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[00:00:00] **Taylor Guthrie:** But as we're growing up, a lot of our motivation is given to us from the outside, telling you what to care about and what your identity should be and what your sense of self should be. And you are now catering a lot of your motivation towards performing this role to get to this validation, this recognition, and these signals that I'm doing it right.

[00:00:17] Whereas intrinsic motivation is the side where I've actually done a lot of the reflective work of really understanding for myself, like why I am doing something. What is it about this thing that's really aligned with who I am? And a lot of those things feel effortless. If they were actively enjoying it, if they were passionate about it, they could find the energy, they could find the motivation and continue to engage.

[00:00:41] Just because it's like, oh yeah, that's, that's me. That's important to me.

[00:00:49] **Nate Hagens:** Today I'm joined by social cognitive neuroscientist Taylor Guthrie to discuss how the human brain constructs a sense of self, both individually and in relationship with others, and how understanding this could support meaningful responses to our ecological, psychological, and cultural challenges. Taylor Guthrie earned his doctorate at the University of Oregon where his research focus on the default mode network and the neural mechanisms underlying identity, motivation, and social cognition.

[00:01:25] His current research investigates how an attention and value systems interact with the brain to form identity and how modern cultural forces like social media status seeking and consumerism hijack this process. Taylor has taught undergraduate and graduate courses in psychology and neuroscience and also

creates public facing content in including the Cellular Republic, a lecture series that demystifies cognitive and social neuroscience.

[00:01:55] In this episode, Taylor offers a framework for how we can understand the ways in which we create an idea of who we are and subsequently who we want to be and how our modern systems get in the way. Of these ideals. More importantly, having a strong sense of self impacts how we interact and relate to others in groups and communities.

[00:02:17] By moving beyond the external consumption driven signals, perhaps we can learn how to better navigate the complex relationships that have long been foundational to human existence long before the carbon pulse. Additionally, if you are enjoying this podcast, I invite you to subscribe to our substack newsletter where you can read more of the system science underpinning the human predicament.

[00:02:41] We often increasingly post essays there where my team and I post special announcements related to The Great Simplification. You can find the link to subscribe in the show description. With that, please welcome Taylor Guthrie. Taylor Guthrie, welcome to the program. Thanks, Nate. I'm excited to be here.

[00:03:01] **Taylor Guthrie:** Professor Guthrie, Dr. Guth. A little bit of both. I've done quite a bit of teaching. Uh, but yeah, PhD, Dr. Got, Dr. G is what my students refer to me as. Dr. Gl

[00:03:14] **Nate Hagens:** had my students just call me Nate 'cause it's my dad. It's a real doctor. So I, Dr. Hagens makes me squeamish.

[00:03:21] Taylor Guthrie: I mean, that's my spouse. It was my spouse's idea.

[00:03:23] She's like, Dr. Guthrie sounds too dry. Like liven it up a little bit.

[00:03:27] **Nate Hagens:** But actually that dovetails into our conversation today. So, so you are a social cognitive neuroscientist who studies how the brain constructs identity and a sense of self. Uh, so I've invited you today to explore how identity development, um, works and.

[00:03:51] Kel ris, why and how that's relevant, uh, to the global crises, uh, that we face today. So let's start with the core foundations of your work. What is identity from a neuroscience perspective, and why is it important in, in the world situation that, that we have today?

[00:04:11] **Taylor Guthrie:** I think what might be really important at the beginning of the conversation is to suggest, like, for you, for any of the listeners, to really try your best to suspend any preconceived notions that you have around terms like self and identity, because they bring a lot of baggage to the table, historically, philosophically, politically, right.

[00:04:27] Uh, because what I think we want to do throughout the conversation is try to build these concepts up from what we know about how the brain works, and honestly how the brain reacts to stimuli that have self relevant kind of nature involved in them.

[00:04:39] **Nate Hagens:** So. Just us talking about self and identity triggers ourself and identity to be on alert because some, we might learn something that's uncomfortable.

[00:04:50] **Taylor Guthrie:** Yeah, no, I, I, no, absolutely. And it's, I mean, it's the nature of language. I mean, this is something that we've talked about in philosophy for a while now. The whole structuralist movement and all of these things that, trying to have conversations about any of these things were tied up in, in what the language brings to the table, right?

[00:05:04] And, and all of it is, is tied in these, these cultural paradigms and kind of religious practices and all of these things that, that are built around concepts like the self. So people bring a lot to the table when we're trying to think about these things. And what I try to do from kind of a scientific perspective is really try to just look at what the brain is doing when it's reacting to information that has kind of a self relevant flare to it.

[00:05:25] Uh, are these things that are describing traits that are kind of. That describe me versus other people? Is this me thinking about my own experience versus thinking about other people's experiences? Uh, even things like, is this something that I own versus something that I don't own? Uh, interestingly, something we can kind of circle back to later is this am my thinking about people that are close to me versus people that are not close to me.

[00:05:46] All of these different things that have this kind of self relevant kind of flavor to them have a very similar activation pattern in the brain, especially in a region called the ventral medial prefrontal cortex. It's kind of the middle of the frontal lobe up here. Thi this may

[00:05:57] **Nate Hagens:** be, uh, an episode that instead of playing at one and a half speed, people are gonna have to slow it down to get Got it, got it.

[00:06:04] So what is identity, either from a neuroscience perspective or a lay lay perspective?

[00:06:09] **Taylor Guthrie:** Yeah, no, uh, I mean from the neuroscience perspective, this, this region in the brain, uh, this is a really robust finding. If we put one person in an MRI scanner, we tell them to think about themselves in some kind of meaningful way.

[00:06:21] Any of these different ways that I described, uh, we're gonna get this particular region in their brain to activate.

[00:06:26] **Nate Hagens:** What does that mean to get a region in the brain to activate there's more blood flow there, or oxygen or

[00:06:31] **Taylor Guthrie:** what does that mean? So, I mean, you're getting at the nuance of, of kind of MRI. Um.

[00:06:36] Kind of exploration in general. We're looking at blood flow with a lot of these things. And blood flow is something that follows activity because the neurons that just fired now need to be replenished with resources. And so we're following the blood flow back to these regions. And what's really interesting is that it's localized, uh, that the blood flow goes specifically to the neurons that need the nutrients.

[00:06:56] Uh, and I mean, this is, this is really interesting. We found kind of fascinating, reliable, consistent things from kind of these methods. Whenever you're talking about anything in terms of MRI, we're talking about contrast. So we're saying what is more active when I'm doing this than when I'm doing something else, when I'm not doing something.

[00:07:12] And what we see is that when we engage people in kind of self related thought and versus other related thought, uh, we, we consistently see more activity in a particular region of the brain. Uh, and it's kind of the middle of the frontal lobe up here. A lot of people in these kind of social neuroscience circles kinda refer to this as like the self region in the brain.

[00:07:30] I don't think I go that far, but, uh, it's, I think when you ask like, what is the, the identity from, uh, a neurological perspective, uh, when you kind of step outside of these studies that are just looking at kind of, uh, stimuli that are self

relevant in some way, and you look at things from like neuroeconomics where they're having people do value-based choice.

[00:07:50] Like, am I deciding whether I want this thing or whether I want this thing? Uh, we also see a really similar activation profile in this region of the brain. And I think what a lot of the, a lot of the, the studies are kind of pointing towards is that this region that pops up a lot for self related stuff seems to be involved in value integration across multiple.

[00:08:08] Cognitive streams, right? Is this thing important for me right now versus important for me in the future? What's the context of the environment right now? Is it hot? Is it cold? Do I have the resources to do this thing? If I've been successful in the past, like all of these inputs are put together into kind of a holistic picture of kind of what's important to me right now.

[00:08:26] So values a big part of the picture. I think in, in thinking about self, it's what we lose when we meditate or do psychedelics. This idea of equanimity kinda lose a sense of like good and bad. And this region does get kind of dysregulated and lose activity in those re in those moments.

[00:08:41] **Nate Hagens:** You just said that when people meditate, uh, or do psychedelics, they're, they have equanimity and that area in the brain that measures self kind of quiets down.

[00:08:54] **Taylor Guthrie:** Yeah, yeah. No, this is a, a pretty kind of, uh, consistent result that we've seen in a lot of these studies. Uh, uh, 'cause something that, that I'm leading to with a lot of this. So value is a big part of this. These are heavily tied to regions of the brain that are involved in kind of dopamine processes and value kind of type things, especially kinda short term versus long term things.

[00:09:13] Uh, but we see, especially this region and some of the other regions that all kinda get into that are involved in something called the default mode network, uh, tend to get kind of dysregulated. They tend to be a lot less active when we do things like mushrooms, LSD, when we're in heavy meditation and these, and something a, a kind of phenomenon that's described by people from a kind of subjective perspective, uh, is this idea of equanimity, of kind of losing a sense of good and bad.

[00:09:39] Pleasant and unpleasant and kind of just being in the moment, being flooded by kind of the emotional experience or whatever it is. Uh, and I think that tracks with what we see from the brain and it's from kind of a value perspective that we're kind of turning off these, these top down models of what I should care about, what I value in this moment,

[00:09:56] **Nate Hagens:** what does identity mean again, what's the, the core definition?

[00:09:59] And then I wanna follow up to

[00:10:01] **Taylor Guthrie:** what you just said. So value is a big part of this is that like our brain is constantly engaging in this process of deciding what's important, but that our identity is not that I chose to eat the apple right now instead of the bag of Doritos. Identity also has a temporal component to it.

[00:10:17] Uh, it's not that I just value this thing right now, but I continue to value this thing and I use this, this model that I have of what's important to me to inform my future progress, to decide what I'm going to value in the future. And that becomes the basis for self-regulation. 'cause now I can use that as an input into the value integration process of saying, you know, I can think five years down the road, 10 years down the road towards health, towards all of these things.

[00:10:42] And now that can be used to kind of override some of these kind of momentary signals that I'm getting of the Dorito bag and the value in this moment.

[00:10:49] **Nate Hagens:** So are there certain people as a percentage of the population who don't have many values. Uh, and therefore they, they won't look to the behaviors that improve their sense of self five years or 10 years from

[00:11:03] Taylor Guthrie: now.

[00:11:03] I think that's what a lot of our, our culture incentivizes. Uh, and I think it's gonna be a big part of this conversation because a lot of these processes, uh, can be motivated from the outside. Uh, they can, we can be kind of told what to value and, and a lot of our kind of consumerist kind of cultural ideas are about kind of buying something and doing something right now.

