Inside the Brain Age Clock: Measuring Cognitive Aging in Real Time Transcript

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Introduction to the Interview and Brain Age Mission

Welcome back to the Heal Your Brain Masterclass. I'm Doctor David Jockers, your host, and today I've got the honor of interviewing Paola Telfer from Sensai or Sens AI.

And we're talking all about reversing your biological brain age. And she's got some amazing technology that really helps you understand your biological brain age and how your brain is aging and helps enhance neuroplasticity so you can reverse your brain aging or slow it down and improve your brain as you get older.

And so a little bit about Paola. She's a serial tech entrepreneur with a passion developed technology that improves lives. And she's the CEO and founder of sensai, a neurotechnology company that helps people take control of their brains neuroplasticity to extend their cognitive health span.

We go through this in great detail. We talk about how she developed the brain years, testing for looking at your biological brain age. And we talk about her brain training program that you can be doing at home.

And also, if you're a clinician, it's amazing for clinicians to be able to measure their patients brain aging and then actually give them neurofeedback, programs, as well as whatever other modalities you're doing.

Hopefully nutrition, lifestyle, all that and actually remeasure and be able to see improvements in biological age of the brain. So really cutting edge technology, you guys are going to enjoy this interview.

So without further ado, let's go into it here with Paola Telfer from sensai. All right, well, I'm here with Paola Telfer She is a serial tech entrepreneur.

And we're talking all about how to reverse your biological brain age. You can check out Paola's great websites and start AI. And, Paola, can you share what led you to start and start AI and why this is such?

Why this became such a personal mission for you? Yeah. Yeah. So we referred to it. Sensai, you know, like the the Japanese Mauser. Yeah, yeah. And for me, it was, it was 2015.

I had a motor vehicle accident, so I got rear ended. So out of the blue, you know, top of the world right now.

Paola's Injury and the Origin of Sensai

And then suddenly I had to have neck surgery. I had all kinds of, physical issues, like, I just, you know, musculoskeletal. And I had a concussion, and I had PTSD.

And so that really turned my life upside down. I was, CEO of another company at the time at a startup. And, and I had a young son and a husband. So my son was six.

And so it really, really disrupted my life. And in that process, I came to understand a couple of things. One is that the root of my healing had to start with my mind and my brain.

It couldn't be physical first, and that my nervous system was step one in that, it was really about regulating my nervous system and coming back online in a way where I wasn't fearful of the world.

Right. And, and I also discovered neural technology. So when I was searching for solutions for myself, I realized the power of neural technology in really great clinics that were doing neurofeedback and neurostimulation and things like that.

And my educational background in my bachelor's was in electrical engineering. So I was, you know, immediately drawn to all the squiggly lines, all the signals, and, felt the impact personally.

So I became quite enamored with this intervention that had been around for decades, like more than 50 years. And I knew nothing about before and had science behind it, though not sufficient.

And, I just wanted to basically share that goodness that that was available but largely untapped and scale it to people who could benefit from it that didn't have the dollars to go to these really fancy clinics where it kind of resided, in its top form.

So that was that was where the passion came from is because I really had a very strong felt experience, and it changed my life. Yeah. So you had a pain to purpose story, which is why most people get into that.

And outer space, especially people that really have, have, have a mission. It's usually their own personal story or a close family member or something along those lines.

And so you saw these amazing results with this. And can you, can you break down what what is neuroplasticity in the brain? What does that mean? And why is that so important?

Why is it important for people to understand that when it comes to our overall health and wellness, you know, neuroplasticity is really, it's such a super power.

That's why people need to understand it. It means that you have agency. You're not stuck with the brain you have today, nor with the brain you were born with.

So you have control of changing it so that that's that's the first part. And, and and it can be, changed by regular life stuff. So whether it's interventions that are physical, you know, we talk about changing, learning languages, you know, I know with, with your work around neuro because that's really interesting, right?

Like changing from your dominant hand to your other hand, things like that. Very, very powerful and then when, when you think about, aging, I think the problem is, if we don't really embrace and understand that we have neuroplasticity, we accept that cognitive decline is normal.

And it's something that we just need to, you know, be okay with as we get older. So as we become grandparents and all of this, we're like, yeah, it's it's normal that I'm not going to remember what I started this conversation trying to say, or it's normal that I, I can't really connect with my grandkids because I can't follow.

