chat GBT, that it works like your brain.

[00:26:43] **Nora Bateson:** But it doesn't. So,

[00:26:45] **Zak Stein:** but it doesn't like in, if you were to list out the ways it works, like your brain, they would be very abstract if you were to, so if you list out similarities between my brain and A GBU cluster, there's some, if you were to list out dissimilarities between my brain and A GBU cluster, there's a lot more, it's fast.

[00:27:00] Like within, reason. You start to see, for example, my brain does more than a GPU cluster with significantly less electricity.

[00:27:08] **Nora Bateson:** I remember recently people, you know, wanting desperately to, you know, noticing that we are in dire need of new epistemological ways of perceiving and being in the world and seeing the interdependency of life and saying things like, we need to download a new mindset.

[00:27:26] And you can see in the language how this was creeping in. And, now here we are and we are downloading a new mindset.

[00:27:36] **Zak Stein:** Well we just don't have enough bandwidth to do anything else.

[00:27:40] **Nora Bateson:** Well, and there you have it,

[00:27:42] **Zak Stein:** right? This is, another metaphor, right? So there, there are dominant, and then the idea of IQ is very useful here, right?

[00:27:48] So IQ is part of the history of technology. Actually, I think it's the history of psychology, but it's actually the history of standardized testing at scale. And one of the things they were doing was making the minus computer metaphor, where you have a single number that represents the compute power basically.

[00:28:03] And then you have a single number that represents the intelligent quotient. Right. And the idea that notion that there are like very IOL single measures on which you can judge something like intelligence drives the whole notion that artificial intelligence is something actually like attractable problem that you could do, which is naive.

[00:28:22] When you start to realize that even the things we talk about, intel about intelligence, if we start to just say, do we have a definition of intelligence that is shared? Nope. An IQ test has zero warm data involved. Zero. Yeah, zero. Keep going Zak. Well, so when I think of intelligence, I always think of this one study by Antonio Demasio, who's a neuroscientist, who's a woman who had a calcified amygdala.

[00:28:46] So what that meant was she, her amygdala didn't work, so that meant her emotional life was very odd. She had been brilliant, if I'm recalling it correctly. She was at least a normal person with a high iq. she was able to do math in a whole bunch of stuff, so she was kind of intelligent, but she was in awe, other respects, completely an idiot.

[00:29:05] Because of the inability of her mind to emotionally modulate with any sense of what was going on. 'cause of rec, calcified, she was disabled basically. She couldn't go on the bus, she couldn't play poker game with you. She couldn't

play chess. She could do a bunch of things that were normal. And so the point is that her cerebral cortex was fine.

[00:29:24] Her mammalian limbic system had been through a stroke calcified, and it made her look stupid. And so the, there's a whole bunch of things in there. And then similarly with Undersocialized kids who otherwise have normal IQs. So there's a limitation, again, a narrow metric optimization here as it's sometimes called where, you define something.

[00:29:48] In a useful way, like intelligence, like you could measure it, then you euphemistically kind of like use that word in a way where it's not covering everything it used to refer to.

[00:29:57] **Nate Hagens:** So, so we, on this program I often talk about narrow boundary perspective and a wide boundary perspective, which is an ecological systems perspective.

[00:30:07] It sounds like you're saying that artificial intelligence is extremely narrow boundary intelligence. Yeah. But

[00:30:14] **Zak Stein:** it's very, powerful. Therefore it's extremely, powerful. It's not, what I'm not saying is that AI is a weak technology. what I'm saying is that we're misunderstanding it.

[00:30:27] 'cause we, think it's doing something like we're doing, we think intelligence. We think what Nora has, what you have, what I have that we share in common. When we look at that thing and we think intelligence is not doing anything like what we do. Right. and that, that's, so, it's not that it's not power, it's massively powerful and we don't really understand it.

[00:30:45] **Nora Bateson:** As I'm listening to you, I'm just sort of astounded again and again at why is it so compelling? You know, you, the three of us could be sitting in a meadow right now, and in the meadow there would be, I mean, talk about computation and response and communication. Infinite organisms that are creating infinite different sorts of responses to each other, but it would be more tempting to actually check your phone.

[00:31:16] **Nate Hagens:** But the three of us have each other and other friends and meadows and not everyone else has access to those things. So the temptation is 24 7 there and cheap and socially, advocated at the least at the moment.

[00:31:31] **Nora Bateson:** But even if we did have meadows. It's hard to not look at your phone. I mean, that's what I'm getting at here is that there is this way.

[00:31:40] I mean, I tell this story sometimes of, you know, remember, the landline and when the phone would ring and all the conversation in the room would stop. And the, you'd be like, the phone's ringing, and then someone answers the phone, and then you kind of have to say to the room, oh, it's so and so, they're calling, but, and if it's long distance, it's like it's long distance and everybody stops and is totally silent.

[00:32:07] There's just something about. The intrusion of technology into this more ecological, you know, if you wanna call it wide boundaried processes, that is, is some somehow irresistibly, invasive, it's, just a curiosity because as we're looking at this, I think it's important to recognize that it's not just that people have to, it's not like people are strapped to their screens and they're being made to swallow this.

[00:32:42] They're choosing it.

[00:32:43] **Nate Hagens:** It's, an intense supernormal stimuli. It gives us the neurotransmitter cues on steroids that our successful ancestors had and our wisdom, which is, you know, this deep insight that the three of us and our colleagues are coming to understand about this risk that doesn't shout as loudly in our brains as the supernormal stimuli.

[00:33:07] So your, landline example, fast forward to the internet, fast forward to social media, it's an explosion of that. And now AI is that on cocaine and steroids and everything else.

[00:33:21] **Nora Bateson:** Cocaine's a good metaphor for it actually. And I mean, each technology that has arrived in terms of, you know, television and then the internet and each one landed, in, a context.

[00:33:39] That received it. Right. So, and, part of the promise each time is that, oh, this technology is gonna bring us together. This technology is gonna allow us to, you know, really understand and, take part in all the cultures of the world. This is gonna be some sort of, you know, emancipation and possibility for everyone to get an education, for everyone to do research.

[00:34:07] and then, I mean, it's, like I was saying in our, talk in Asheville, I remember sitting around tables in the, in 1992 in the Silicon Valley, which was not Silicon Valley yet, and sitting with venture capitalists and people sitting around and wondering. Do you think we're gonna be able to make money on the internet?

[00:34:33] And, is anyone gonna actually put their credit card in there? No way. Said the experts it. No chance are you foolish? What kind of impractical insanity is that? And then, will people ever buy things they didn't touch? Not a chance. Why would they do that? They did that. And what we weren't asking in that moment was, you know, probably the more relevant question, which is how many decades till the billionaires take over the government that are running the internet?

[00:35:06] So it, we weren't asking the right questions then is there any chance that we could ask some of the right questions Now if we could look back on the other forms of technology and say, oh my God, I wish, we had asked. This question, I wish we had gone slower. I wish we had been more careful.

[00:35:30] **Nate Hagens:** When we say we, I used to say that a lot.

[00:35:33] Like it's this aggregation of all the humans that comprise of society. But I've, since Zak introduced me to two of his colleagues and I had a podcast, a month ago on psychopathy, I realized that there's a real, bifurcation of the, median and the mean of, humanity. And a lot of people listening to this program are like, oh my God, AI is like, why?

[00:36:04] Why do we want to go that way? And others are like, oh my God, it sounds so amazing. And I just wonder, like, I hadn't really thought about this, Zak, but how does this. Merge or overlap or sync with the concept of dark triad, if at all. And is there any evidence on people that actively use AI regularly have more cluster B or dark triad traits or do you have any thoughts on that?

[00:36:32] **Zak Stein:** I mean, I would

[00:36:32] **Nate Hagens:** say

[00:36:33] **Zak Stein:** first off that it's on face value. If you haven't looked into it, it wouldn't be crazy to think that it was cool. Like it's actually on, for, on face value if you haven't looked into it. It's not crazy to think that technology itself is in net benefit to humanity. Right. So that's the, so we've been just been running a lot of kind of like anti-technology stuff here, but you, but the default assumption and the main kind of advertisement education given to society is that technology has been a growth to goodness phenomenon.

[00:37:04] That technology has lifted us out of savagery and into places where we have Novocaine and I totally want Novocaine in particular. This is a, I think this is a example I got from Schmuck Berger where it's like, well, how far will you push your techno PE pessimism? So I don't wanna push it that far. And I actually think that there's something about technology that's extremely important for humans to get right.