[00:11:23] You have to think about this as a, as an integrated value signal. And for me to actually engage in self-regulation, I have to have a strong enough kind of authentic idea of who I am and what I want in the future to actually be an input into that kind of integrated value signal. So

[00:11:38] **Nate Hagens:** that's clear how it applies to the human predicament, The Great Simplification.

[00:11:45] If our values are fluid and influenced by media and, and cultural stories, we can't ground and tether and work towards something that truly has value to us.

[00:11:57] **Taylor Guthrie:** But I think that there's another side to that, right? And something that's, I think, really important to consider. There's definitely, uh, a negative side to kind of the, the way that we can outsource some of this identity to the groups that we're a part of, right?

[00:12:09] We, we allow them to tell us what we value. We allow them to kind of design these kind of pre-made selves. I mean, look at all of the influencers on TikTok that just give you this like pre-packaged consumer itself or whatever it is. Uh, that's, that's kind of the negative side of this, the side that perpetuates the consumerist cycle that we're in.

[00:12:25] Uh, that really kind of feeds into we need to buy more. We need to grow more. All of this. The other side. I think that a lot of the, the social input to identity is default. I think that's what we started as, was kind of socially identified creatures. And if we're in the right kind of group in the right kind of, uh, environment and context, the group perspective can actually be really beneficial for us as humans.

[00:12:46] 'cause this whole process of creating a, an inauthentic self and reflecting and doing this work and thinking about who I am and developing these long-term things, that's really hard. It's effortful and a lot of people don't even have time for it. I mean, I can, I'm in that boat with kids and jobs and all of this, and so we, we can also kind of lean on these external factors if we're a part of a community that has the kind of values that align with ours or future stuff.

[00:13:10] You mentioned authentic self. What does that mean? So, I mean, that gets into a lot of these, uh, ideas around kind of self-determination, uh, around, uh, using your own internal signals as feedback rather than these external signals as feedback, uh, not relying on the likes and all of the, the kind of, uh, recognition and things that you're getting from your social media feeds as evidence that you're being the kind of self that you need to be.

[00:13:35] Right. And a lot of what we do in life, I mean, this is something that we do as children. We're given a prescription of like who we are and what we need to do and what we need to kind of adhere to. Uh, but we over time start to develop kind of a, a sense of what we like and what we want and where we want to go.

[00:13:51] And the more we engage in this kind of externally driven kind of, uh, pursuit for self, uh, I think it, it leads to kinda these hollow views of it where we're not kind of pursuing things that are aligned with what we truly want.

[00:14:05] **Nate Hagens:** So how does a brain actually develop an identity over a lifetime? I assume that when you're born and you're a toddler, you don't have an identity.

[00:14:15] Yeah. When does the identity start to exist? And, and then how, uh, uh, how important is, um, technology in, in creating an identity? And how did that identity formation. Change. I mean, you can speculate, uh, in our hunter gatherer times

[00:14:34] **Taylor Guthrie:** versus today the developmental process is, is fascinating. Uh, I mean I'm, I'm watching two little boys grow up right now.

[00:14:40] It's, uh, it's really interesting and they go through flavors of identity, kind of precursors to identity that are, that are more tied to kind of independence and autonomy, wanting to do things themselves and kind of practice and try new things. Right? Uh, and a lot of that happens through childhood, but most of childhood is this very constrained environment.

[00:14:58] I'm, I'm providing them with the, the rules of how to navigate it safely, what kind of proper etiquette is and politeness is, and all of these things. And so I'm very much kind of creating. The kind of self that's possible for them. Uh, and what we see is that like through childhood there is this, this really interesting connectivity pattern that happens in the brain where the brain becomes really overconnected.

[00:15:21] Like you have more synapses, like twice as many more synapses as a child than you do as an adult because you're just kind of overlearning the entire

environment. Uh, really seeing like, what are people telling me? Like what are the rules of all of this? Uh, but this really fascinating thing happens during adolescence.

[00:15:36] During adolescence, that's when a lot of this identity formation kind of comes to the forefront. Uh, and a lot of it is based around taking this really overconnected brain that we have and then pruning it down to really be focused on the things that are kind of authentic, that are going to help me become an effective adult in the world.

[00:15:57] That's not reliant on this kind of dependent nature of my parent-child relationship. And that process right there, you, you think like there's a huge power and something we can come back to in kind of the adolescent experience. And I think the adolescents of today are really the ones that are gonna change the world.

[00:16:12] 'cause they have a lot of drives towards novelty, towards this kind of pursuit for authenticity. But they're also incredibly vulnerable to kind of the technology side that you mentioned where. If, if I'm embedded in this culture that's constantly kind of getting me to get my signals about identity and self from these social comparative processes and who's got the most likes and who's got the most whatever, uh, and kind of geared towards buying products or like, I, I need to be that person that's got those, all those Lamborghini or whatever I that is, that is kind of creating a person who thinks that that's what they need going into adulthood.

[00:16:47] And, uh, adolescence is like the most plastic period that we have. And then a lot of that starts to solidify as we get into adulthood. It's a lot harder to change your brain after that, after that fact. So

[00:16:59] **Nate Hagens:** if, if someone's identity today is X, um, what percent of X was kind of created during childhood and, uh, um, teenage, uh, years versus as a 40, 50-year-old

[00:17:17] Taylor Guthrie: adult?

[00:17:18] I'd say if I'd put number, I mean this is totally speculative, but um, if I was to put a number to it, I think that a good 70 to 80% is probably adolescents like up to adolescence. I mean, look at textbooks of development, like the first 20 years of life is three quarters of the book. And then the last like 80 years of your life is like a tiny sliver of the book.

[00:17:39] Uh, it doesn't do justice to the fact that development continues, that we go through these other kind of phases in life as we get older. Uh, but it's a different kind of, uh, form of identity creation. 'cause our responsibilities change, our values and priorities change, but we're still, I think, building on the foundation of what we built in adolescence.

[00:17:57] Uh, and it's a lot harder to change when we're older. So

[00:18:00] **Nate Hagens:** you mentioned earlier a term default mode network, and I've, I've heard that. Quite a bit this year. Could you define

[00:18:08] **Taylor Guthrie:** that and why is it important? I mean, that's central to the work that I do. It's uh, it's a network that seems to be really expanded in the human species compared to our ape ancestors and the brain region that I mentioned earlier that lights up for self related stuff.

[00:18:22] It's kind of the middle of the frontal loe here is one of the main hubs of this network. Uh, and it seems to be a lot of this kind of newer, really cool, uh. Work that's being done around the default mode network seems to show that it's

involved in temporal integration. Uh, so what that essentially means is that it's able to keep information online for long periods of time so that we can then integrate that with kind of new incoming information.

[00:18:47] And so it's essentially building a model of who we are and what we want, and allowing us to think about the past to project into the future, uh, and using that as something that can be used for self-regulation, that can be used for exploration values and all of these kind of things. It's very social in nature.

[00:19:03] Uh, when you look at social neuroscience, almost every social neuroscience study, uh, gets default mode activity. Uh, because when we, the reason it's called default mode is actually a relic of how it was found, uh, because we. We were doing these studies where we were having people try to remember something or pay attention to something.

[00:19:21] And like I mentioned earlier, whenever you do brain science, it's always a contrast. It's like, where is there more activity now than when you're not doing something or when you're doing something else? And there was this really, uh, clever researcher, uh, Marcus Rale who flipped the script. He said, uh, instead of asking what's more active when I'm paying attention or remembering something, what's more active when I'm not doing anything and all of a sudden this, this network pops up.

[00:19:44] And so a lot of the early work was looking at how like, this is just what our brain does when we're not doing anything. And that's where kind of default mode came from. Uh, but the more that we've dug into this and the more that we've started to understand the default mode network, it is not a. Passive network at all.

[00:19:59] Uh, it's the main thing that allows us to engage in mental time travel. It's what takes us out of the present moment and allows us to reflect. It allows us to project into the future. Uh, it's the whole process of this kind of model creation.

[00:20:11] **Nate Hagens:** So contrast for me, uh, a human who has an incredibly active default mode network versus someone's who's more quiescent and not too active.

[00:20:23] What, what might we see in those two individuals?

[00:20:26] **Taylor Guthrie:** I think it's, that's a hard question to answer because I, a lot of the, the current kind of conversation around the default mode network is very much painting it as this negative thing that it's the source of, of all of our, our ailments. Because, you know, when we're mind wandering, we're not as happy as when we're engaged, when we're in the present moment.

[00:20:43] Uh, a lot of mindfulness stuff is about kind of turning down the default mode network and turning it off. Uh, and in those moments, like, like we mentioned earlier, that's what we experience as as equanimity, right? And a lot of these kind of spiritual practices are based around kind of dissolving the ego, dissolving the self, which is kind of reflected in these regions kind of being dysregulated.

[00:21:04] But I, I kind of approach this from another perspective that I. There needs to be a balance because the default mode network is also the most powerful tool that we have as individuals to actually create the world that we want because it's what we use to engage in our self-creation and who we are and who we can be, uh, to, to actively reflect.

[00:21:25] But it's, it's how it's being used. That's, that's the, the main question because it also is something that when I'm depressed and I have this version of

myself, that I'm a worthless person and nothing is ever gonna work. Right. And I'm, I'm never going to achieve anything that becomes the model that I'm now ruminating on.

[00:21:41] And the default mode activity in that moment is more about reaffirming how worthless I am, right? Whereas if I kind of harness the power of it, I can use it for kind of positive, flexible models of myself.

[00:21:52] **Nate Hagens:** So is there kind of a positive feedback thing going on with the default mode network? If, if you're depressed and telling those stories, it feeds on itself.

[00:22:00] And if you're motivated and have a, a positive view of your identity, that feeds on itself.

[00:22:06] **Taylor Guthrie:** I think, so the way that I think about a lot of these things is kind of couched in, uh, what's called kind of control theory or cybernetics. Uh, I view a lot of this as, as feedback loops. Uh, that essentially we're creating a model of, of what we think we are, what we think we value and where we're going.

[00:22:22] And that model then becomes something that is now it's, it's like a thermostat, right? A thermostat, you can set it to a certain temperature, that's the set point. And then when it goes off of that set point, you get error signals and you're like, Hey, we're not, we're not there. So we need to readjust our behavior.