Right. And and so I'm telling the same stories over and over, all the usual stuff that we've seen with generations before us and, and we think, yeah, I'm destined to that.

But neuroplasticity tells us different. Yeah. And so we can rewire our brain so you can change your brain. And if you have certain patterns like, you know, limiting beliefs or, certain fears and stressors, PTSD, like you experienced, you can retrain your brain.

Understanding Neuroplasticity and Brain Rewiring

That's the, the amazing thing now with technology, it makes it a lot easier. And this is something that you saw, like people have been using neuroplasticity principles.

In fact, you know, they're biblical, right? In Scripture, it talks about meditating on the word of God. Right. And and you know, you see this in, you know, many of our ancient traditions utilized, whether it's chanting or gratitude or whatever it is to create neuro plastic changes in the brain that brought more happiness, more peace.

But with technology, we can get faster results. And I think it's I think it's also really powerful because we have so much stimulation today, to have some things, some sort of technology that can really enhance this.

And you saw this as kind of a gap in the wellness industry. Yeah, there are definitely a couple of gaps. So I approached it for as my perspective was as a meditator, but also as an entrepreneur.

And so I've meditated for some decades before I came across neurofeedback and, you know, technology generally. And it wasn't until I had the neurofeedback, which is that, that feedback loop that is really real time.

Right? So I'm talking about 200 milliseconds, 250 milliseconds, where I got into those really beautiful meditative states, predictably, reliably. I was training like I was training my body.

It was very predictable. And so that was incredibly exciting. And then as, as an entrepreneur, it was reaching those epiphany states that made things more clear.

Right. And, and I realize now that it's because I was able to zoom out, as well as zoom in. And it was that flexibility that I had been training with, with those modalities.

Yeah, I would imagine if we were to, you know, kind of look at what's happening in your brain. You're growing a lot more synapses, these little gaps in between the neurons.

You know, I don't know if you know about, like, Stanford studying Einstein's brain. Do you know about that? I do, I do, yeah, but but please tell the audience, I mean, they they studied Einstein brain because they wanted to see.

Did he have more neurons, more brain volume than the average person? His body size. Right. Male. That was his body size. And what they found was that he had the same amount of neuronal mass.

But what they found was that he had twice as many synapses, right? These little gaps in between the neurons, which gave him better flexibility of thought.

Right. More creativity. He was able to think outside the box. Right. And, neurofeedback, meditation practices like that can be really helpful for enhancing synaptic density in the brain.

Yeah, absolutely. And and if I could like add to that a little bit, it's really when we think about those creative states, are those, connections connecting different thoughts, which is often what, disparate thoughts really were, adds, to creative ideas.

That is often accomplished in gamma brainwave training. And that's the very, very fast, very, very small and difficult to read, brainwaves, which are associated with monks that have done meditation for many decades.

And they've done heart based meditative practices. And so their gamma can be seen really strong and very synchronized across the brain. And so one of my goals was in developing the system was, can we make sure we can train gamma in a way that is high integrity signal.

And so that led us into an engineering, sort of, path, which was around developing our own electrodes to could do that. So we so we do have a lot of patents around that and how we built the system so that the integrity was really high on the signal.

But back to your your original question was around where was the gap? And so I saw that part of the gap was obviously these modalities work neurofeedback, nerve stimulation, heart rate variability, training.

But the real gap for me was that even though I was doing those and clinics, I was, underwhelmed by the measurement. Like, I knew anecdotally, I knew personally that it worked.

Right. My concussion was was better. I could get back in a vehicle with another driver without, like, going into, like, a hypervigilant state. And, and I knew, like, I knew that my, my thinking process, like, I was able to be more creative and more focused for work.

And I was sort of at levels I had been, you know, a decade or more prior. Like I was like, wow, I can't believe it. I really I didn't realize that I needed that sharpness back and I'd lost some of that.

So what I wanted to do was to have, reliable measurement. So at the time, what they were doing for me was mapping. And some people who are in the space might be familiar with that.

Where I've had that done. And the trick with that is that it's, it's as much as it's, valuable. It can be highly subjective. So you could give that same EEG to different clinicians and get different, feedback on it. Right?

I would get different training protocols and maybe, you know, you could give the same cue to the same clinician later. It could be different, give you different interpretation as well, unfortunately.

So there is some subjectivity. And as an engineer, I don't I don't really like subjectivity. So I really wanted to be able to see what exactly is going on objectively and then be able to see the progress over time.