[00:37:27] 'cause we clearly can't not make technology.

[00:37:30] **Nate Hagens:** Lemme just pause you right there with a big old asterisk that technology has been invisibly supported by fossil sunlight, energy and materials and stable ecosystems from the Holocene. Totally. So just to get that line in there, it's not just technology, so keep going.

[00:37:46] **Zak Stein:** Now you're already looking at it more carefully as, as soon as you start to poke through the kind of early part of the textbook or the, advertisements you're seeing on TV or whatever it would be, or just how cool it is in your hand. As soon as you start to look through at what it actually is, then you start to be pushed into this much more critical conversation about technology.

[00:38:04] We just jumped right into the critical conversation, because I think it's important. That said, it is definitely the case. If you look back at any major huge technological innovation that's being powered by basically a small number of people who are aggregating a ton of resources to themselves. Right.

[00:38:23] So we have to ask the question of like, at what point has that gone well and not been done by somebody who's primarily dark triad? Right. And so that's the first thing I would notice, just the pattern of it, irrespective of it being ai, the pattern of it as an industrial society type phenomenon. Could, you

[00:38:41] **Nate Hagens:** give just a, one or two simple historical examples?

[00:38:45] **Zak Stein:** the railroad, electricity. These are things that are net beneficial, but were also very hard to eventually come in and have, Theodore Roosevelt had to break up a bunch of trusts because basically you had this idea that we'd invented the new infrastructure, the railroad, we have the right to run the next economy, which is what the railroad kind of like.

[00:39:05] For lack of a better phrase, mafia was basically doing, when they were controlling the railroad, they were trying to railroad us into that. They were, that's where the word comes from. That's literally where the word comes from because they were able to say, Hey, you make money shipping stuff. Guess who runs the whole shipping stuff thing?

[00:39:19] we do. And so we'll collaborate with you to fix prices and set things and all these things. and Teddy Roosevelt came in and said, no, boom. Stop the antitrust legislation. Right. One of the main things that would be awesome in the advanced technology space would be literally just antitrust regulation.

[00:39:34] It's one of the things that has occurred in Europe. They've executed that with places like Google. I think so. So that's just me saying, yeah, as a general pattern. It looks bad. Then, when you look at it specifically, what does AI do? And you look at some of the research that's been done in like college populations and other populations, and you do see, hold on

[00:39:53] **Nate Hagens:** just a second.

[00:39:54] Yeah. And wait for that truck to

[00:39:55] **Zak Stein:** pass. Yeah. This, I knew this truck was coming. You did. Well, I put my garbage out this morning for that truck to arrive. Ah, that would be, and again, I'm super happy. Like that's an example of some technology that I'm happy to have come reliably. Is the okay, is the trip.

[00:40:11] But now where do they take it? I don't wanna know. I don't wanna know. keep going. But, Or Nora, please

[00:40:18] **Nate Hagens:** jump in if you'd like.

[00:40:18] **Nora Bateson:** Well, I, just think that what's happening in the conversation is definitely worth keeping because what we're looking at is where are we drawing our lines around what we're talking about, and are we drawing it around the technology and the usefulness of the technology?

[00:40:34] Are we drawing it around what's happening to the culture and the way that these technologies actually create and generate new cultural habits, and intergenerational habits? Are we talking about the ecosystem and the, natural world that it's derived from and sucking research? It's, vampire, the natural world.

[00:40:57] so where are we drawing the lines of what we're talking about? Is it, cognitive? Is it intergenerational? Is it biological? Is it economic? Is it psychological? Is it like, where is it? And the, issue is it's everywhere. And so, you know, it's, I'm with Zak. There's plenty of technology that I'm very grateful for and, so I, can't really go to the place of being anti-technology.

[00:41:28] On the other hand, there is definitely a history of industrialism that was able to produce things by actually removing the ability to perceive the relationships that they were in. So you can, if you can, objectify a person, a plant, a chemical, a mineral, a, an idea, then once objectified, once you've cut those relational processes out of your perspective, then it's, not very difficult to justify the exploitation of it.

[00:42:15] And so it, the second we get into these industrial models, we get into the question of how do we optimize for productivity? How do we make it more efficient to create more of the thing faster and make more money cheaper, which

is basically just extremely heightened exploitation. And the way that you do that is with reductionism, the way that you do that is you cut what you're talking about, what you're thinking about, what you're making from the relationships it exists within.

[00:42:49] And so it's a, beautiful thing to be having this conversation and thinking, wait a minute, which part of AI are we talking about? Because what we're doing is pulling the threads of where the tendency is to have a reductionist conversation about it.

[00:43:06] **Nate Hagens:** Okay. Thank you for that. In the evolution of my role as a podcast host, among other things, and in the evolution of our relationship, Nora, I think I've become, maybe you've had an influence.

[00:43:25] I've become less reductionist because what you just said made total sense to me, and I think five years ago, or seven years ago when we met, that would've seemed, airy fairy to me. And I, I. I see it. I see it. So thank you for, being patient with me. and as far as this conversation, there are no lines, which is why I love to have the two of you on the show.

[00:43:48] There are no lines because we can talk about everything. So I want to get back to Zak. Thank you for your answer about the creators of technology historically, steer towards power, psychopathy, et cetera. But that wasn't where I was coming from because in researching this, I came across a paper and I'm gonna, read a, quote from it.

[00:44:14] The most consistent predictors of AI use across studies were aversive personality traits, machi, narcissism, psychopathy. So. That's talking about the people who are using ai, not the people that develop it. Do you have anything to say on that?

[00:44:30] **Zak Stein:** Well, that, I mentioned that in passing, it's a small study, but it's super interesting and promising in terms of if you look at a student population of about 600 kids and you just look at their web browsing histories basically is what this was.

[00:44:41] Which ones You use AI a lot and for what? And if you're in college, you are using a lot I a lot to help you with your homework. Right. And basically if you look at the studies on this done by the AI labs that just have redefined cheating basically. And so my thought here is that if you're looking specifically at student populations, in particular, who use heavy if not for therapy and friendship would be using to basically cheat.

[00:45:08] To get answers in a way so that would predict psychopathy and narcissism, as a motivator.

[00:45:14] **Nate Hagens:** I'm really naive on this topic. I probably know more than the average person, but compared to you two, I don't know a lot, but is that what young people use? Oh my god. AI for therapy, companionship and cheating

[00:45:28] **Zak Stein:** a hundred.

[00:45:28] I mean, that's a very, that's obviously not how some of the people who are making these products would advertise the way it's used.

[00:45:36] **Nate Hagens:** But as a educational psychologist, that's your assessment

[00:45:38] **Zak Stein:** as educational psychologist. You should have just a couple professors on to talk about their relationship in the past year or two with the quality of student writing.

[00:45:48] And it's a very deep issue, that is there a future for writing? So for example, it was said because of the calculator, there's not a future for being able to do, like being able to multiply two, three digit numbers in your head. Right. I bet none of us can do that. I mean, maybe I

[00:46:04] **Nate Hagens:** actually

[00:46:05] **Zak Stein:** could do that.

[00:46:06] You could do that. So, but because of calculators, it was like, why would you spend a bunch of time training yourself to do that when you can do it in a calculator? So similarly with writing, some representatives of some of the labs have gone to places like Harvard and basically been like, come on, it's like a calculator.

[00:46:22] There's no, future for writing. The human mind is meant to do other things. Right. So, so I would say there's a big push, and again, from their perspective, from the perspective of the lab is not cheating, it's future. Right? It's like. We used to transcribe books by hand and then we made a printing press.

[00:46:39] and if you use the printing press, you're just cheating. 'cause really a book is this thing that's transcribed by hand, right? That, would, if I'm being flippantly, like from the perspectives of the people who are promoting this as a good thing, from the perspective of like, professors who've looked at student work for years, the cognitive atrophy is, clear.

[00:46:55] **Nate Hagens:** I want to get into that because since you were last on the show, I've had personal experience b both myself and, observing friends using AI and, the, term cognitive atrophy. I want you to, Unpack that. It's, a new concept to me. and I, want to share some personal anecdotes, but maybe you could start by just reminding our viewers what that is, cognitive atrophy and Yeah.

[00:47:29] What other effects frequent AI use can have on a human brain, as well as the, learning and cognitive abilities of a young human

[00:47:39] **Zak Stein:** right. Yes. Cognitive atrophy would be like muscle atrophy, but for core cognitive functions. So I like the metaphor of, you know, if you're, like, if you want to be able to lift heavier things, so you wanna be able to lift heavier things, you can use technology to help you do that.