[00:22:38] Uh, when you really look at what a lot of these models are capable of doing in terms of, uh, directing your attention, uh, especially. Reflexive attention, right? So a lot of people, when they talk about attention, they're talking about kind of controlled, like directing the, the spotlight of attention. But if I define myself,

let's just say like silly example, if I say I'm a, I'm a Jeep person, and that's like my whole identity is about souping up my Jeep and making it the best Jeep ever.

[00:23:04] All of a sudden I'm gonna see Jeeps everywhere. This happened to my brother. He just like started driving Jeeps. He's like, I see 'em everywhere. And there's not more Jeeps around. It's now you are tuned into those things. You're training your attention to Reflexly, capture those things. And how

[00:23:18] **Nate Hagens:** once that happens, how difficult is it for the Jeep identity to change to an electric bike identity?

[00:23:27] **Taylor Guthrie:** Yeah, I, I think that it, it requires a, a lot of scaffolding, right? Uh, there's, I think there's two ways to get there in a lot of these kinda situations, and one of them is very effortful. It's the, the active process of, of like, you know what, I, I saw something, I'm reflecting on it. Uh, am I, am I really, like, is driving a Jeep really the best thing?

[00:23:47] You know, I saw a documentary about the state of the world and now, you know, that's making me question what I'm doing and I'm engaging in this forward thought process and really changing my model. And I, but the other side of it too is because that's so effortful, oftentimes we can also turn to these, these groups that are part of our identity, that like, these are people that I respect, these are people that, uh, that kind of give me a sense of what I think should be important.

[00:24:11] Uh, and so if you're surrounded by people that are kind of pushing the whole, like, Hey, why are you still driving a Jeep when there's electric cars around? That pressure itself can cause the, the model to shift as well,

[00:24:21] **Nate Hagens:** or. The other way. Right. They could reject it because Yeah, it, it's a threat to their identity.

[00:24:28] Absolutely. And what's the distinction there? What, how does one time re reject and the other time it, it, um, confirms and moves to something else?

[00:24:36] **Taylor Guthrie:** I mean, I think a lot of it has to do with, uh, where this thing lies on your, your value list, right? I mean, how many, how often do you actually do an inventory of like what you care about and where your values are?

[00:24:48] The higher this thing is on importance to me, the more I'm going to engage in egoistic self-protective measures. That's like, this is a core component of who I am. And if you're telling me that this is negative, then I'm going to defend that. I'm oftentimes not gonna listen to rational arguments or whatever it is, uh, because I'm engaging in kind of ego protection in these situations.

[00:25:08] But now if I'm embedded in a group of people that now. In terms of the value list, the core value list, if I now have belonging as being higher on the list than me being a Jeep person, then now that conformity pressure is gonna have a bigger influence on me changing my, my perspective. So when we,

[00:25:26] **Nate Hagens:** uh, when we met a few months ago and had a brief conversation, one, one of the things that I was most interested in unpacking with you, um, with respect to our cultural challenges ahead and with respect to identity, was this concept of.

[00:25:43] External or extrinsic. Uh, motivation. Or intrinsic motivation, yeah. Which ties all this together, I think with values and default mode network and the authentic self. So can you define extrinsic and intrinsic motivation and how, uh, do those affect identity and identity

[00:26:05] **Taylor Guthrie:** formation coming back to development, you look at a lot of, as we're growing up, a lot of our motivation is kind of given to us from the

outside, uh, through rewards, through punishments, through these kind of things, even through internal feeling states, right?

[00:26:19] Like things like guilt and shame are also external motivators. It's the fact that I need to belong to this group. I need to, to kind of get recognition and acceptance for this group, and my behavior is not aligning with that. And so I need to get it in line with these other people. Uh. And so a lot of the extrinsic motivation is very tied to all of these things that we've been talking about in terms of externally motivated identity structures and things like that where you have these outside influences that are telling you what to care about and what your identity should be and, uh, what your sense of self should be.

[00:26:51] And you are now kind of catering a lot of your motivation towards a kind of performative nature that I need to keep performing this, this role that I'm in, in order to, to get to this, this validation, this recognition, and these, these signals that I'm doing it right. Uh, whereas intrinsic motivation is the side where I've actually done a lot of the reflective work of really understanding for myself, like why I am doing something right.

[00:27:15] We engage in so many things like the, the types of social norms that are out there that we never question. Uh, the, the fact that like, why am I have so many students that are just like, they're getting a degree because their parents told them to get a degree and like right. That, uh, there, it really requires this.

[00:27:33] Element of why am I doing these things? Like what, what is it about this thing that's really aligned with, with who I am, with the things that have given me joy, that have pro, that have like produced passion inside of me. Right? And a lot of those things are things that when we talk about motivation, we talk about effort.

[00:27:51] Feel effortless, right? The extrinsic side of it is very effort laden. And the, the kind of motivation, uh, theoretical framework is really interesting. 'cause there was, uh, for a while there was this, this kind of, uh, theory called ego depletion that we only have like a certain amount of cognitive resources.

[00:28:10] And once we use those up, then we're not able to think clearly anymore. We're not able to be motivated anymore. And a lot of those theories started to fall apart in the face of kind of intrinsically motivated results that like, even if this person was kind of deprived of resources and whatever it was, if they were actively enjoying it, if they were passionate about it, they could find the energy, they could find the motivation.

[00:28:32] Continue to engage. And I actually see this in kinda the brain studies that I do that like, when we really get people to think about things that are important to them versus important to other people, we, it, it's not effortful. I have people just sitting in a scanner just listening to, to stories that either they told or other people told.

[00:28:50] And their brain is so much more engaged, especially these kind of default mode regions and things without them trying to be just because it's like, oh yeah, that's, that's me. That's important to me. Right. And this is something I try to put, this is a big part of my philosophy as a teacher. I try to make things as self relevant as possible with through the discussions that I do and everything.

[00:29:09] 'cause the more you can tie it to who you are and, and what you like and the things that you do, it becomes so much more effortless to actually integrate it and become like familiar with it. So would

[00:29:20] **Nate Hagens:** you say that. Our modern Western culture, um, one of the, the big ills facing us is, is we've somehow via technology and via the path that we've been on, outsourced our identity, uh, so that it's externally to,

technologically, culturally created as opposed to in the past, uh, or other cultures, it might be more internally, uh, constructed and, and

[00:29:49] Taylor Guthrie: maintained.

[00:29:50] It's a hard one to say because in the past, um, I wouldn't say that it was entirely intrinsically motivated because being a part of the group, being a part of the tribe, like serving the role that was ascribed to me at birth, right. I'm a peasant, I was born a peasant, I'm born. A farmer like that was still something that was very externally driven, right?

[00:30:07] It was still a part of who we are. I think that there's a power in kinda the freedom of the society that we have that allows us to be intrinsically motivated if we want to, because we have, we have more options, we have more availability to actually do that if we're willing to engage and then, and actually like do the work that's required for that kind of stuff.

[00:30:25] But our system is not. Designed for that. Our system is designed for immediate consumption, and that's what a lot of these identity narratives push.

[00:30:33] **Nate Hagens:** Okay. So, uh, let's imagine a young person, late teens, early twenties, who has had a very healthy, uh, um, family life. Yeah. Uh, ideal parents and, and. Does well in school and has friends and has a, a reasonably healthy, um, self identity, uh, perception, but then they start getting, uh, exposed and eventually, uh, you might say addicted to algorithms, ads, social media, uh, status likes and those things.

[00:31:09] Can you as a, as a neuroscientist describe neurologically and behaviorally when someone's identity starts to be shifted, uh, and shaped by external forces like

[00:31:21] **Taylor Guthrie:** that? I think a lot of these processes very much mirror the addictive kind of nature of substances themselves. Uh, because a lot of these algorithms, a lot of these things are designed specifically to give us, uh, short-term replacements for things like acceptance, for things like belonging, uh, things that we have a really strong value for.

[00:31:40] And it's, it's, it's ironic. I mean, we're more connected than we ever have been, but we're also more lonely than we ever have been. They're, they're hollow versions of what used to be a warm hug, what used to be a, like a vulnerable, reflective moment with another person, right? And instead we're, we're thinking that we're getting some of these things.

[00:31:58] We're, we're seeing these, these other people that are living this connected life or living this, this perfect life or whatever. And we're, uh, we're seeing something funny or we're seeing, uh, and it's something that's delivered to us in these short, fast, kind of, uh. Rewarding ways. And in these situations, whenever I have something in this moment that's giving me value, that's giving me reward.

[00:32:19] I don't need to engage in long-term planning in these moments because I'm getting something right now that's valuable. Uh, same with a lot of the addictive tendencies of, of. Kinda substances and things like that. I think the person that you described is going to have somewhat more resilience to some of these processes because of what they've come from.

[00:32:37] Because a lot of, when you look at addiction, a lot of addiction is that I'm engaging in these short-term pleasures because I'm covering up some kind of pain in my life. Uh, that it's, it's an, it's a form of escapism, uh, that, you know, like life is hard. I mean, even this person that grew up in this perfect like.

[00:32:52] Neighborhood, this, this perfect family. Uh, he could have a crappy job. He could have, uh, be embedded in this hustle culture and just be burnt out and being, doing, doing a job that's not aligned with who he is and what he wants to do. And that's another thing that pushes him towards like, okay, well if I'm not getting what I want from this external environment, then I'm just going to engage in kind of short-term pleasure.

[00:33:12] **Nate Hagens:** So is there some sort of an overlap or correlation between people that have, um, the temperament and biology, uh, leaning towards the, the tendency towards addiction and people who are extrinsically? Um. Motivated and have an externally created

[00:33:30] **Taylor Guthrie:** identity. I don't know how much work has been done to, to say that, like specifically.

[00:33:35] Um, I would speculate that that's probably true. Uh, that, I mean, we're, we're, we're at a point now when you look at like the DSM, the diagnostic statistical manual that therapists use for diagnosis and things like that, uh. There's been a really interesting thing that's happened with the, like labeling of addictive disorders.

[00:33:53] Uh, right. It started with just certain categories like alcoholism and kind of drug like addiction. And we're at the point where now gambling is in the DSM, uh, and it, that's a behavioral addiction, right? And that's been a lot of push to move things in, like technology addiction, phone addiction and things like that.