And so what I came to understand was that what I was really looking for was to understand the function of the brain.

Why Measurement Matters in Brain Training

And so I decided to, in our system, not just have the interventions, but have this 15 minute task that was super easy to use, but lab standard, like in in labs that are testing pharmaceuticals and and be able to test brain function objectively and then be able to routinely check that over time, like on a monthly basis.

And so that became that became very important to me. But it also became important to us learning, what worked, and, and how to make that those interventions better.

And then ultimately now we're at a point where that's helping us to contribute to the field with some of our research and our findings from that data sets.

Yeah. Really interesting. And you developed this ish this I guess this is a way of measuring brain years, right? Where you're measuring the brain differently.

Can you explain that? Yeah. Yeah for sure. So, brain yours is actually an AI model. For it's a biological brain age clock. So much like the epigenetic clocks or, like the Horvath clock that you might be familiar with one of the originals, or maybe I think is the original.

And, and in the brain that's largely been unachievable, like in terms of having a very accurate clock. So the gold standard clock for the brain would be based on MRI.

And so what we're looking at here is, is can we actually see how the brain is behaving. From a biological age perspective. So there's your chronological age, you know, and we're expanding we're extending that like we're there's a lot of research and a lot of progress in extending our chronological age.

So we're extending our lifespans. But our biological brain age in terms of how is our brain functioning today is it functioning like 20 year old or a 50 year old?

That's actually relatively important for us to measure and to enter in a way that we can intervene as well. And so, that's what we've built. So we've built something, that we're going to be publishing, in conjunction with the Buck Institute.

And if you know, the Park Institute, it's the largest research group, focused entirely on aging. And so they've been around for some decades, and they do incredibly good work, very deep science.

And so we very lucky to partner with them and have their expertise on this project. And now we're going to be

publishing to share it, share the knowledge.

So the idea being, you know, as, as you think about brain performance, we can think about how fast are we thinking, how good is our reaction time? But that's only one piece of the puzzle.

So the other pieces are how flexible is it? How you know, so we talked about like, gamma, can you switch from gamma to alpha which is more relaxed. Right.

Can you, can you shift from being really focused at work to zooming out to do creative thought? Right? Can you shift from from work mode to being with your kids?

Right. You want to be able to have that flexibility. And the other aspect would be recovery can you recover from high stress because high stress will naturally come, especially if you're a high performer and can you recover quickly.

And as we get older, it becomes harder to recover quickly. So all of these things are measurable, but they're also trainable. And so that's that's the exciting part as well.

Yeah. So one of the things that you're looking at when you're looking at the, the brain years, when you're looking at the age, you're looking at heart rate variability as far as recovery goes.

And are you looking at brain waves as far as flexibility? You know, can you explain those into that formula? Definitely both of those and then the other.

So Hrb EEG and ERP are the the three. So HIV heart rate variability, you know, that's become such a known, marker of resilience. And we measure it like I'm wearing an aura I'm sure people have.

Woop is another great device. We have EEG. So that's the brainwaves. So that's your neural activity that you can capture electrically at your skull. And then we have event related potentials, ERPs which are lesser known.

But ERPs are actually what is more difficult and actually very important to our model. So ERP are this 15 minute test. It's all included in the same system.

And if anyone's watching visually I'm just holding up, the controller. So you would have the headset on our headset on, which looks like this. And then while you're doing this speed test for 15 minutes, we are actually capturing your brain's activity.

And so even before you hit the button that when you hit the button around half a second, about 500 milliseconds in all the seconds before that, you are receiving the visual information.

Maybe at 100 milliseconds, you are, deciding what's important and what's not. You. So you're filtering. You are then, making a decision, right? About what you're going to push. Right or left?

There's impulse control as well, and there's memory coming online. So it's really, really rich information in that, 500 milliseconds. And because of our engineering design, we're capturing that one millisecond precision.

So we we're not messing around. We're trying to get real scientific, clean signal. And, and so when we put all that data together now, you know, we're using AI models, right?

So there are about 700 biomarkers we can derive from just those three elements in our data set.

Brain Years: Measuring Biological Brain Age

It's all contextualized or we're not capturing, EEG like while in the wild, like in the sense that EEG fluctuates a lot if you are eyes open, our eyes closed.

If you're sad watching a sad movie. Right. If you're very stressed out, these are you'll capture a completely different, elements in the EEG. And so ours is very contextualized.