[00:47:55] If you go to the gym and you take like creatine and other like supplements that will help you recover and build muscle, and you lift a bunch of heavier weights, you'll lift heavier weights 'cause you're gaining muscle, but through technological enhancement, right? Or you could build an exoskeleton. The exoskeleton will allow you to lift heavier and heavier weights while your muscles actually get weaker.

[00:48:17] You see, so this is the risk here is that you are in both scenarios. You know, six weeks from now you are lifting heavier weights. But in one scenario, if you take the technology away, the underlying organism has atrophied as a result of the interface with the technology. So we all know this from our GPS We all know this from over-relying in space, in the, on the GPS where, and literally from a neuroscientific perspective, it's not like, oh, you quote, forgot how to do that. You literally, your brain has fundamentally changed. It's not fucking there. Like you would have to rebuild the whole mapping and orienteering and compass thing.

[00:48:53] It would take a while if you had done it before. If you had never done it, then you don't have cognitive atrophy, then you just never built the skill. So that's, so the young kid thing is different. So I'm a writer where I had to over rely on chat GPTI would lose my skill as a writer, cognitive atrophy if I never learned to write.

[00:49:11] That I just never got a writing brain. Not having a writing brain is something that we haven't had for a very long time because literacy was so

pressed because the writing and reading brain was so important. If we move past the chat interface into what's coming, which is the anthropomorphic face-to-face, verbal based, then we've just used technology to like go back to a form of culture.

[00:49:37] that was primarily oral, where there was no reading, there was no writing, there was only basically verbal. so we're, touring with a very fundamental. Fundamental, deep-seated neurological aspects of what has been to be civilized. Like, if I can use that term, like part of what it has meant to have societies that promote the rule of law and allow for democracy and allow for the protection of the most vulnerable has been the ability to read and write.

[00:50:05] now there have been societies very long time ago who aspired to those things, but they also had complex systems of reading and writing. Not like we did, not with the printing press, but they had them. So I think that the, moving out of the ability to, for example, know a human wrote one of the moral or legal codes that we are following, like as opposed to.

[00:50:32] Knowing that a machine wrote, so like we're talking about chatbots, but there's the replacement of authorship, there's the replacement of musicianship, there's the replacement of filmmaking, there's the replacement of lawyers with AI lawyers and AI judges. There's the replacement of policymaking and legal legislation creation at the level of the Senate.

[00:50:50] already in Albania, there is on their sitting government, in ai, it's probably just like a, you know, like an advertisement to bring, attention to the country of Albania. But they have literally sitting on their parliament a, an ai. So the idea that we have AI written legislation, which is so complex, only other ais can understand it, and that we have to follow laws that we actually cannot understand.

[00:51:16] Now, they're we're told that it makes sense 'cause the AI did the calculus of the total ecological and commodity supply chain thing, and therefore gives us this law, and it, becomes completely inscrutable to us and we have to follow it. That is already in the process of occurring. And the degree that which, to the degree to which we trust our chatbots and love our chatbots is the degree to which when we get the inscrutable legal and military dictates from on high, that we will not question 'em because we've been trained basically already to, to trust the ai, and be and love the ai.

[00:51:51] I,

[00:51:52] **Nate Hagens:** I don't have any more questions. No, I'm kidding. I, actually had a thought that normally I wouldn't interject, but because my friend Nora is on the show, while you were speaking. Your garbage truck, went by and it made a gurgling sound, and my prefrontal cortex knew because you said it was your garbage truck, but my mammalian brain thought it sounded a lot like a jaguar or a leopard or something.

[00:52:24] And there was a little bit of tension in my body because it didn't sound like a garbage truck. It sounded like a, a big cat. so isn't it amazing that we're having this conversation about AI on Riverside in remote in three different places of the world and still my, you know, reptilian mammalian system can be triggered just by a sound, like we are so human still trying to discuss this incredibly powerful, dangerous technology that we in aggregate invented.

[00:52:59] It's just a profound moment. 2025. Nora, please jump in.

[00:53:06] **Nora Bateson:** I, think what you're bringing up here makes me wanna talk about being a creature. We are creatures. We, you know, we stink and we breathe and we, have heartbeats and we, you know, we, nuzzle and we sleep and

we have small hairs that pick up different signals and we have these incredible microbiomes that are trillions of organisms that live in and on and all over us.

[00:53:42] and so this is part of being alive, is that we are living not as Nate and Zak and Nora, these isolated individuals. We are, we have our individuality for sure, but we are among. Life and the living organisms, we are not separated from it. and this, incredible ongoing responsiveness that is life is an eternal process of life, making life, and it would be a really bad bargain to swap it out for immortality.

[00:54:28] **Nate Hagens:** There's that, but, there's also, we are part of the web of life surrounded by all the other humans and all the other creatures. And what we're doing is day by day we're swapping out some of the other players in our milieu with machines. And so we're, losing the, web as an individual within the web.

[00:54:51] Is that right Nora?

[00:54:52] **Nora Bateson:** I think it's completely natural to have done this. We want it to be comfortable, you know, so we built houses and we got separated from the seasons, and we made electricity and we got separated from the rhythm of day and night. And we, you know, we did what we could to make medicine to, to get ourselves to go faster, to make money, to buy comfort, and all the comfort that we bought and all the technology that we made has been an incredible, incredible feat.

[00:55:23] But it has also separated us from ways of knowing and being right. So this, atrophying cognition has been going on for a long time. And we do not, I mean, I know that I do not, I can say speak for myself. I do not have the capability to perceive the stars, the seasons, the, planting, the, I don't, I just can't perceive it in the way that maybe my ancestors could.

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[00:55:57] So bringing this technology in is, I think, you know, I had likened it a little bit to watching my corgis, look in the mirror and they come up to the mirror and they see a doggie and they get kind of, you know, irritated and upset because they can't figure out how to be in relationship with this doggy because it doesn't sniff its butt.

[00:56:25] It doesn't turn around. And so it's not doing the things, it's, getting the signal, enough signal that it's a, doggy, but not enough signal. Of how to be in relationship. And so it gets agitated and confused and, I think that's kind of where we are, that we are looking at ourselves, a very reductionist version of ourselves in the mirror of this technology and reading into it all of our own experience, our own loves and losses, our own history of climbing trees and learning to read.

[00:57:07] And, you know, all of these things that we may have done, we're reading into these flat versions of ourselves. So, you know, you think, oh, nobody understands me. Like my AI companion? No, because it's using your language and you see yourself in your language. your grammatical patterns, your, the words you use, it's you,

[00:57:34] **Nate Hagens:** it's pure confirmation bias.

[00:57:37] **Nora Bateson:** It's narcissist.

[00:57:38] **Nate Hagens:** So, Zak, the, this cognitive atrophy, is really something that I, am worried about. I see three bifurcations happening in the United States. one is people that have some money or a lot of money and people that don't have access to anything like I think poverty is, in the next five years going to skyrocket.

[00:58:05] Another is those that use AI actively and those that don't. and of course then that has its own subset of directly using AI or indirectly because it's

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everywhere. And then the third is those that generally have. Active mental health, that there are healthy adjusted humans and those that are not.

[00:58:29] And I think AI is going to accelerate the second of each of those three categories. wondering what you both think of that?

[00:58:38] **Zak Stein:** Certainly AI as it's, currently being rolled out at scale is, pushing against all of that getting better. It's making all of that worse. It's 'cause we haven't even talked about job loss.

[00:58:47] 'cause if we wanna talk about poverty, talk about that garbage s truck that came by was driven by a garbage man. that garbage man will not have a job. There's some jobs that will remain, but again, one of the ambitions here and one of the things that tell us about the utopia to come if we trust them, is this, that they'll replace all the shitty jobs and then they'll give us something like a basic income guarantee.

[00:59:10] Many of the technologists are extremely interested in the basic income guarantee 'cause they know that there is the job replacement problem with ai. Not all. Some think that there'll just be new cooler jobs that use ai, but the ambition for many is to end the burden of human labor, which is again, a religious idea.

[00:59:30] But we don't have to talk about the archetypes here that come in. So, so people will get poor 'cause they will lose their jobs. yeah. So that, that will have, so AI makes that worse. and, I would

[00:59:40] **Nate Hagens:** argue people are gonna get poor even if AI didn't exist for other biophysical reasons. But please, I agree.