[00:34:10] Because you see very similar activation patterns in the brain with these things that you do when people are engaged in addictive substances themselves. You see craving, you see withdrawal, uh, like when you, when you take a teenager's phone away from them, I'll show you withdrawal, right? That they're going through this process of now craving that that short term reward that they,

that they had, uh, and now there's this, this friction that they feel because now they have to engage in something that is more effortful.

[00:34:37] So I had

[00:34:37] Nate Hagens: Robert Polsky on, uh, the show, and one of the things that I learned from him back in the day is the, we don't seek the reward. Um, we seek unexpected reward and the intermittent of, um, dopamine where we're like, uh, cherry, cherry bar or whatever that, and, and so I'm just thinking that social media and living in a world that has 24 7 access to scrolling and all the things provides us way more intermittent reward, um, landscape than, for instance, our hunter gatherers are growing up as a peasant.

[00:35:21] So it, it, it both, uh, adds to our addiction and gradually in, in a, um. Slow, but inexorable way makes us collectively as a large group of humans, more extrinsically, um,

[00:35:39] **Taylor Guthrie:** defined. I think so. Right? You look at what dopamine, I mean, there's so many precon like misconceptions about dopamine and Roberts Polsky addresses this.

[00:35:46] Great. I actually watched your episode before Polsky, uh, and I've, I've watched all of his lectures on stress, like huge respect for him. I have a very different perspective on determinism. Uh, but me too. Me too. Uh, but I, I think that something that's really interesting there is that dopamine is about desire.

[00:36:02] It's about the pursuit for reward. And when we have these spikes in dopamine, it's usually around these kind of unexpected rewards. We, we habituate or we start to like get used to things that we've seen before. Uh, and that's very

similar to the addictive process, right? That tolerance, that as I continue to do this, I don't get the same kind of reward from it.

[00:36:20] So now I engage with it more than I used to. Uh, but when you look at kind of that desire aspect, that dopamine aspect, uh. It takes a lot more effort to get to a long-term goal than it does to any of these short-term delivery systems that we have now. And I look at attention, kind of like a pie chart, like we can only pay attention to so many things in a given day.

[00:36:41] And we live in a culture that pushes these kind of 40 to 60 hour work weeks. Uh, and it's, it's this, this whole thing where like, okay, you're supposed to work and then you're supposed to go home and, and relax and engage in these things that you consider relaxing. Uh, and it pushes this idea that like, you need to be spending that time when you're not working, engaging in these mindless things.

[00:37:02] Uh, and so it really doesn't allow for the, the kind of powerful, reflective work that we need to engage in.

[00:37:09] **Nate Hagens:** So are there similarities between cultivating an intrinsically um, uh, driven identity and addiction recovery processes? Absolutely.

[00:37:19] **Taylor Guthrie:** Yeah. Yeah. Um. Really interesting work from, uh, one of my, my colleagues, uh, Elliot Berkman, uh, has this whole identity value model, uh, that he, you know, has been looking at the process of kind of value-based choice and, and addiction and all of these things, and shows that a lot of the people that are successful in overcoming addiction and overcoming kind of weight loss and all of these things are not people that set specific goals.

[00:37:44] Right. I've always been really kind of, uh, weary of the idea of like a diet that you have this like, okay, I'm gonna, I'm gonna lose 20 pounds and then I'm

done. Right? But then what happens when you lose that 20 pounds? Then you're, are you right back to where you were and enjoying the, the hamburger? Right?

[00:37:58] Instead, what has been really powerful in the research is adopting identities that actually support the behaviors that would be healthy in the first place, right? And so if I can continuously re remind myself and build value around the fact that I'm healthy and that being healthy is going to be something that's gonna be beneficial long term, I can think about myself, uh, 10, 15 years in the future when my joints are starting to break down, and, and how the exercise now and how the, the food I eat now is gonna have a huge impact on my longevity, on my overall wellbeing.

[00:38:28] I have to engage in these things continuously to, to remind my brain that that is a value signal and. When I'm able to do that, then it makes the choice different than just like, oh, I'm on a diet and I need to not eat this thing. It's like, no, I don't eat this thing 'cause I'm a healthy person.

[00:38:44] **Nate Hagens:** So as a, um, behavioral scientist, as a college professor and as a obviously aware and observant human, um, when you're at a party or at a cafeteria at a university and you're just looking at lots of humans, can you get a, just an intuitive sense based on your own pattern recognition of which people are primarily externally, uh, validated or in intrinsically motivated with their own sense of self, just by watching their interactions to a certain extent.

[00:39:19] **Taylor Guthrie:** Uh, and I mean, you see this in the students that you interact with, uh. It's always interesting that like you have, you have this, this huge class, 150, 200 people, and you really have like a group of like 10 to 15 people that actually care. Uh, and that might be kind of oversimplifying it. Yeah, no, I hear you.

[00:39:37] I hear you. But, but you see that there are these people that are like, like, I'm here because this is valuable. That not just because I paid for it, not just 'cause my mom wants me to do it. Oh, wait a minute. So just

[00:39:49] **Nate Hagens:** caring about something generally, like really the people that are watching this podcast, I would put in that category that they, that generally they genuinely care about our collective future.

[00:40:01] Yeah. So that right there is a clue that they have more of a, um, a self-constructed identity instead of externally driven. I think

[00:40:11] **Taylor Guthrie:** so to a large extent, and again, this, this gets really muddied up because like even, even this like idea of me valuing the, the future of humanity and things is still connected socially in some way, right?

[00:40:23] To this conversation, to this podcast, all of these things. But it's whether or not I'm integrating it with a kind of self-designed value system, right? That like, I've heard this thing and that aligns with. The work that I've done, the values that I have, the, the ideas and reflections that I've gone through where I'm like, you know what?

[00:40:41] I need to not have this, this rigid personality, this rigid kind of self and identity model. I need to have something that's more flexible and something that's open to hearing these ideas. So can

[00:40:50] **Nate Hagens:** you summarize which cognitive functions you think we need to be aware of, uh, and try to quiet versus which ones we could creatively use to our advantage to build an intrinsically motivated identity.

[00:41:03] I think attention is key in a lot of these things. Yeah. I, I've, like, I've come to that own the, uh, yeah. That conclusion on my own just in the past, like month or two.

[00:41:13] **Taylor Guthrie:** Yeah, yeah. Uh, because it's just, it's amazing when you start really not the controlled attention, like I was talking earlier, but the reflexive attention.

[00:41:21] What are you being pulled towards? Like, and a lot of the times we may think that we have certain values, but like, what are you actually spending your time paying attention to? What is pulling you, what is kind of distracting you? Because those are the things that your brain considers to be really important when you really consider what the brain is doing.

[00:41:40] Right. We are taking in billions of bits of information in any given moment. Like all of your touch sensors, your mouth sensors. I see that You gotta say something. Yeah, I'm

[00:41:49] **Nate Hagens:** sorry. And, and I, you know, this is a really central and very interesting topic to me. Yeah. Uh, both in my own life and in the world. Um.

[00:42:01] You know, I'm interrupting you all the time, so where's my attention? But I, I'm just, I actually think this underpins something central to Yeah. Our, our lives. And I'm thinking about a, a meme or I, I'm sure I could find an image somewhere online of someone hiking in a beautiful forest and there are birds and old growth and smells and it's full of life, yet they're on their phone playing Candy Crush or something like that.

[00:42:26] What, what's going on in the brain of someone like that? And, and can you help us understand that?

[00:42:31] **Taylor Guthrie:** I mean, that's, so that's kinda what I was building, right? Like the, the fact that the brain is taking in so much information, most. Like consciousness researchers are kind of in, in agreement that we're only aware of like 2% of what our brain is processing at any given moment.

[00:42:45] Right. So when you really think, like, what is getting to conscious awareness, like what is it that I'm like actually paying attention to, I'm actually engaged with that says a lot about what your brain actually thinks is important. Right. And in that moment, like you have not built a, a model in your head about your connectiveness with the, the wider environment, with life, with all of these things.

[00:43:08] **Nate Hagens:** Yeah. Yes and no. Right? Because that person, uh, maybe it's me or someone like me. Knows that they care about birds and wildlife. They know that they value that, and yet they still are compelled to do the technology thing in the moment

[00:43:25] **Taylor Guthrie:** that, and I think that comes back to the priority list that we talked about earlier.

[00:43:29] And, and this can ebb and flow with, with resources. I mean, the, the, the body and the brain are constantly engaged in economic things, right? What, what do I have right now? What kind of resources do I have on board? And do I really have the, the kind of capacity right now to, to really embed myself in the moment?

[00:43:47] Or am I just looking for an escape from all of this, this hard work I've been doing all day, or whatever it is, right? Uh, that it's not just that, like, it's always at the top of the priority list, right? When you look at, uh, like salience type stuff, uh, salience is highly regulated by your current. Context in your current state, right?

[00:44:09] If I am craving food, it's because I'm hungry. Uh, right? If I walk by a restaurant and I smell some, some nice smelling food or whatever, I'm gonna be like, Ooh, yeah, that smells really good and I'm gonna, I'm gonna start craving food. But if I just had a huge meal, that same smell is not gonna produce the same type of craving inside of me, right?

[00:44:27] And so wherever I'm like, you have to constantly go through this, this engagement of like right now, where does the priority list? Kind of set

[00:44:36] **Nate Hagens:** so that, that, uh, supports the notion of taking care of yourself, uh, exercise, sleep, nutrition, uh, social interactions so that you are satisfied and then you go into your day, uh, in that mode and you're better able to access your true values.

[00:44:55] **Taylor Guthrie:** Maybe. I think so. 'cause yeah, I mean, in that moment what's more valuable to right now is escape. Yeah. Yeah. And so, like, if I, if I wanna be connected, I need the, I need the space. I mean, this is, this is a really, I think. Important, bigger kind of picture that we're painting right now, because the type of self that I'm capable of being is incredibly constrained by my context.

[00:45:18] Right. Like something that, that I mentioned in terms of polsky, huge respect for Polsky. I, I've watched tons of his lectures, but I always have this really big issue with his hard determinist approach because of the fact that, uh, I mean, I've even heard you say it on other episodes, the, uh, Viktor Frankl quote of stimulus and response and the space in between, and that's where we're making choice.