It's very important. And so it gives us a lot of valuable information that now with AI modeling, we can, decipher something like the brain age. So for us, the key is which biomarkers did we do we end up using which tend to end up being about 700.

But we had over a thousand. And then what you end up with, just to give a sense, you know, if you look at a scatterplot of all these, these people, you know, thousands of people on our platform, and you look at chronological age versus biological age, and you look at that line, the one, two, one line, that linear line, the line that's like 1 to 1, we're looking at a 0.92 level of accuracy with our ability to predict that, biological age, that chronological age.

And there's going to be lifestyle changes, that people would have that might move that age by, you know, maybe 4 or 5 years. But, but that, that's expected.

And so if we were looking at an MRI clock, it's sitting, the best in class ones are being like 0.95. That would be.95 instead of the.92. So we're very close to that.

But what's really powerful is that we're measuring neurological, signals to capture our clock, which means that it's, upstream from the structural changes that you would see in an MRI.

And so it's still very malleable. Right. So we're still at the neuroplasticity level where we can intervene and change those biological years. And this is all something people can do at their home.

Is that right. Yeah. Yeah. It's a combination of things. You know, we've I think there's definitely, there's an importance to clinical work as well. And so we've very recently made sense available to clinicians.

And so you will see it, being used in for like clinics like, like let's say with the VA, with it, with PTSD, you know, addiction clinics, talk therapy clinics.

And these are the folks that are very focused on mind. So they they understood it right away. And, and what we're going to be. So that's the, professional membership that we have.

So it's and you can do the neurostimulation aspect in a clinic. So it's really nice because you can stack it with other interventions that you're doing in the clinic, and it just helps the mental state of the patient.

And they can feel the change right away. And so it's so that that's already very powerful. And then what we're coming up with very shortly is the brain years product or feature.

And that will help clinicians in 15 minutes. You know, we're going to be adding more for for a clinician. So it'll be probably about half an hour, optionally where they will actually be able to do that ERP task in their clinic, derive their results from the brain years model, see the biological age, but also have a report that's automated and interpretive.

So you can actually see what markers are leading to that age for that person and what, interventions might be best. So outside of just sensai, like our interventions, there's probably like a lot of other interventions that clinicians are testing and working with.

And now they can track that in a way that is brain specific, in addition to other things they may be tracking. So that's super exciting. Absolutely. So you can get your brain your scan.

And then let's say it says you are let's say you're 55 years old and says that your brain is actually 65. And then you can use the sensai program along with good nutrition, getting blood sugar stabilized, good regular exercise on a on a regular basis, really prioritizing good sleep, keeping your stress under control, getting sun exposure, all these different, you know, natural modalities.

And then maybe whatever your, your, your, your doctor clinicians recommending and then you get to test on the following month and the month after that, you can watch how your brain is progressing as far as you know, the obviously your goal would then be to reduce the, the, the brain years, the, the aging impact of your brain and get it back down close to your biological age or even younger than your biological age.

Exactly, exactly. And I think that that's best done in the clinic. Because it has to be in the context of your whole health, like what else is going on.

Right? So as a, technology that is in the home, we don't know if you're going through a divorce, right? You know, we don't know the other circumstances in your life or that you just had surgery, whatever it is.

And so the clinician is best suited to interpret that in context. And so that that's why we're launching bringers into clinics versus at home. People can do assessments and we will it will still be valuable.

And we will use some of that logic, some of that modeling to help them get benchmarking between themselves and other people. But it won't be that comprehensive report.

So it's more on, peak performance, you know, extended, you know, extending your cognitive health, but less on the clinical side at home. So there's really two options for people.

Clinicians can get this to start implementing it in their practice and see these real objective changes in their patients brain health, which is obviously great for compliance, because when people are able to see, you know, a score, right, or a pre post, they're going to be more compliant with recommendations.

So a great thing for for clinicians to do. And then people can get get started with the brain train training program if they want at home. They're just not going to get the brain years, assessment.

But they can still start with the sensai. Program to help improve overall brain health. And, you know, and obviously see the positive changes associated with that.

Is that correct? Yeah. That's correct. And then we would recommend they go into the clinic like the ideal state is that you go into the clinic every quarter like every every three months and you get another, another brain test.

Home Use vs Clinical Brain Age Assessments

And then you see how things are progressing and then at home is best suited for neurofeedback. And because neurofeedback is it's like exercising the brain.