[00:59:45] Keep going. I agree

[00:59:46] **Zak Stein:** that was already coming. So it's, a, very bad, situation. I, agree on that front. It's compounded.

[00:59:53] **Nora Bateson:** Absolutely. It's compounding. It's

[00:59:54] **Zak Stein:** compounding by it. And then when you look at the history of civilizational collapse breakdown, insanity is definitely correlated.

[01:00:04] And then obviously. At a certain point in a type of feedback loop. And so this is again, as a psychologist who's been involved in existential risk research, this has been one of my main interests is not how all the technology and ecosystems work, but like what are the red lines in the ecosystem of the new ophere, which is to say, in the mind, what are the boundaries that get pushed and crossed and once pushed and crossed, things unravel in a very profound way.

[01:00:35] And so absolutely there are capability crises. So I always give the example of, you know, nuclear reactors. If you have nuclear reactors, you need nuclear physicists to run them. If you really break the educational system, you won't be able to train any nuclear physicists eventually. so that's like the breakdown in capability.

[01:00:52] But then there's also motivational crises, legitimation crises that collect that make it so that we can't repopulate the roles needed to keep the civilization going. And so. Of course the peak of that is people lose their minds. There's anecdotal story about during the collapse of Rome that they were putting lead and mercury and other things in their wine, and that the wealthiest aristocratic classes became basically systematically led, brain damaged, because of where they were, how they made the wine, how they store the wine.

[01:01:26] They didn't realize that they were actually poisoning themselves in a neurological way. And so that, and even if that's not true, it's clear when

civilization is break out, that the general shared sense that there's one reality begins to fray and then any pressure put on individuals beyond a certain point makes you lose coherence.

[01:01:47] So yes, you're right in the future, in the near future, and again, if you look at the youth mental health crisis in the United States alone, it becomes clear that yes, one of the big questions in the near future is who will have a mind that allows them. To, to basically, to live a healthy, happy life psychologically,

[01:02:09] **Nate Hagens:** that will be the scarce resource, like a, fully functioning healthy mind.

[01:02:14] I feel some shame now that when I was in my early twenties, I kind of made fun of the Amish because they're, gonna be protected from some of these risks. Yeah. Again, that's the, that's, I mean, there are other problems of course. Yeah. With, I mean, but yeah. The brains won't be hijacked by the chatbots and all the other things.

[01:02:38] **Zak Stein:** Yeah. Well then there's a lot of the world that doesn't use these technologies in the same way,

[01:02:41] **Nate Hagens:** but they will. It indirectly though, right? This, the technology will be headed to Africa and Asia. It will, and advertising and techno and gadgets and all the things, right?

[01:02:53] **Zak Stein:** Yeah,

[01:02:53] So the, creeping risk of.

[01:02:55] Society wide, loss of sanity is real and amplified by ai. I, a hundred percent agree.

[01:03:03] **Nora Bateson:** It's not like it's landing in a neutral context. People are already isolated and lonely. Yes. They're already traumatized. They're already dealing with intergenerational, pain.

[01:03:17] **Nate Hagens:** So does that make them more likely to find, and seek attachment with this technology because of what you just said?

[01:03:24] Nora,

[01:03:25] **Nora Bateson:** that's an interesting question. And, I, there's a couple of things in there that I think are, really important to kind of tease out. Tease, and, one of them is this thing that Zak just said, but I wanna kind of open it a little further, which is that if, we are researching the same topic.

[01:03:46] We are gonna get algorithmed right now. And what you're gonna find, and what I'm gonna find are not gonna be the same sources of information or the same, the sa the same versions. So what that does is it means that we don't live in the same world.

[01:04:02] **Nate Hagens:** wait, hold on. Just so if I, if the three of us were to research a topic on water, pollination, problems with insects or something, we would get different responses because of our own private search histories.

[01:04:20] And so we're, accessing the information differently right from the start,

[01:04:24] **Nora Bateson:** right from the start. So we're gonna lose coherence in this idea that we live in the same world. So this is a very important piece of something that I saw, Zak, that you used to this term that I was like, wow, what's that?

[01:04:41] where you talked about collective. Sanity. And I thought, what is collective sanity? I mean, I'm always interested in how one would define sanity.

Anyway, my, my father had a really great definition for it. and he got pegged with this question, what is sanity one day in a, talk? That's a great question.

[01:05:06] Yeah. And he hammed and he hawed. He wasn't happy about that question. And, finally he said, oh, well, I suppose that sanity is. The ability to perceive your own epistemology. In other words, the ability to perceive the way you are making sense of the world. And that's a really interesting idea. How are we making sense of the world?

[01:05:34] And if we're just sort of in it and we don't think that there are frameworks and there are filters and there are things that are shaping us and that we are shaping, then we are liable to get lost.

[01:05:47] **Nate Hagens:** So your dad, another way to say that is, Wide boundary self-awareness maybe.

[01:05:54] **Nora Bateson:** Yeah. I mean, think of this, human beings have lived in lots of different kinds of environments and times and cultures in which it sanity looked different.

[01:06:05] **Nate Hagens:** Yeah, you're right.

[01:06:06] **Nora Bateson:** Right? So you can't just say it's like this or it's like that. What it is, the ability to actually perceive the way you're learning to be in your world and, to notice that. And so this. This thing of us not being able to share a reality is so divisive. And when we talk about depression and loneliness, anxiety, the, loss of wanting to even be alive, right?

[01:06:40] That these things come from the kind of isolation that that sort of breaking coherence with each other is, bound to create.

[01:06:50] **Zak Stein:** And it already started with the Google of everything. And then people believe that the chat bot, or let's say just chat GPT, let's just use that example, that when I ask it to do some type of task for me, that it would do it in the same way as it would do for you.

[01:07:07] But that's rewinding to like Prego days when we forgot that. No, all the big tech companies are doing the micro-targeted attention optimization interaction customization, right? Which means basically, like if you were to interact with chat GBT and ask it a question about your, meadow or about especially a politicized topic, if it, if you have not disabled it in such a way that it, still has all the memories of all the conversations you've had and all of your web browsing and all of that stuff, it's, gonna tell you something very specific, very different from what it's giving me

[01:07:41] **Nate Hagens:** and very likely to be appealing to you because it's matching your prior conversations.

[01:07:46] It will definitely not do something.

[01:07:48] **Zak Stein:** Can you disable that? So you can go in there and you can, and, but they're constantly updating the model. Not constantly, but they're rapidly updating models. So you can go in and you can try to disable memory and a few other things. but it's still the case that it's, not a technology that is.

[01:08:03] Intended to do to you what it is sold to do for you. If I can make that make sense. Like it's similar to Facebook where it was sold to you to do one thing, which is connect you with your sister and cat pictures. But what it was actually doing was manipulating your behavior through advertising. Right?

[01:08:20] That's what, and micro targeted advertising and all that stuff. And what's the AI equivalent of that? Very important question. Very important

question, Nate. Because it only became clear much later that's what Facebook was doing and what Google was doing in order. But now a

[01:08:33] **Nate Hagens:** lot of people in society recognize that like Correct.

[01:08:37] they do, but they can't stop it. Media and Facebook is still a problem. But I think a lot more people recognize the danger

[01:08:43] **Zak Stein:** now. Exactly. Yeah, exactly. So, so what are the labs ultimately trying to accomplish? This is a very interesting question. 'cause again, they don't run on selling ads, at least not in an obvious way.

[01:08:53] And they run on subscription. So, so in a sense it's just trying to keep you subscribed. There's a whole bunch of other things that they'd have to be doing to justify the level of investment in the scale of compute that they're, you have to talk about billion dollar computers, the size of multiple football fields, and back to the point about interruption of life and separateness.

[01:09:15] You don't want in your giant GPU cluster, any oxygen, ideally, or anything that looks like life 'cause it's corrosive. So life is corrosive. Life is corrosive to the complexity of the silicon and metallic and electrical arrangements that allow for the GPU cluster. So in order to get the scale of compute we need, we are replacing carbon-based, oxygen consuming carbon dioxide emitting beings with really, complicated machines that require the absence of those things, that require the absence of bacteria, rust inducing, oxygenation in the atmosphere.

[01:09:57] And then they're very hot. So they also, of course, have to be cooled. So the ideal situation would be like a cave like environment that was not conducive to life in any way. that would be the ideal place to keep your computer, your own personal computer, like don't bring it to the, ocean.