[00:45:37] I agree with everything that Polsky says in terms of our current moment being incredibly constrained by the past once. Mm-hmm. Right. By the last five minutes, by the last month. Yeah. The last year. Our whole history as a species. Yep. It's not free will, but it's still will. I'm still deciding whether I'm valuing

this thing in the current moment and I'm using that to kind of build this model that I have of what I want to go towards next.

[00:46:00] And I think that the whole process of, of, of actual change, of meaningful change kind of requires the will of me deciding to value something else instead of just having this purely deterministic view of it.

[00:46:13] **Nate Hagens:** So say someone has the will, uh, to right now play a more intentional role in their, their identity development going forward.

[00:46:21] Yeah. What are some tools or practices, uh, they could use to do so?

[00:46:25] **Taylor Guthrie:** So there's a really interesting divide between what they call the will and the way, right? Uh, the way is knowing what to do, right? And that's often not enough. Like most people know that they shouldn't be eating crappy food, right? Uh, and then the will is more of the like, okay, I know I should eat the crappy food, but I need to engage in this process right now of reminding myself of this kind of future prospect and these other value signals.

[00:46:48] There's a, I can't remember if it was, uh, uh, Nietzche or Sarra, but there was a, a parable that they used of the gambler who. He was kind of ruining his, his family's life. He was spending all of his money, wasting all of his money. And he had this reflective moment where he is like, you know what? I need to change.

[00:47:04] I need to do something. I need to stop gambling. And then the next day he's walking past all the gambling tables, right? And in that moment, it wasn't enough for him to have reflected yesterday. He now needs to bring all of that to bear right now for it to

[00:47:19] **Nate Hagens:** be a value signal. Because then we involve our, our discount rates that we make great plans to change tomorrow until tomorrow becomes today.

[00:47:29] Yep. Absolutely. Um, okay, so he had to reflect in the moment,

[00:47:33] **Taylor Guthrie:** so, and there's, there's something too. So that came out of, uh, I mentioned Elliot Berkman earlier and there was really interesting thing that fell out in that they didn't expect in a lot of their research 'cause they were kind of looking at this kind of the will in the way, uh, and how we can kind of build up the will.

[00:47:47] Uh, and something fell out of the research that was actually interesting that they called Planfulness, that what's even more powerful than just having kind of a strong will and an ability to reflect in the moment is to actually have a meaningful plan of how I'm. Measuring these things, right? If I, it's, it's one thing to say like, I wanna be a healthy person, and now I'm in this moment where I'm like, okay, should I choose this or this?

[00:48:09] Right? I, if I had gone through the process of really deciding for myself, you know, what, what healthy actually means is doing this much exercise, getting this much sleep, and tracking whether or not I'm on board with these things. 'cause it comes back to this kind of thermostat idea. When I create this concept in my head that's tied to my identity and tied to who I am, I'm using it to judge my progress.

[00:48:30] So it's kinda like awareness, homeostasis. Yes. And that's a great way of putting it because I think that when you look at kind of the trajectory of evolution and like where we're at in terms of like what these networks are actually doing, I think that it's, it's a process of self-awareness that it's, it's something that

like we're becoming more, and you look at like the, there's a part of the brain called the insula that is incredibly expanded in the human species.

[00:48:56] And it's essentially a map of our internal processes of like what our body is doing, and it's allowing us to build a model of. Of what is going on contextually, allowing us to see like what our body is doing and how it's reacting and how that's tied to our context and our outside environment. And so we're able to build so much more of a self-aware model than any other animal on this planet.

[00:49:18] But then we have to be able to use that for self-regulatory processes.

[00:49:22] **Nate Hagens:** So the will and the way, like for instance, your, your college students, um, you're a teacher, so you're explaining that to them the way, but the will has to come from, from them.

[00:49:34] **Taylor Guthrie:** It does. And that's, that's why I designed my courses the way that I do.

[00:49:38] I, I'm, I'm very, like, I have, uh, discussions that they do that are optional and extra credit, uh, and are incredibly reflective and self relevant. Uh, because it's something that it's like, okay, if, if you really want to implement these things that you're learning, I mean, I teach group dynamics, which is like, we spend how much of our lives embedded around other people and in relationships.

[00:50:00] And it's like, if you want to just sit here and listen to these theories, that's great, but how are you gonna actually put them into practice in your life? So let's, let's

[00:50:06] **Nate Hagens:** move to that. Um, group dynamics. Yeah. Can groups have identities, neuro neurobiologically in the same way that individuals can. Have you scanned that in FMRIs?

[00:50:20] **Taylor Guthrie:** So it's, it's interesting. There's nuance to it. Uh, and, and some of this is gonna be really speculative, right? Because social neuroscience is, neuroscience is an incredibly new field. Uh, and so there's a lot of work that I wanna do that we just haven't had the ability to do in a lot of respects. Like I, uh, throughout my entire PhD, I collected, I think 180 participants, and it was a guarter of a million dollars to run that.

[00:50:40] Yeah. Uh, and so doing these things is incredibly difficult. But, uh, this comes back to kind of sociological debates that have happened between like Durkheim and, uh, Gordon Alport. Uh, Durkheim was a sociologist who very much believed that like groups have a kind of. Will in a sense, like you can treat a group like an individual.

[00:51:00] Uh, Gordon Alport was on the psychology side. He's like, you can't trip over a group. Groups don't exist. Right? We need to just study the individual. And I think a lot of what has happened over time is that we're at a, I mean, it's a dialectic. Everything is dialectic. We have like, it's just, this is just that, but it's usually a synthesis of both, uh, that the groups themselves are a collection of these individual identities and they can kind of have a personality, I think to a certain extent.

[00:51:23] Uh, and so these different cultures have different identities, so to say. I

[00:51:28] **Nate Hagens:** know that Green Bay Packer fans definitely have a specific identity. So, so what actually happens cognitively and behaviorally when people come together in groups, say a football fans or some high school or, or any number of, uh, group affiliations.

[00:51:46] What's, what's going on in the brain?

[00:51:48] **Taylor Guthrie:** So we are just scratching the surface of this, but what we're finding is really cool. Uh, it's something called neuro synchrony. Uh, and again, really hard to to study because like, I can't at, at a, at a football game, like I can't have everybody in a giant million dollar scanner while we're doing these things.

[00:52:05] Uh, there are some newer technologies that are allowing us, like, uh, called F nears. It's a functional near, uh, near infrared. Uh, but it's not, it doesn't penetrate as deep as MRI does. But what we're seeing across a lot of these things is that when I'm around people that are meaningful to me, that are a part of my in-group, um, I have very similar activation patterns to them.

[00:52:27] So, uh, there was this really fascinating study that was done by Carolyn Parkinson in California. She had this whole business school that she mapped out in terms of the social network. So she knew exactly who was friends with who, and then she brought a. Like certain kind of percentage of that group in and scammed their brains.

[00:52:42] And she showed them random media files, so like, uh, comedy clips and news clips, like a whole range of what you might experience from these things. And she could predict how close of a friend you were by how similarly your brain was activating to these different things. And we're, I mean, I see this in, in my work.

[00:53:00] I show that if I'm really good friends with you, that my kind of, uh, pattern of activity when I'm thinking about a third person is really similar to yours. Uh, and I'm, I'm about to start a, uh, postdoc position in the Netherlands. And we're actually looking at this longitudinally because what we've seen so far is kinda a chicken or the egg thing.

[00:53:18] We know that people that are really close have very similar brain activity in these regions that are kind of producing concepts, narrative when they're together or just generally when they're together. I mean, we've seen, uh, like when people are playing music together, it's like super in sync. Uh, when people are playing games together, they're actually more in sync with the people that they're playing with and not their opponents.

[00:53:36] Is is this a mirror neuron thing? I, that's a, it's a difficult question. Mirror neurons, uh. Have not lived up to, I think what we thought they might be when we first started studying 'em. Mirror neurons, I think, are more involved in motor mirroring than conceptual mirroring. Uh, but a a lot of this is, is entrainment.

[00:53:55] We use the same language, we talk about the same things, and so we start to form similar concepts that are kind of reflected in the brain in a similar way.

[00:54:03] **Nate Hagens:** The only proof I have that mirror neurons exist is when I eat a sandwich or something. Yeah. My golden retriever, I, I choose along with me. Uh, and, and does the do um, random Fred Willard question here?

[00:54:17] Yeah. Um, do non-human animals have identities in the sense that we're talking like, does my dog have an identity or do they don't have the same brain regions?

[00:54:28] **Taylor Guthrie:** They, they do have the same brain regions. I mean, when you look evolutionarily it all the way back to early vertebrates, we all have the same brain regions.

[00:54:35] Uh, there's a, a popularized, uh, kind of, uh, tripartite theory of the brain where like, uh, early reptiles just had the, the middle of the brain, and then mammals have the middle. That's completely false. Uh, what really differentiates

different species is how much they use those parts of the brain and those parts of the brain get expanded.

[00:54:54] Uh, there's something called phylogenetic refinement that Paul Chisik is a really big part of. That shows that what we're engaging in is actually an expansion of old abilities. So when we think about what we're doing in terms of like narrative exploration and all of these kind of things, the frontal lobe, where a lot of this stuff is, is used for movement.

[00:55:12] And it's used to plan out like, what do I need to do to go and grab that actual thing? And what we see in animals is that they, they're doing that, they're making plans. They're able to kind of work through these things. Uh, but there's this really interesting gradient in the frontal lobe. The further back you get in the frontal lobe, the more concrete the things are that you're actually engaging with.

[00:55:34] Like, I'm actually picking up this water bottle. I'm doing that in terms of motor planning. But then the further you get to the front, these parts of the brain that are a lot more expanded in humans, it becomes a lot more abstract. And so now I'm moving through abstract space. I'm moving through the future.

[00:55:49] I'm moving through the past, right? It's still a sequence of motor actions of like, what am I moving towards? But now it's a model that's, that's more long term and more long horizon. And we as humans have much more long horizon capability than any other planet on the species or planet species on the planet.

[00:56:06] **Nate Hagens:** Yeah, this is fascinating. Uh, if the world, uh, didn't have so many challenges, I might. Go back into college and, and study all this stuff. The, the brain and how it relates to our, uh, future is just so fascinating to me. So what are the qualities, uh, Taylor of individual humans that comprise a cooperative, effective and, and resilient group?