So you want to do that quite regularly, like five times a week is really ideal. So would you say this is almost like, you know, many, many people have tried meditation and and many people have quote unquote failed, right?

Although I say there's no there's no failing when it comes to prayer, meditation, gratitude, even if you're able to do, you know, one minute of stillness, right, one minute of gratitude.

That's positive. Right. But a lot of people have not. And compliant because they just, they don't have predictable results. And would you say that using this is going to enhance their level of predictability with the results that we're going to get?

Yeah, I mean, I would say yes. My answer would be yes. With the caveat that, you know, as a meditator and, you know, thinking about the teachers I've had, when you have scoring on meditation, it's a little bit, you know, against the purpose, right?

Like, so that you create striving where meditation is very much about being present. But we do as much as we can give the scoring. So for example, we would tell you how much time in, let's say, a 20 minute session you spent in the state that that trained the state.

You're trying to train. So you're trying to train gamma, for example, you spent 30% of your time in gamma. Next time you'll spend more and more and more and more.

Sometimes you're having a bad day and it's less so you'll be able to see that. And that's probably the best measure. But the fact is that, meditation, I think in our society, we simplified it so much that we tend to think of it as just, I think alpha is probably the best way to describe it, which is just a very relaxed state, which is really we close our eyes and then we keep thinking, am I doing this right?

Am I wasting my time and then versus, what what we're we do is we have a, a systematized approach to improving and advancing a meditative practice which is actually correlated to improving your mental flexibility and and going up the mental wellness pyramid.

So it's it's a gamified app for home. And you start with the nervous system. So you start with alpha. You start with heavy biofeedback and alpha training which we call calm and all variations of that.

So there's a deep calm, there's different things you're doing here, but you're basically, training inner safety. That's step one. And then once you get that balance in, in your nervous system, now we start training focus.

And now we're talking about distractibility. We're talking about kind of toning that, dopamine need. Right. So we're actually leveraging dopamine, but we're leveraging it in a way where you're doing this biofeedback with focus states and you're getting rewarded, but in this very gentle way.

Right. So you get you and then it's very pleasing to get all the rewards and things are lighting up on your screen. It's like a hands free video game.

But you're getting better and better and better at it. But that's not necessarily meditation, right? And then you go, now you start going into alpha theta and beta gamma and alpha gamma.

And now we start getting into real meditative practice where there is variations on, zoomed out, sort of like a mindfulness practice, like more of an observer.

There's more like a zoomed in single pointed focus meditation, more Tibetan style. There's a heart centered meditation, and, and there's more of a transcendent meditation, like a gamma theta.

So we talk about these on the website for people who are interested in the blogs. And so that's, that's definitely one, one type of person that comes to the sensai system for home.

And we can definitely help with that, because you are basically having the experience of meditation. Like if you have a very kind teacher who's teaching you meditation and they just tap you on the shoulder at the right time when it's like, oh, you're falling asleep, oh, you're losing focus, right?

It's effectively that. But now with, real time feedback of your bio signals. So it's quite powerful. You make progress fast. That's great. And people can learn more about all the different brainwave states at Sensai.

At that. Yes, I, I, I would, I would recommend if if it's about learning that side of it, I would go to sensai slash science. We lay a lot of it out, you know, like the brain networks and neuroplasticity and the modalities we use, like we talked about the transcranial for the brain modulation and how that's stimulating the brain with, near infrared light.

And it's stimulating the mitochondria in the cells. So we talk about all those things in depth. As much as you want to go. Transcranial photo by a modulation, it's a it's a big term.

What it means is you're you're shining basically red infrared light.

Brain Training, Meditation, and Neurofeedback

I mean, infrared is really what's going to penetrate through the bone on your brain. So kind of like, a red light device you might have seen or an infrared sauna, but it's specifically designs right on your cranium, and it will actually get through the bone and impact the brain.

And, this is actually I, you know, I'm a advocate. I've seen a lot of people who hope for cancer in Mexico. They use this for brain cancers. People have seen really good results as far as that goes.

And that infrared really has a powerful effect at improving blood supply into the brain. It activates, nitric oxide. So it dilates blood vessels. Also, it impacts the mitochondria, improves their, ability to produce cellular energy.

Right. And so there's a lot of great impacts from that photo, bio modulation. And you're seeing that with that being applied as people are going through this neurofeedback, they're seeing even more powerful changes.