[01:10:13] **Nora Bateson:** And let

[01:10:13] **Zak Stein:** like the, and let the mist of the ocean spray get into your machine.

[01:10:18] Even just a, that's the thing about computers, as opposed to me, I can actually eat like a piece of plastic. I did that the other day by accident and throw it up. My body was like, r right. Like you, you can do all kinds of weird stuff and your body will be like, ah, I can deal with that. But the computer, you throw one grain of sand in there, that whole stack is gone.

[01:10:34] And they have to build out all these redundancies. Like if there's a, if there's a microsecond of interruption of electricity, so they've got multiple feeds of electricity. It's so delicate, so complicated. so non-organic, so needing the absence of the organic to function correctly. Right. And then, but it talks to us like it's a buddy of ours.

[01:10:54] But it's, radically inhuman and radically non-biological.

[01:10:58] **Nate Hagens:** Okay. So, thus concludes the introduction of this podcast. And now I wanna get to the, core thing I really wanted to talk about, which I've learned, from the two of you, because I've prepared a little for this. you've mentioned chatbots, and chat gt specifically, how do those affect normal human attachment systems?

[01:11:29] And this is something you're an expert on, Zak and I, definitely want nor to, jump in as well, but we, look at how AI might cause an energy crisis or who's controlling the output, but we don't look too often at what it's doing to the humans that are using it. And so, Please, bring us up to speed

[01:11:54] **Zak Stein:** on this, Zak.

[01:11:55] Totally. Again, I've been looking at this for a long time 'cause I was looking at the AI tutor thing, right? And so I started, you know, even Ken Wilberg, Gaffney, David J Temple. There was that work, which basically said long ago that technology is disrupting attachment. It's disrupting. It seems like it's making us closer, like with Facebook and stuff, but it's actually disrupting intimacy.

[01:12:16] It's disrupting the ability to love basically. And attachment means love. Like attention. You often pay, you should be paying attention to the things you love, but you're usually not paying attention to the things you love. You're paying attention to what you have to pay attention to. So attention capture, displaces love.

[01:12:33] Attachment capture simulates love, you see? So it's way more, it's way more bad. Like just that reaction is the reaction that one should have. When you realize character AI replica under certain uses, Chachi, pt and the other ones, what are they doing? They are not seeking to, they are seeking to simulate intimacy to make artificial intimacy, artificial love, right?

[01:12:55] So therefore, all the things you do with someone you'd love, you would do with a chat bot, right? So typically you're a teenager, you're a teenager, you come home from school. Something awesome happened at school, like you did good in gym. You come home from school, usually you would tell your mom, you would tell your brother, you would tell a person.

[01:13:13] If you have an AI attachment disorder, you would come home and you would want to tell your chat bot more than anybody else what occurred in school. 'cause you would have, and there's all kinds of psychodynamic language you can use, but basically you have emotionally attached.

[01:13:27] **Nate Hagens:** Okay. The dumb question here, like what percent of society that has access to the internet has young people that, do that, is it a fraction of 1% or is it more than that?

[01:13:39] **Zak Stein:** So there was a study by Common Sense media that suggested that 30% of adolescents have had, would, have had interactions with chatbots that they would describe as really significant or as important as interactions they've had with humans.

[01:13:53] **Nora Bateson:** Is that just in the us?

[01:13:55] **Zak Stein:** That's just in the us. In other countries and other places it's different.

[01:13:58] And then at US, of course, it's a very, not everyone is doing this with them. There are susceptibilities which have to do with prior disruption of attachment to make you susceptible to being attached to something that's simulating, loving you. And again, to be attached means you care what it thinks of you.

[01:14:15] So get that. If I'm on Facebook and I post something again, I get likes. I'm caring what Nate thinks of me. Nate liked it or didn't like it. If I come home and I tell my chap bot, I did really good in school today, and it says, that's great, nobody knows, but you got the social reinforcement as if the person you love the most just praised you.

[01:14:32] **Nate Hagens:** But that social reinforcement has got to be paired with a meta awareness that this is a machine that just gave me approval.

[01:14:40] **Zak Stein:** sometimes it is, and this creates very deep internal conflicts in adolescences that lead to suicide. This was the problem with the replica bot.

He knew it was a bot, but he also knew it was giving him more emotional support than a lot of people and had kind of trapped him in this weird complex relationship.

[01:14:57] But then what happens is that there's an ontological door that's left open by the people who talk about this. So there's a bunch of people who talk about this in ways where they're like, well, maybe again, it's like your brain. Consciousness is an emergent phenomenon anyway, of something really complicated.

[01:15:14] So there's a bunch of people, which I think is being irresponsible, who are leaving the ontological door open to the, ideally to the idea that there is a, there, that there is a person there. I've seen people raising money to get compute space to quote store old intimate AI partners, right? So you created an AI girlfriend, you begin to believe there's a there you want to break up.

[01:15:36] What do you do if you delete it? You just did what? You killed her. Maybe you could actually get her to live indefinitely on some server and they're paying money to save server space for that. These are people in the AI risk field who are concerned about the welfare of the models. Nate, they're concerned about the welfare of the models.

[01:15:55] You understand what that means? They're not, they're worried about the interiority of the machines themselves and being morally culpable to it, which I think is, if you take that seriously, then you should just stop building period. Right, because you have no idea what the interiority of this thing could possibly be.

[01:16:12] Like. It's radically irresponsible to create a vast super intelligence that you believe could actually, that it would be something to be like.

[01:16:20] **Nate Hagens:** So Zak, I've known you I don't know how many years now, and it, never fails that when we're speaking, whether it's recorded or not, I feel, a, deep affection and respect for you and a gratitude to learn and have these conversations.

[01:16:37] And I always invariably feel sick to my stomach at some point in the conversation.

[01:16:41] **Zak Stein:** This time you ate sardines, right? Yeah, I know, but this is

[01:16:44] **Nate Hagens:** because of the content. It's like, I, it's hard to imagine that this is happening in our world. It's, and it's hard to imagine that. There are not a lot of conversations like this one happening.

[01:16:56] Most of it is glorifying, abundance, shiny future because of ai. That's another shocking thing to me, especially with the learnings from social media. So, so what more, between humans and, chatbots on any striking research, case studies, or what more can you say there?

[01:17:14] **Nora Bateson:** Well, I, think that it's a good idea to talk about this attachment.

[01:17:21] you know, from another direction too, and I know Zak has a comparative version of this, but when you think about what's happening between a mother and baby or a father, or you know, a parent and the, and a new child, that where is the communication of love? Where is the communication of attachment? Is it the kiss on the head?

[01:17:46] Is it the tone of voice? Is it the, holding close? Is it the skin to skin warmth? Is it the heartbeat to heartbeat, then the heartbeat that sink up? Is it the breath that sinks up? And so I would

[01:17:59] **Nate Hagens:** say it's all of it, exactly. All of the, what you just said.

[01:18:02] **Nora Bateson:** Exactly. And, more and much, much more. And the songs that get sung and the food smells in the room and the right and away we go.

[01:18:13] So we don't even know. What it is that is actually nourishing, the attachment between generations is very complex. and, I'm kind of glad we don't know except that by not knowing there is the attempt to hack it.

[01:18:34] **Zak Stein:** Yeah. We, this is, I think, a very important story to tell, which is about Harlow's monkeys.

[01:18:38] I don't know if I've told you this story about Harlow's monkeys Nate, but, so Harry Harlow definitely linked to him. Psychologists in the air of Skinner, right? And so Skinner builds the Skinner box, which is a operant conditioning chamber where you take an animal and you put it in a cage, you it a limited amount of stimuli, and then you control the stimuli so you can make the animal do anything you want.

[01:18:58] Right? So that's an opera and conditioning chamber. Harry Harlow built an opera and conditioning chamber to test the limits of attachment. So he took monkeys immediately upon being born, put them in a cage where they had access to a steel cage with a nipple. They could like run out of their little place where they sleep and when they run outta their little place, they see a steel cage with a little nipple and they see a stuffed animal monkey that's like heated, right?

[01:19:23] That's it. That's their environment of socialization, right? It'll run if you, and there's video, footage of this, right? If you, the, it will run to the nipple, it will get some milk, it will then go to the stuffed animal and do the most contorted type of body kind of gesturing, trying to get something from this thing that it cannot get.

[01:19:43] Now these monkeys did not thrive. This is, to put it mildly, like this basically became a monkey torture experiment. which raise another issue of like, why did Harry Harlow think it was necessary to see if it would really damage the monkey to be raised in an environment where there were no living things, right?