[00:56:32] Uh, the type of groups that I think we're gonna need, uh, as we increasingly enter uncertain times. I

[00:56:38] **Taylor Guthrie:** think what we're battling honestly is, is group think. Uh, so when I, when I kind of go through a lot of these group dynamic principles with my students, a lot of kind of the, the red bow that's tied around, like what it means to be a good group, uh, is cohesion.

[00:56:53] That's how we kind of measure the health of a group is how cohesive it is. Uh, but cohesion can also serve to put us in a position where we're facing entirely. Kind of really heavy conformity pressure. And that's, I think, where we're at. And a lot of the societal pressures that we're at right now is that, like me ascribing to this group now means that I need to accept everything that the group stands for.

[00:57:15] Mm-hmm. I need to accept all of their values. I can't have any other opinion than the one that I have. Right. Uh, I think that the healthiest groups are the ones that are able to develop a sense of cohesion. Right. So I, I like the people in my group. I can communicate with them. I feel safe around them to be vulnerable, to share intimate moments with them.

[00:57:32] Uh, and also, uh, there's a, a normative structure in the group that actually supports diverse opinion, that supports kind of, uh, speaking out against the normative structure that we have so we can adapt, so that we can grow.

Mm-hmm. Um, a lot of the normative structures that we see in the current system are ones that perpetuate the system, that are ones that, that we can't question or else were considered kind of outside of it and the black sheep or whatever it is.

[00:57:57] Uh, but we need, we need cooperative groups that are. Kind of aligning with these, these values of diverse opinion, of conflict resolution. I, yeah.

[00:58:08] **Nate Hagens:** We're gonna, we're gonna run out of time because I just have so many questions. What, what about this hypothetical experiment where you have 150 students next, next year in the Netherlands or whatever, and you notice in the first few weeks the 10 or 15% that are just grounded and have full awareness and, uh, scaffolded value system that is internally intrinsically built, or at least that's your suspicion and you break people in that group into groups of five.

[00:58:41] If you put five of those people together and then five of the more distracted people together, would you assume that, what would you assume?

[00:58:50] **Taylor Guthrie:** So I, this, this job that I'm taking is taking a lot of what we've found around, uh, especially these things like neuro synchrony that we talked about, uh, that we start to mirror these other people around us, but adding a longitudinal element to it.

[00:59:03] So we're, we're trying to see what happens over time. 'cause a lot of what we found has been this kind of chicken or the egg phenomenon. We don't know if we're surrounding ourself with people who already see the world the same way, or if there's some process of kind of becoming a cohesive group. Becoming integrated with each other, that's causing us to become aligned with each other.

[00:59:22] Um, and we're actually going to be directly looking at that. We're gonna be scanning people over multiple time periods. We're gonna be tracking entire social networks and seeing who becomes friends with who. And a big part of it is looking at self-regulation, which is tied to your question, right? If I am someone, let's say that I'm someone who has low self-regulation, that I'm very impulsive.

[00:59:41] I have a hard time like maintaining long-term goals and all of these things, but I'm now put into a group with the high achievers and I, I value their

belonging and acceptance. Do I start to mirror that self-regulation? The other way around can happen too. If I'm someone who's a high achiever that has long-term goals and I now surround myself with people who are low self-regulation and impulsive, do I now start mirroring that?

[01:00:03] And how strong is that effect?

[01:00:04] **Nate Hagens:** I would bet that the first example is you would up-regulate to have more discipline and values. And the second, um, would, would also the, the, the new person that was self-regulated would slide but only a little bit. That would be my hypothesis.

[01:00:20] Taylor Guthrie: I think that there's some nuance there, right?

[01:00:22] Because, uh, a lot of it comes back to this, this value idea of identity. That is it, when I get put into this group of high achievers, do I actually respect their opinions? Do I want to be in their group? Do I value the group? Is it something that I would consider as part of my identity? Like this is a group that I want to be a part of.

[01:00:42] Because as when we actually look at like group identity type. Processes. A lot of 'em are strongest when they align with identity. When I start to, I actually do this, I do this example with my students. I, I just put up the question, who am I on the board? Right? And I have them, I'd like five minutes, just write down whatever comes to mind.

[01:00:58] And when you actually reflect on that list, 70, 80% of it is usually relationships with other people that I'm defining my identity as, as being a father, as being a scientist, as being, uh, a brother, a sister, a friend. Two thoughts,

[01:01:12] **Nate Hagens:** uh, to come to mind f firstly, I find myself attracted to people who I perceive have a strong intrinsic value system and are not swayed externally.

[01:01:28] Maybe everyone is that way, but I, I find that definitely that is the case for me. Yeah, maybe because a lot of the topics on that, we. Cover here, climate change, energy depletion, uh, biodiversity loss. All these things are still a little bit fringe from the main cultural narrative. And so independent thinkers who are able to stand on their feet without being buffeted by the, um, spheres of influence from social media and the cultural narrative that has value to me.

[01:01:59] Yeah.

[01:02:01] **Taylor Guthrie:** Does that make sense? No, absolutely. And, and because of that, their perspectives are gonna mean more to you, right? We, we look at like biases within these groups and, and who we look to for kind of these outsourcing type methods. It's social comparison processes. I'm either comparing upwards and I'm saying, look, these, these other people, they, they have a perspective that I value that I want to integrate with my own.

[01:02:23] Or we engage in downward social comparison where we say, look, they're, they're not like me. I don't need to integrate anything that they have to say. Right? But that whole process is, is laden with where their group sits in terms of my priority list and where kind of the authority structure in that group sits in terms of like, do I actually care about, accept the acceptance and the belonging that comes from this, from the leaders, from authority, whatever it is.

[01:02:48] **Nate Hagens:** So here's another thought, uh, reflection. Um. I don't know the brains of other people. I only know my own. Yeah. And, and apparently I only know 2% of it. Um, but. Five or six years ago when I was teaching college,

um, I had an identity and I was a teacher and I had one-on-one interaction with 25 50 students during a semester.

[01:03:14] And then I came back to my farm and I took care of my animals and I, I wrote books and things like that. That was a certain lifestyle and, and perception of my value system and my identity. Now we have a hundred, um, 200,000 total followers and I've become a podcaster and I. Unfortunately, my identity is becoming, I'm a podcaster and I, I don't really like that because it's changed me, I think a little bit more externally motivated than I used to be.

[01:03:52] Can you opine on that?

[01:03:53] **Taylor Guthrie:** Yeah, I mean, I, I was in a similar boat. Uh, I was, I was drowning through grad school. I had, I had a kid that was born in 2020, uh, and like they don't pay us a living wage to, to get a PhD. And so, um, I took on a lot and I tried to, to start my own podcast and, uh, my own channel and all of these things and like very much found myself like drowning in the statistics around who was watching it and how much they were watching it and all of these things where those started to become the signals that I was listening to.

[01:04:25] Uh, and I think a lot of the message that I think is important through a lot of this is becoming more aware of the signals that your own body is, is, is feeding you, right. Really understanding like what emotion is to a large extent, if we really kind of expand this, this thermostat. Perspective, right? That I have this idea of what it means to be a good podcast, or I have an idea of what it means to be a good father or whatever it is.

[01:04:46] I am now reflexively looking out to the world to make sure that I am in tune with this model that I have of who I am, right? And I am now going to receive error signals that are telling me like, look, you just, you just like lost your cool, you,

you didn't have a good moment with your child. Like, is that really what it means to be a good father?

[01:05:05] And now I'm, I'm actually experiencing negative emotional states that are a signal to me that I'm in misalignment with the actual identity that I have. And the really interesting thing that I think this leads to is that, you know, a lot of these kind of contemplative practices and like mindfulness practices are about getting rid of the self and about dissolving the self.

[01:05:25] Um, and I take more of kind of a nietzche perspective on this, in that. When you do the meditative practices, you are in that moment kind of dissolving it, but then you go back to your life and you're still engaged with your, your relationships and your work and all of these things. I think what a lot of these contemplative practices are doing instead are just creating a more flexible model that instead of having this really rigid idea of who I am and what I need to do to, to feel like I'm successful, it's that I'm more open to the equanimity.

[01:05:51] I'm more open to the ambiguity. I'm saying like, I don't need to process these negative emotions every time. I'm a little bit off of this like ideal state that I have for myself. Like if I have this rigid model of myself that I need to be perfect for anybody to like me, now I'm getting error signals all the time and.

[01:06:07] The, the work that's done through cognitive behavioral therapy, uh, is, is kind of this, this model reworking that I'm saying like, okay, I have this really rigid sense of who I need to be and what I need to do, and that's what's producing a lot of these negative effects. And so really listening like, what is the body telling me and how do I kind of adapt and grow to my current environment and develop a kind of more healthy, flexible model that allows me to navigate this in a better way?

[01:06:33] **Nate Hagens:** So I, I've noticed that many people, uh, increasingly in today's world are bogged down by day-to-day survival or taking care of their kids, or over stimuli, uh, stimulated by technology and kind of an impersonal, uh, society. And so they don't have a lot of bandwidth to do the things to work on themselves and intentionally create a intrinsic, uh, formation of their identity.

[01:07:01] So you've mentioned in your work, um, that it's helpful to have some sort of a, a guide or a leader or a mentor to model their, their identity after. What does that mean and what are the qualities such a person, a leader, uh, might, might have? No,

[01:07:19] **Taylor Guthrie:** and I'm not suggesting to join a cult. Yeah. But it, but it's, uh, it's something that I can, I can actually relate to, like I said, like, I mean, it's, it's really hard.

[01:07:30] Like I, I espouse these things, but then actually finding the time to like sit and maybe journal or, or think about like, what are these things that are happening right now? Are they still in line with who I am with who I wanna be? Uh, it's honestly, I mean, the, the word privilege has a lot of baggage associated with it.

[01:07:45] But it's, it's true. Like having the time to actually do this work is something that is a privilege. And people that have the money, that have the time, that have the space, they can do a lot more of this self-exploration than someone that's bogged down with 50, 60 hours a week and kids and all of this stuff.

[01:08:00] Right. And that's where I think it's really powerful to be embedded within a community that is aligned with the values that you have. And especially having leadership within those communities that's actually kind of, uh, modeling the type of values that are integrated with what you think.

[01:08:16] **Nate Hagens:** So wherever you are on the spectrum of Yeah, fully extrinsically, uh, motivated to fully, intrinsically motivated, if you become part of a group.