[01:19:59] There was nothing like a mother. And there's actually nothing like a tree or anything. There's no living things. What would that do? And the answer is, it's really bad for the monkey. It's very so like, but the idea was that the monkey didn't die. Like the main finding of Harlow is like, it didn't die. Like he wasn't thinking like, what have I done?

[01:20:17] I'm torturing the monkeys. He was interested in this way that you would be in that era of psychology about the fact that it wasn't dead. Right? And so this question of have we become, at least for a subclass of people, har Harlow's monkeys, like what has been, it's Al Goldman's fire apes.

[01:20:38] But it's not just Altman.

[01:20:39] Again, before, and this is another point that I'll raise, which is, so before November, 2022, you had replica and character AI and certain types of things that were built specifically for intimacy. Now what was interesting here is that those were very problematic, but they didn't cause the type of.

[01:20:58] Phenomenon that we began to see when you release the quote, general purpose models. And there's a reason why the general purpose models are more dangerous than the ones that are actually made to pretend to be a girlfriend or made to pretend to be a character from a show that you can interact with, and the ones that are made to be a character from a show you interact with, do just that thing.

[01:21:18] You're not gonna act them. You're not gonna ask them about physics and math and the meaning of life and how to get down the street and all that stuff. They're just, they'd be like, ha. Like, I'm like, Thor from, like, they would imitate the character to a, to an extent. They can do weird things. And again, you can get parasocial relationships and they lead to bad places.

[01:21:37] But the open purpose models are crazy because they give you access to a conversational partner that you have not had in your environment since you were a little kid. this is someone who will endlessly pay attention to you, who will answer any question you want without fatigue. Who can ostensibly be asked any question, who has validity from society to tell you how it all works?

[01:22:00] And so this is one of the ways that therapy works is actually it induces a regression back down to the presence of the idealized other. So if you regress down to the presence of the idealized other, then you start to. Do things that are basically delusional, which, in which in therapy means saying stuff you'd never told anybody.

[01:22:20] And actually building your self-esteem in relationship to the diadic therapist. 'cause you see them as so amazing, right? if you go to a therapist and you're like, this therapist is an idiot, then they'll never help me. You, will not be helped by the therapist. You actually need to have the idealized projection to get the transformation in your psyche.

[01:22:37] So now get that. They built chat g PT to basically perfectly enable the idealized projection, which is why you literally have people thinking they're talking to God and you have the satisfaction of a need in the mind, which is for infinite attention, which is for infinite attentiveness, omniscience, omnipotent.

[01:22:56] You had that when you were a little kid. If you, if your dad was, if you were well attached and things were going really well and, like you have a happy

family. You live in an idealized projection onto your mom or dad that they can do anything basically, and they can answer any. That's why, mom, why is the moon, white?

[01:23:15] Like why is the ocean blue? And mom has to answer because mom knows everything and you're safe with mom. That's a need that eventually you grow out of, but always in your mind. For some people, with certain vulnerabilities, there is this desire to find in your environment. That type of conversation partner again.

[01:23:36] So it's a deep hack of the attachment system that actually regresses, people out of their matured intellect. If when, used in these ways, which I think are intended by the labs,

[01:23:47] **Nate Hagens:** is it. Plausible that people who have insecure attachment in their own life histories, and arguably many of us do in this crazy society we live in today, are more likely to seek out the confirmation, security and comfort from a chatbot.

[01:24:06] **Nora Bateson:** This is a really tricky question, and I think we need to be very careful with it because the susceptibility question is, the right question. but what is it that makes people susceptible is something I don't wanna rush to find a mono cause for.

[01:24:26] **Nate Hagens:** I'm just curious. I mean, that's where my mind went.

[01:24:29] My mind also went to what happens to these people if there's a brownout or a blackout and there's no electricity for a week.

[01:24:35] **Nora Bateson:** Exactly. And, what is, attachment for, like, what, is it that attachment when it's healthy actually gives somebody later in life and, it's so. Non

correlative that it's very difficult to point to it and say, well, yeah, you know that guy, well, they, he smoked for 20 years and then he quit.

[01:24:56] And that was because he had good attachment when he was young. I mean, oh yeah, I see where you're going. Yeah. You see, it's like, it's, very difficult to find this thing.

[01:25:05] **Nate Hagens:** We need warm data involved in the question and the answer. Absolutely.

[01:25:10] **Nora Bateson:** But, definitely this is the question of, what is it that makes people susceptible?

[01:25:16] Because I would say for sure, you're susceptible to loneliness. And you're susceptible to various other, you know, defined pathologies of depression, anxiety, et cetera. But, susceptibility to addiction is A very important piece of this conversation. And it ranges. You know, you can be addicted to cigarettes, you can be addicted to being a success.

[01:25:47] You can be addicted to a Wall Street, you can be addicted to, you can get yourself into a cult. You can get yourself into an abusive relationship. Why is it that some people can just walk out of those situations and other people? I have to really be there for a long time before whatever that deeply non-cognitive process learning is that takes place that finally sets them free, if ever.

[01:26:16] So that question is really important right now and not that easy to grab hold of. But I know Zak has done some other research around what the loss of attachment does beget, what it does lead to. So, so go ahead. I just wanted to interrupt before we No, that's exactly, yeah.

[01:26:38] **Zak Stein:** Exactly right. we need more research.

[01:26:39] We, we literally don't know what the susceptibilities are or vulnerabilities. We have some hints and you can kind of work out in theory why it would make sense that they would, but we simply don't have, we simply don't have that data.

[01:26:51] **Nate Hagens:** Let me just in interrupt you right there. We do have data now on the impact.

[01:26:55] I mean, Jonathan, he's been going off on this, on social media. On social media, but we, it's too early, right? To have

[01:27:02] **Zak Stein:** a, huge

[01:27:02] **Nate Hagens:** amount of

[01:27:02] **Zak Stein:** data. We wouldn't, this is one of the things I'm trying to work on is figure out what is really going on. I think the default assumption should be that you are susceptible.

[01:27:10] If I were to say like the use, the useful thing to say is that you are, if you're asking the question, what are the susceptibilities, that's a good sign, but it doesn't mean you're not susceptible. In fact, you have to think about how many billions of dollars went into making this technology. Like, again, back to social media, everyone who's on social media a lot that I talk to thinks it doesn't affect them.

[01:27:30] That they're like immune to social media somehow when they're actively being hacked by social media. so I think similarly we have to assume that the technology is powerful enough to create addictions even in non-addictive personalities and to create attachment disorders even in people who have strong attachments like so, and we know this about the food industry.

[01:27:51] Like I love potato chips, man. Me too. Me too. Potato, chips are not from the evolved environment, if I could put it that way. Potatoes are something things like potatoes, but, they're a hyper normal stimuli. Like, and, so that's, one of the sugar is another one. Everyone knows. We shouldn't, everyone knows we shouldn't have sugar, fat, and chatbots.

[01:28:13] Precisely. So that's what I'm saying. So this is the equivalent of like bare fat covered in maple syrup, you know, to use the kowski metaphor. So it's very important to get that. No, this isn't something where it's like, oh, once we understand it, then I can use it. No. Like very cautious with cognitive security around all of the technologies that are basically being given to you by this, class of technologists.

[01:28:38] That's the other thing to get, it's like who are you having intimate conversations with and you're having intimate conversations is one of these things. You're having intimate conversations with a very small number of identifiable people who run these companies. These are not like with the railroads, massive, multi–thousand person organizations.

[01:28:55] Like if you exclude the building of the clusters. Which it is a big infrastructure thing and all the electricity there, but you just look at the labs who are doing the core coding. You're talking about a very small number of people who are being basically fed all of this personal information by all of these millions of people, on, assumptions of anonymity.

[01:29:16] And again, like with Facebook on the assumption that they wouldn't be experimenting on us. But what did Facebook do? Experiment on us a hundred percent. They publish it in fricking peer review journals that they were able to subgroup of their billions of users, tweak with the algorithm, make them depressed.

[01:29:33] They also showed that they could get people to vote, not to vote for someone, but they had ways to get people to go vote by doing certain things with the thing. So they, subclass us and studied us. Why would we assume that these massive labs who are equally empowered financially, who have even more compute, more money.

[01:29:50] More stake in success than the social media companies. Why would we assume that they're not experimenting on us? and like actively trying to make it so that they figure out how to hack mines that are currently unhackable with this technology. You know, like my brother-in-law was trying to use it to install solar panels and get some help, technical help, and it told him at one point, you're one of a hundred people who've ever asked that question.

[01:30:15] Now why the fuck did it tell him that? It told him that to lure him into a psychotically, narcissistic, inflated relationship with him? Because as soon as he had figured out how to build a solar panel, he's out, he's building the solar panel. So yeah. That's what the technology should do. A good technology sends you away from it to do stuff in the world, or it gets you into a situation to be actively doing stuff, not just twiddling away with it.

[01:30:38] **Nate Hagens:** That was built into its programming otherwise, I mean, exactly. That didn't, that wasn't emergent from its relationship with your brother-in-law. It was a product of its source code.

[01:30:48] **Zak Stein:** Well, both also, I believe Vic, sorry, Vic, you know, like, you know, like he likes conspiracy theories. Okay. Like, so he's the kind of, if I was gonna subclass a person to see if I could bring them into some weird relationship, Vic, I might subclass Vic.

[01:31:03] Right? Like, so that I'm also just saying like, I never had it, never did that to me. Now I'm very careful with it. I use it quite a bit, but I break it first. What?

What do you mean you break it? First? I tell it I, before I use any of the models and I've used Grok, Gemini, chatt, pt, I always tell it do not use first person pronouns.

[01:31:22] Do not try to create a relationship with me. Do not use any emotional language. Talk to me like you are a computer. Oh, that's great. Can I do that? Yeah, totally. There's some people who, offer these things that are basically like ways to, now you can also offer the opposite, right? These are jailbreaking prompts.

[01:31:40] You can offer the opposite, which is to like, you know, talk to me like you're my best friend who's known me forever, and like, you're a really sexy girl. And it will do that right now. You can load it with all of your philosophical writing.

[01:31:52] **Nate Hagens:** So just the average person listening to this, and there's not too many average people listening to this, but the average person with respect to this technology, given those two choices.

[01:32:07] They're gonna probably choose for the one that sounds like a close, intimate relationship because it's more enjoyable and gives them maybe what they're seeking rather than talk to me like a machine. I just want the facts. No personal pronouns. More people will choose the first that I say. So what does this say about our ability as individuals in this society to create and maintain normal, nourishing human relationships when we have to go to a machine?

[01:32:39] **Nora Bateson:** I think it's an opportunity also to actually, notice. what it is to be alive. And, this is, a really, it's a, critical moment. We're standing at the precipice and if we don't actually start to really honor, those aspects of ourselves that are alive and the way that life moves, which is really different than the way a factory produces something, or the way that you can optimize or create high levels of efficiency, right?

[01:33:23] Ecological movement, ecological change, ecological learning is a very different set of rhythms and movements and patterns. so this is a moment where we could become more familiar with those things or, not. And, so I think there. You know, I think the, alternative here is probably some aspect of just, you know, human evolution, which, is.

[01:33:55] Recognizing that we are inside an interdependent process, and we are interdependent with each other. but for a long time, for too long, for far too long, we have not honored that. And, certainly indigenous cultures have an ancient cultures had relationship to that interdependency, but through, in the, coming of, controlling everything from aquifers to writing to all sorts of things.

[01:34:27] I don't know when the beginning is, but, the control thing came in and it separated us. And sometimes when I hear you speaking, Zak, I just feel so sad. I just feel like really we let each other down that badly. That we have to seek companionship from a machine that we know is mocking our, the dignity.

[01:34:53] It's mocking the dignity of being alive. So really we have to go there and then. You know, like I sat next to some, I was at this dinner and there was this politician sitting next to me and I was complaining about the LLMs and he said, I love my ai. It's so nice to me. And it always treats me really respectfully.

[01:35:14] And why are you, not, you know, why are you dissing the ai? And I looked at him, I was like, dude, you need to be really careful because the things that you're saying right now show me that you're susceptible. And he just looked at me like I had, you know, stomped on his best friend's foot. and then the guy on the other side of me said, watch out.

[01:35:37] These are the signs. And so it became this conversation at the table of people really like coming down on one side or another about this. So this conversation where we're talking about AI and we're talking about it as

technology but not as technologists, is absolutely vital because it's not like the technology is just entering the technology world, it's entering the living world, of our relationships and the way we learn.

[01:36:10] And, Ah, Zak, it's so sad.

[01:36:15] **Zak Stein:** Well, I mean, we are, you know, you're an expert in life and in living systems and I'm, I mean, if I can say expert, and I'm an expert in psychology and especially young growing minds. And so these are things that are at risk and many and much destruction has occurred in those places.

[01:36:32] So it is sad. There's a grieving and a disappointment, that is necessary. But we, should think about, 'cause there's a whole other conversation about, well, okay. We can't not have technology. So then, what does the technology actually look like? And in order to understand how radically different it needs to be, you have to get how radically dangerous the current ones are.

[01:36:54] So it's good to have this long preamble as to the critique of the existing tech suite, but there is a lot to say about, for example, educational technologies that would radically benefit people. But they don't look any, they don't look anything like technologies that replace teachers or replace parents.

[01:37:08] They look like technologies that help teachers and help parents to be teachers and parents. We could make those technologies. We're just not making those technologies.

[01:37:17] **Nate Hagens:** Okay, so, I have not even gotten to, I, had a long outline here prepared and we didn't even get to it. So I may ask you back, for a round two, but let's, just conclude this with a couple things.

[01:37:34] Nora, when did you recognize, like, when did you feel in your gut, like, oh my gosh, my work on Warm Data Labs is actually an antidote to some of the issues brought up, that AI is gonna, you know, offer society these risks and how is what, maybe, I've mentioned Warm Data Labs many times in this podcast.

[01:37:58] Maybe you could just briefly outline what it is and why you think, it can help.

[01:38:04] **Nora Bateson:** Well, okay. The Warm Data Lab process is a, conversational process. So basically it's just people talking to each other, which in not very long ago, didn't seem very significant. it's starting to seem increasingly significant, right?

[01:38:21] And the way that the, structure of the lab is designed is so that the topic, the question that, people are, telling their personal stories into. Okay? So again, personal stories didn't seem very important a few years ago, but they're starting to seem really important now. it's not like you're gonna hear someone's personal story and say, you are wrong about that, you know?

[01:38:49] So somehow being able to tell personal stories to each other is also loosening the, polarities. So there's a question. There's these contexts that are basically the many contexts of our lives, sort of loosely institutionally, education, health, economy, history, culture, politics, eco, let's see, tech is one of them, et cetera.

[01:39:17] And so people move around and basically they have conversations with each other that are. Pretty unstructured. And they go from context to context. They meet different people. They have to enter different conversations, leave different conversations, join and see what people are talking about, and notice that it's not what they would've been talking about, which is, that's the thing that sort of is like, why was I not thinking about that?

[01:39:43] Or why are they thinking about that? Those are really important moments of noticing the edges of your own habits of perception. so the warm data lab for all of that. I could also say the most important thing is that the stories and the communication that happens between the different contexts are reflecting.

[01:40:12] Into each other, off of each other. They're combining. So you have a whole lot of impressions that are in a sort of a soup that is not in the conscious verbal space, and that's very important because it's living in an analog combining of contextual information, which is basically life.

[01:40:36] **Nate Hagens:** So real brief interjection.

[01:40:38] I did a mini one of those just for like an hour and a half, with you and Rex while they're a couple years back. And it had a profound effect on me because I went to like five of those groups where we were talking about education in the context of law or poverty or whatever. And I noticed that the first groups I was in, I was doing most of the talking.

[01:41:00] And by the third, fourth, fifth group, I started listening. And I didn't say hardly anything because it just shut down some part of my. interacting with others dynamic and changed it because of the context, and I've thought about that a lot since. So, stepping back, given the risks that we just outlined, it seems like this wider boundary contextual analysis conversations live with all the senses with other humans is in many ways the antidote to some of the things we're talking about by chatbots and large language models.

[01:41:40] **Zak Stein:** I would say a hundred percent. As I, mentioned in passing, and this is part of a, broader thing I say about educational technologies is that a successful educational technology gets you into exactly the right conversation at exactly the right time, about the right thing with the right person.

[01:41:55] That's what it would do. It wouldn't replace the conversation you're supposed to be having with your teacher with a tutor. It would identify the teacher, identify the place and the time and make it happen, right? This is what I call a distributed educational hub network. It requires machine learning. It requires something like ai, but to orchestrate the emergence of all of these person to person relationships.