[01:08:29] And that group is someone, some populated by people that are intrinsically motivated and have awareness of the moment and all the things. Um. That's, that's a process that we should seek out, right? Is is the, those sorts of groups in our, in our lives.

[01:08:51] **Taylor Guthrie:** It's interesting, right? So, uh, there's something that I, I really try to do with my students is break down the, the concepts of individualism and collectivism, right?

[01:09:00] Because when you say those words, you immediately start thinking of like large cultural, like there's individualistic cultures and collective cultures when a lot of the evidence actually shows that these cultures are like 60% collective and 40% individualistic. Right? Right. And when you break it down even further, you really need to understand that we're, that it's a spectrum that we're on that's incredibly dynamic.

[01:09:20] That there are certain contextual features that will prop up our individualism. Individualism in a moment where intrinsic motivation is really important in that moment where I'm really considering my values and who I am and whether this is important to me. But then there are other moments where being a part of a cooperative group environment is more important.

[01:09:37] And there's, there's this great quote that I think about all the time that, uh, I can't remember. Who said it, but it said that if the individual's goals and the group's goals were the same, there'd be no difference between individualism and collectivism. Right. And so when you're talking about being embedded in a group of other intrinsically motivated people, the only way that you can actually obtain a

cooperative group is if those intrinsically motivated people have similar collective goals.

[01:10:05] Right. Because as soon as my individual goals are intention with what the group is trying to do, that's where conflict is bred. Uh, and you need to have certain structures in place. We're talking about kind of. How to develop like a well-functioning healthy group. Uh, it's ones that have a normative structure that allows for a, a really healthy conflict resolution process of aligning these goals and aligning, aligning, kind of cooperative type things.

[01:10:30] **Nate Hagens:** So you are a social neuroscience PhD about to be a postdoc, about to do some cool, uh, research, but you also follow this podcast. Yeah. Um, you know, w wearing your social neuroscience hat, what do you think the most fertile soil is in, in your academic research domain to helping the future, uh, of the human predicament?

[01:10:56] From what you understand from watching this podcast and others.

[01:11:00] **Taylor Guthrie:** Uh, honestly, it's gonna sound kind of out of left field, but, uh, that, that's quite okay. Changing the perspective that we have on adolescents. Yeah. Uh, oftentimes we view adolescents as this just like chaotic period that like the parents just have to like, get through and like there are these hormonal teenage monsters or whatever.

[01:11:21] This is the most powerful time of the human experience in terms of identity creation. In terms of flexibility. There are also, there's a very different pattern of, of dopamine in, in young people and like through the adolescent period where there's this strong drive towards novelty and towards kind of getting a, like, think about the fact that when you're a child, you are completely dependent on your parents, right.

[01:11:44] Then you get to this point where now you're like embedded in these social structures, you're meeting these other people, you're seeing other perspectives, and it becomes this point where you're like, look, I've been told that this is the way the world is my whole life and I want to think about it differently.

[01:11:58] And there's actually a push towards higher degrees of novelty during adolescence. And so having a kind of cultural kind of paradigm or something that actually supports the adolescent experience, that produces kind of cooperative groups that are forward thinking, that are allowing these, these kind of adolescents to develop a sense of like where the earth is gonna be in 50 years, in a hundred years, and how their action right now can impact that.

[01:12:23] Uh, because I think that they are the true movers of the progress that's coming next. So

[01:12:27] **Nate Hagens:** some sort of a social neuroscience applied, uh, module in high schools, for instance.

[01:12:35] **Taylor Guthrie:** I mean, not even just the social neuroscience module, but like the reason, honestly, the reason we're moving to the Netherlands is because of the community type practices there.

[01:12:44] There's the way lower addiction rates, there's lower teen pregnancy rates, and a lot of that is because of the fact that they have a very community oriented way of living. They get people, they get these, these children involved in things where when you look at risk taking in adolescence, oftentimes it's pitched as this, just like, oh, they're just like reckless and they're just getting into these just like dangerous things or whatever.

[01:13:05] That's because those are the types of risks that are available to them. If instead we're giving them positive risks to take, like trying out for a play or being

part of some type of sports team or some type of community event or whatever, they're getting a lot of that risk taking out in a different way and building resilience, building community at the same time.

[01:13:23] And so instead of, yeah, not just, not just education, but entire kind of structure, reforming.

[01:13:29] **Nate Hagens:** The human equivalent of the rat playground. Uh, yes. Experiment.

[01:13:33] Taylor Guthrie: Yes, absolutely. Yeah. Yeah. Rats, rat, Disneyland.

[01:13:38] **Nate Hagens:** Uh, this has been fascinating and I've only asked you probably 10% of the questions. So what sort of general advice, either as a neuroscientist or just as a human being, do you have for people following, uh, this conversation for their lives?

[01:13:57] Um, at this time of kind of cultural upheaval?

[01:14:01] **Taylor Guthrie:** Honestly, the frontal lobe is a superpower. Uh, like our ability to reflect meaningfully, uh, to engage in this, this mental time travel of really kind of looking back and looking forward. Uh, I mean, we talk about the future of humanity. The future of humanity requires long horizon type thinking.

[01:14:21] It requires having a perspective of saying like, look, I'm not going to engage in this thing right now because I know where it's leading. I know what this thing can produce if I keep doing these things. That's part of the process, right? Is use your frontal lobe, uh, use it and I mean, we see, so be a be a

[01:14:37] **Nate Hagens:** time traveler.

[01:14:38] **Taylor Guthrie:** Be a time traveler, right? Uh, and we see like in addiction, in kind of, uh. That can be tied to some of these technology things as well, uh, that you see dysregulated frontal lobe activity. Uh, and I, I often kind of think about a lot of this frontal lobe activity as, as hope creation, that you're able to create a sense of like what we hope the future can be that then serves as one of your value inputs.

[01:15:03] So

[01:15:03] **Nate Hagens:** how important, uh, to being intrinsically motivated and have an internally built identity. Um. Are the stories that we tell ourselves or are the things that we're exposed to? Yeah, yeah. For instance, some people who, uh, and, and the universe of people that listen to this podcast may be in the pre tragic and the, the stories, even though they're science tethered on this program can be really intense and upsetting.

[01:15:34] Yeah. So there, there does need to be a balance of the time traveler needs to go forward 30, 50 years and envision some positive outcome for society. So, so how important are stories? Uh, I think

[01:15:48] **Taylor Guthrie:** they're central to, to this. Uh, so there's really interesting narrative work. Uh, Dan McAdams does a lot of this stuff, uh, where they, they do these really intense interviews with people and they have them, uh, tell 'em about really positive experiences in their past, really negative experiences, walk through their personal ideology and what they care about.

[01:16:07] And they build these really extensive documents on each of these people. And then they go through them and they look at these stories that these people are telling about themselves. This is actually an influence for some of the work that I've done that we're about to publish. But, uh, a lot of what you see in these stories are these, these two flavors of, of things that happen when people

experience like traumatic events, uh, and have to do with the type of story that we're telling.

[01:16:31] And they, they call it redemptive arcs and contamination. So there's one group of people when something. Bad happens to them or when they experience something negative when they're not, they can't control the stress in their lives. Whatever it is, they become defined by it and it becomes the story where, this is who I am, this is, I'm always gonna be bad Things happen to me.

[01:16:49] That's just the way that it is. They tend to be very statically rigid in terms of their, their model. That their model is not something that's open to being kind of modified in any given way. But you have these other people that's really interesting. I mean, these are just people just telling stories about their lives, but they tell it in a redemptive way where, look, this, this thing happened to me, but it's a source of growth in my life that I'm using it to, to move forward and to move towards something different.

[01:17:12] Right? And it's tied into a lot of the work on just growth mindset in general. Something I very much push with my children, uh, instead of saying like, oh, you're so good at this. Like, that was really good effort. Like, you're getting better.

[01:17:24] **Nate Hagens:** What comes to mind is, uh, yeah, Stuart Smalley from the Old Saturday Night Live episodes on the, the Daily Affirmations.

[01:17:31] Is that a real thing that people start in the morning or before they go to bed, they, they do some sort of catechism about their self-worth and, and things that are their valued. Does, does that take root in our

[01:17:44] **Taylor Guthrie:** neurobiology? I think it absolutely does, right? Um, it's not something that I, I personally do. I think I probably could benefit from it.

[01:17:50] It depends on whether you're habituating to it though. Is it just like a, a hollow routine that you're doing, or is it filled with actual vulnerable, refre reflection that's leading to growth, right? Uh, there's this. Kinda metaphor that I use in my students when I talk about neuroplasticity that I think is really powerful because neuroplasticity, the idea is thrown around all over the place.

[01:18:10] Like, our brain can change, like change your brain, but what's not talked about is how hard it's, uh, like, so take the example, this metaphor that let's say that I'm building a path through the forest, right? And, uh, it's, this path is one of my bad habits. It could be waking up too late, it could be doing cocaine, it could be doing any of these bad things or negative things that I'm doing, right?

[01:18:31] Every time I engage in that activity, I'm laying down work on that path. I'm pulling the weeds and pushing the, that rocks to the side, uh, to eventually, I've done it so many times that now that the path is paved, there's handrails, there's lights. I don't even have to think anymore about doing this. It's, it's effortful effortless, right?

[01:18:47] I just walk. I don't have to think about where I'm stepping, but let's say one day, I, I actually think about where this path is leading and I don't like the destination anymore. And I decide, you know what? I wanna change. I wanna change my brain. I wanna engage in neuroplasticity. I now have to decide. That I have to step off this really nice paved path that's really easy to walk, and I have to start bushwhacking through the forest.

[01:19:07] I gotta get my machete out and start cutting bushes back. And usually what you see is that motivation is really high. At the beginning it's like, I wanna change this thing is, is, is not, it's not positive for me in my life. It's not healthy. And so they're out there and they're cutting stuff back and they're making this new path.

[01:19:21] All the while not knowing whether the end of the new path is gonna be any better than the old one. But what happens is that every day. That effort gets harder. 'cause that old path was really easy to walk, but now I gotta wake up, I gotta get my machete out again. I gotta keep walking and keep building this new path.

[01:19:35] Right? And the really insidious part of all of this is that if at any point I decide that this effort that I'm putting in is too much, that old path never goes away. Yeah. It's, it might be a little overgrown, but I can just like brush it off and it's fine. And now I'm walking back to nowhere again, or to this, the place that was negative for me in the first place.