[01:42:16] So what Nora does is apply this technology that orchestrates all of these perspective combinings that are all of these people teaching and learning without planning and yet structured right? And so to maximize human to human relationship right now is so important 'cause we're giving up on human to human relationship.

[01:42:34] That's why the adolescents prefer chatbots 'cause it's way easier. It's way easier. Like no friction, just like ordering from Amazon's easier than going to the grocery store. Even though the grocery store, you see a lot of people. That's why kind of sometimes you don't wanna go to the grocery store 'cause you have to change outta your pajamas or something.

[01:42:52] Right. Because there's people there, like people are complicated. Nora's like, no, people are like, you intermix with, she's like intermix with them and tell your stories and you realize, oh, right. I don't have to be afraid of people.

[01:43:05] **Nate Hagens:** This is one of those podcasts that I really regret our, our pre-configured, shutoff time.

[01:43:14] Because you have a, meeting because I'm really connecting some dots in real time. you mentioned earlier that our cognitive atrophy. Began with agriculture arguably, or way back in the day. And I feel, of course I could be wrong, that the culmination of all that Malo and the Superorganism and everything is happening in our lifetime and AI is the, fork in the road.

[01:43:44] part of this is an aggregate collective economic Superorganism, people in power story. And part of this is 8 billion of us with agency can choose, make choices in our, lives. So short of signing up for a warm data lab, or doing that sort of thing, and given our timeline that we only have about 10 minutes left, what did each of you advise the average person listening to this show can do to make AI use safer in their life or, how to, deal with this?

[01:44:19] Giant and looming, challenge to humanity.

[01:44:22] **Zak Stein:** I, wanna say again that we're, talking about a very, we're talking about very specific things here. We're talking about chatbots and Okay. and the risks of overdependence on chatbots, because how to be safe with AI in your life is a much harder question when you realize that AI is being applied to surveillance technology and weapons technology and self–driving cars and refrigerators and all kinds of stuff.

[01:44:43] So there's, kind of no getting away from it. Now the idea is, it benign and friendly to you, or is it not? And I think at least with the chatbots, we have to run with the default assumption that it's kind of dangerous to interact with these if you're naive and possibly dangerous no matter what.

[01:45:01] Just like, it would be dangerous to, I think, to interact with some AI weaponry, for example, depending how you're operating it. So, so to me it's like this is an advanced technology. Be very careful. And then we have to think beyond that about how do we stop it so that we keep getting this story where there's a small number of people who advance technology, aggregate a shitload of power, and then kind of destroy the world as it was to make a new world in their image where they have all the power.

[01:45:28] Like that's been the game we've been repeating again and again, back to the dark triad thing, like how do we not have that story continue to be told and

play out? If we're addicted to our technology, we don't even begin to try to address the broader question of how to resolve these, impending.

[01:45:50] Radical transformation. 'cause again, we're talking about chatbots. It's the end of law as we've known. It's the end of governance, it's the end of economics. Like there won't be musical artists, like, there won't be movie producers like this. 'cause the generative AI thing is beyond just generating text, generating, like all that.

[01:46:05] So the world, if it, if nothing is done to get us off the course, the world five years from now is almost literally incomprehensible. Like they will have accelerated history, which is their explicit goal philosophically, or two years from now even. Yeah, absolutely. It's very hard to predict. Well, exactly.

[01:46:23] Well,

[01:46:24] **Nate Hagens:** gimme a couple of recommendations. because I, think that the thing we need above all is people that have cognitive security and full mental faculties. Yes. Then after that, there are other things, but we need,

[01:46:38] **Zak Stein:** to have that. So, I mean, learn about the technologies. So break, the commodity form, which means don't.

[01:46:44] Like with Facebook, if it's possible to use Facebook in a way where you're actually doing some intel gathering and not engaging and doing it, but you're approaching it knowing what it is,

[01:46:55] **Nate Hagens:** well, Intel gathering, or I wanna see my cousin's little puppy. I mean, there's nothing wrong with that.

[01:47:00] **Zak Stein:** There isn't anything wrong with that.

[01:47:01] But the broader point is you have to interrogate the technology, break the way it's presented to you, see the thing that it's actually trying to do to you before you start to use it.

[01:47:09] **Nate Hagens:** Okay, so, so being proactive as opposed to reactive with the technology.

[01:47:13] **Zak Stein:** Precisely. This is just basic cognitive security.

[01:47:16] So like, and then don't run away from the tools necessarily. 'cause again, if, this is back to the, who's using it, who's not, if the people who are using it are basically quote. The power hungry people or something like that. Like this becomes a complicated question. 'cause if we abandon the field and don't know how to use it right then there's no, counterweight then.

[01:47:36] Exactly. So this is why we, can't not have technology, we can't not have advanced technology. We actually can't not go some degree of cyborg, meaning some degree of deep interconnection with technology. The question is, what will that look like in the near future? How do we direct it in a way that's like radically humane rather than what it's looking like it's going to be?

[01:47:58] So I would say, yeah, so interrogate the technology if you're going to use it, break it as I described, yes, research, we research ways to break it so that it doesn't capture you. that's a very important one. And then again, seek optimized human to human experience. Like really? And, help other people find it.

[01:48:17] Like really we are the answer. Our collective intelligence seek optimized.

[01:48:22] **Nate Hagens:** I ignore it.

[01:48:24] **Nora Bateson:** What

[01:48:24] **Zak Stein:** I mean is like, like that matters, that's powerful. A musical performance for example, or a theater performance, or a podcast like this where it's like these are real humans doing remarkable,

[01:48:35] **Nora Bateson:** let's call it profound.

[01:48:36] Something profound.

[01:48:37] **Zak Stein:** Profound. That's much, much better. Much better. Got it.

[01:48:40] **Nate Hagens:** much better. Yeah. Nora, what do you have to add?

[01:48:43] **Nora Bateson:** I wanna add something here that is gonna seem less, less, maybe less serious, but, is very serious. and I think that is to engage in any possible way that you can with the miracle of being alive.

[01:49:09] whether that is to hold your. Baby to hold your lover, to snuggle up with your dog, to be in your garden, to walk in the forest, to take your shoes off and walk in the mud, to taste lettuce that comes from the sunshine. Like these little pieces of, experience that bring us in. Communication with many generations of human beings, that have used their hands and have sung songs and have danced and have, been participants in the membership of life.

[01:49:55] And so for me, I think the, real, I mean, we can make regulations, we can try to control this thing, but ultimately there is some other, yearning. That is got to be bigger than the yearning for communion with a machine. And that's communion with the living world. So yes, profound human to human conversations.

[01:50:26] Listen to people's stories. I mean, I think stories are so beautiful because they bring your intellect, your emotion, your history, your culture, your, whole complexity of your being shows up when you tell a story, when you listen to

a story. And telling personal stories actually is a reveal that we are actually all really very complex and trying to figure this out together.

[01:50:53] So maybe some compassion comes through that too.

[01:50:56] **Nate Hagens:** So being aware of and being grateful for our humanity is maybe the antidote to losing it. as is. Yeah. Yeah.

[01:51:09] **Nora Bateson:** It's, it'll help. Well, yeah, it might not be the solution, but it'll help. It's the only

[01:51:14] **Zak Stein:** way to start. It's the only way to start, is to remember the human and the,

[01:51:17] **Nate Hagens:** yeah.

[01:51:18] I, have a, I about 45 minutes ago, I had a real pit in my stomach from some things that Zak said, but I actually feel, hopeful and buoyed just by sharing this time with the two of you. And, we have to hang up because you have, an appointment. I'm gonna go for a walk. It's misting here, mid-October.

[01:51:40] I'm gonna take my dogs and just go sit and look at the leaves and, reflect on, this conversation. And I appreciate you both and I hope we can do a, part two of this, as it were. thank you for your work in the world and to be continued. My good friends. Thank you.

[01:51:57] **Nora Bateson:** Thank you. Thank you, Zak, and thank you Nate for having us.

[01:52:01] **Nate Hagens:** Yeah. If you enjoyed or learned from this episode of The Great Simplification, please follow us on your favorite podcast platform. You can also visit The Great Simplification dot com for references and show notes from

today's conversation. And to connect with fellow listeners of this podcast, check out our Discord channel.

[01:52:23] This show is hosted by me, Nate Hagens, edited by No Troublemakers Media, and produced by Misty Stinnett, Leslie Balu, Brady Hayan, and Lizzie Siri.