[01:19:53] And that comes back to these positive affirmations. It comes back to the, the gambler parable that I gave you, right? Is that it requires us to continually reaffirm these things. We can't just like have this moment where like, this is who I want to be, and then a moment comes by and you're just like, oh, I'm ordering donuts again.

[01:20:09] Right? True story. That was a couple nights ago. Right. But like, you have to engage in those moments continuously and you have to recognize the value of that change as you move forward.

[01:20:20] **Nate Hagens:** So, um, what. Recommendations do you have for your students or for young humans, uh, becoming aware of all this? And, and maybe a, a prequel to that question is what is your observation of the 18, 19, 20, 20 3-year-old students that, that you have from the beginning of the semester understanding all this to the, to the end?

[01:20:45] What, what have you learned and, and what have you shared from from

[01:20:48] **Taylor Guthrie:** them? I have some really. Powerful moments with some of these students. Um, I teach, uh, group dynamics is a big one because it's, it's so embedded in our lives and I have these people come to me like I've never thought about conflict the same way.

[01:21:01] I like thinking about conflict not being a negative thing, but being something that builds structure and build intimacy in all of these things. I, I have, I teach a psychoactive drugs class and I have these people coming that are just like, I just thought these drugs were so cool and now having this like really nuanced perspective, a lot of what I get from them is that information is power, right?

[01:21:18] That having the ability to even think about these things, 'cause that's the problem, right? It's not free will, it's entirely constrained by the language that I have to describe it. And so if I can actually like. Engage with these theories and think about them in a meaningful way. It allows me to then start embedding them into my identity model that I have.

[01:21:38] Right? And so be, be curious, right? Be flexible and know that like you're never gonna know everything. My, my 5-year-old all the time is just like, I know everything. Just like you're never gonna know everything. Right? And that's a good thing because you're always open

[01:21:53] **Nate Hagens:** to new possibilities. And so have, have some of your students been transformed by this knowledge?

[01:21:59] **Taylor Guthrie:** I think so. I mean, I've had, I've had people reach back after time that like, uh, the way they interact in relationships, the, I mean, I talk about authenticity a lot in these contexts, and the tension between authenticity and acceptance that exists all around us. That like, there are moments where I want to be authentic.

[01:22:17] I want to do these things that are kind of aligned with who I believe I truly am, but I'm always at odds with. The collective forces around me. Um, and bringing awareness to that, I think has been really powerful for a lot of these students. Uh, and recognizing that like, like I don't need to be controlled by what Nietzche would say, these thou shalts like thou your parents, that you shall do this, that your friends, you should do this.

[01:22:40] Like, uh, that these other perspectives that people have of who you are is not who you are, right? That you need to develop an internally generated feedback system instead of entirely relying on external feedback.

[01:22:53] **Nate Hagens:** And is there a checklist on how we do that to, to develop such an internal feedback system?

[01:22:59] **Taylor Guthrie:** Um, I mean a lot of it I think is, is really starting to become more aware with your biology, with your process in general. I mean, that happens through things like mindfulness happens through things like cognitive work, somatic processing, realizing that these, these feelings that we're having, these emotions, these like pain signals, there're signals right?

[01:23:19] I, I view, I really like, I would love to come back and talk about like the Superorganism. 'cause I have a lot of thoughts. My entire channel's called the Cellular Republic. I've had a really interesting, similar idea, uh, for a long time. But I view the mind in many respects as kind of a governing force in the body.

[01:23:34] And we have to have this perspective that, like I am as the governing entity, I'm receiving these signals from my body that are telling me like, Hey, what you're doing sucks. And it's like, it's like the, the water in Flint, mic Michigan or whatever, it's like I, I keep smoking and keep like, harming these cells in my throat or whatever it is.

[01:23:53] And they're, they're sending me a signal that they want to be a part of a more holistic and healthy community. Uh, and being able to tune into those things and actually listen to these signals in a meaningful way, I think is really important. What do you care most about in the world? Taylor? My family. Uh, and you know, I actually, I think back to the conversation that I had with you before we decided to do this podcast.

[01:24:15] And you asked me, you know, you said what? What do you think is going on in the world, uh, in terms of these like calamities and this poly crisis and everything? And I was actually kind of taken aback in a way because I remember as an adolescent, as an early 20 something year old caring passionately about these things.

[01:24:34] Just like, like voraciously watching these documentaries and diving in. And then I was just like, hit in the face with life. Uh, and, and then I, I got to this point too where I became a father and now it's like it's really hard to engage in this kind of pessimistic look of the future when I'm trying to, to raise these young children to, to live to their potential.

[01:24:56] Uh, and so it's been a really interesting journey these last, like three, four weeks since that last conversation of like re embedding myself in some of these things and trying to, to think about, because I've been so tied to like my family and my work, uh, that this has been a really interesting experience to, to think about how my work applies to some of these things.

[01:25:14] If you

[01:25:14] **Nate Hagens:** could wave a magic wand and there was no personal uh, uh, recourse, what is one thing you might do to change human and planetary futures for the better?

[01:25:25] **Taylor Guthrie:** Oh yeah. That dizziness is the anxiety, or anxiety is the dizziness of freedom. Right? Uh, so many options there that it's, uh, it's hard to, to narrow it down to wand.

[01:25:35] 'cause like, things that I wanna do with the magic wand would be subtle. I want to have faith in humanity. Um, I want to, I think one of the, the magic wand things that I would probably wave is, uh, getting rid of shorts and TikTok. And, uh, a lot of the things, like I have, I do this addiction class where I do a go without assignment and they have to give something up for, uh, I do three weeks.

[01:25:59] I'd love to do 30 days, but they, they're not up for it. Uh, and at the beginning they're like, this is gonna be so easy. And I have, I give 'em the choice. I'm like, can give it up, whatever. And I have some people that I'll do cigarettes, like super ambitious, and I have other people that give up TikTok and they're like, whatever.

[01:26:11] It's TikTok and the. In these papers, just like how beeping hard this was, uh, really speak to how powerful these things can be.

[01:26:21] **Nate Hagens:** So. With your magic wand you would get rid of, of shorts and TikTok. And what you're really saying there as a neuroscientist is there are aspects of our society that act as as speed bumps and quite large ones at that to get to our awareness homeostasis.

[01:26:38] **Taylor Guthrie:** Absolute. And it's, it's something that when you really look at what these shorts and these, these TikTok things and everything are doing is that they're, they're oftentimes curating the type of self that these influencers are putting out there. Uh, that's entirely product driven and consumer driven in a lot of ways.

[01:26:53] Uh, and so it's, it's making the outsourcing type stuff really, really easy and it's, it's consuming the time that people would've had to engage in meaningful journaling practices or reflective or meditative practices or whatever it is that can actually lead to health and longevity in the future. We didn't talk

[01:27:15] **Nate Hagens:** about journaling, but that sounds like something that would be supportive for intrinsic, uh, identity building and awareness and other things Probably.

[01:27:24] **Taylor Guthrie:** No, and it's a lot of it, not just journaling, just like what happened today or whatever, but, uh, true, like vulnerable, reflective journaling. Uh, one where you're, you're constantly questioning your biases. Uh, there's a, a philosopher, he's, he's really wacky when you, you hear him, but a lot of his messaging is really interesting.

[01:27:43] Uh, je uh. He has this idea that ideology is not really about what you believe, but what you're blind to being able to believe, right? That when we accept these, these values and these other things from these kind of, uh, consumerist things that we're a part of, it blinds us to possibilities that we could explore otherwise.

[01:28:03] Uh, and so a lot of the work I do with my students, a lot of the work that's, that I try to do when I have the capability, um, is to question constantly whether or not I'm bringing bias to the table.

[01:28:15] **Nate Hagens:** So you mentioned the, the cellular republic and Yeah, I, I didn't know that you knew that much about my work, but if you were to come back on the program Yeah.

[01:28:24] Uh, either on a round table or, uh, another solo episode, what is one topic of personal interest that you're passionate about that you would be willing to take a deep dive on that is relevant to the theme of this podcast?

[01:28:38] **Taylor Guthrie:** Yeah, I think it's, uh, evolution, honestly. Um, I in many ways see the evolution of the organism as being something that very much e like mirrors the evolution of society, that societies evolve in a very similar way as, uh, organisms do.

[01:28:52] Uh, and you mentioned earlier the whole like, can these groups have, uh, kind of an identity per se? Uh, and I, I think that they, they do in many respects, uh, because of these similarities and the dynamic processes that are involved. And when you look at, like, our current system is honestly kind of like in one of the earlier species.

[01:29:11] Like it hasn't developed the ability for self-reflection. It's, it's reactionary. It acts like an animal does in terms of continuously looking for growth, looking for con consumption, uh, trying to feed itself on the resources it thinks that it needs. And what it doesn't have is a frontal lobe. To actually consider the implications of its actions.

[01:29:33] Nate Hagens: So what, what is the societal equivalent of a frontal lobe?

[01:29:36] **Taylor Guthrie:** I don't know. Right. I, I have some like curious ideas about potentials for ai, not exactly what AI is right now, uh, but in terms of something that could serve an integrative function to kind of like make sense of a lot of these complex poly crisis signals that are coming together to allow for a more meaningful, reflective process.

[01:30:00] Do you have any closing words for our listeners, Taylor Guthrie. I, I, I really appreciate the opportunity to do this. Uh, this has been a, a really fun

conversation. I, I hope we have a chance to, to maybe do this again, but, um, I think a lot of what I kind of challenge people to do is to, to really consider how much your, your groups.

[01:30:22] Influence the way that you think about the world. Uh, a lot of the times we think that we're doing things intrinsically. Uh, and when you really kind of narrow it down and you think, you answer that question, who am I? And you see how many of those things are tied to these relationships around us. Um, are those authentic relationships?

[01:30:38] Are those relationships that are actually serving your, your passion, your joy, or are those ones that are defining you in some externally driven way? Choose your groups wisely. Yes.

[01:30:48] **Nate Hagens:** Thanks so much, Taylor. Good luck with your move, uh, to Holland and with all your postdoc work. Appreciate it. To be continued, my friend.

[01:30:55] Thanks so much, Nate. 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.

[01:31:18] This show is hosted by me, Nate Hagens, edited by No Troublemakers Media, and produced by Misty Stinnett, Leslie Balu, Brady Hayan, and Lizzie Ciani.

[01:31:34] I.