That's right. I when I was kind of studying how do we systematize this? I saw that the best in class clinics were using neural primers. So stimulating that neuroplasticity, putting energy into the brain for that improved recovery, reducing inflammation, improve and improving our blood flow, like you say.

And so I thought that's critical. That's a critical part. Before we just put in neurofeedback, which I knew was going to be the heart of sensai. So so yeah, absolutely.

That that alone is a very powerful. Yeah, that's that's how we're stacking modalities now. Right. To get even better benefits. Yeah, really powerful stuff.

And so for someone who's listening, who wants to take action now, maybe they want better focus, sleep resilience. What's the best way for them to get started at home.

Yeah. I mean, check out our website, sensai. So s e and s I and I would, I mean, it's everything's available online. It's available internationally. It ships within a week.

I would say, you know, it's basically all comes together. So you get the headset and you also get the, the controller. And so you're able to do all those modalities.

So the assessments that are based on event related potentials, the the boosts which are based on transcranial for the brain modulation, and then the neuro feedback and HIV biofeedback which we call train.

So boost train and assess is all embedded in a closed loop system. And then the assessments are really key because they recommend what, what combination of boosts and trained to do, which we call missions with a protocols that lasts about two months and with, with the protocols that we've already started, you know, analyzing the sharp mind mission, which is one around cognitive decline, is, that one's already showing that we can we can move the biological brain age by about five years, which is quite tremendous.

That's something we did not necessarily expect. And was that that study done? So it's a two month duration. So in two months you saw a five year improvement in biological brain aging.

Yeah. That's right. And and we we're doing it like with controls too. So we have a control group. We're doing it scientifically as possible in combination with Bach.

And so, you know, it's it's important like from a startup perspective, you know, our goal is like scale impact, right? But at the same time, we want to use interventions that are noninvasive.

And worst case, they're going to help you get calm and focused. Right. That so that was let's let's kind of the benefit of of of these modalities that we've chosen.

But we want to be able to give people, the power to do these interventions. And then these assessments are, are recommending what to do, but you can do it on your own as well.

You could, you could after you do your assessment, choose your own path if you want to. We're just slightly recommending, but we are also making sure that the ones that we recommend are ones that we have data for, that are showing improvement as quick as possible.

And how long a session are these typically? Or somebody puts on the headset. Right. They've got the little panel. Right. How long are are is how long should they allow for for for the actual session it's usually 15 minutes.

Yeah. And some people choose to go longer. So after some time we start allowing people to, to go longer. But 15 minutes is really all you need for a lot of them.

That's great. And can people, like, stack this? Like, maybe they're in the sauna and normally they read in the sauna. Can they do this in the order in the summer?

So now it depends. Now I'm thinking, is it a wet or dry sauna but like to wet? Probably not so much. Yeah, not a wet sauna for sure. Probably not a super hot dry sauna, but maybe an infrared sauna that gets up to maybe 150 degrees.

Yeah, for sure you can do it on a pen mat. I use the pen and then that of, like, you know, like the. Yeah. The Navy, it goes up, up, up the nose. And then I do the neurofeedback.

Is that, is that, infrared. Is that like red and infrared intranasal. No, no, it's, it's, oxygen. It's oxygen. Oh, okay. Yeah. Yeah. So you're getting more oxygen up in.

Yeah. That's great. Yeah. You know, I just got a a photo by modulation, nasal, you know, one that goes actually nasally, improve, nasal nitric oxide levels, which get up into the brain.

And so I was about to experiment with that. So I'm all about stacking these kinds of things. So trying to figure out in my head, okay, when can I do this.

And can I, can I combine it with some of the other things I'm working on and doing? And that's that's great.

Brainwave States and Final Takeaways

And what's cool is as long as you have measurements and, and it's control and the trick with, with us that start playing around with stuff like that, is it you can you control and isolate bits like before you just start stacking.

Right. So that's the discipline of it I guess. Yeah. Yeah. Absolutely, absolutely. Well, this has been great. Why don't we why don't we finish with just kind of a quick rundown?

I think people were probably curious about the different brave brainwave states you touched on Alpha. You touched on gamma. Can you just go through, like, a quick summary of each brainwave state, the benefits of them?

And then, you know, kind of finish with that? Yeah. For sure. I mean, I think first, it's important to understand that we're always having all the brainwaves at once.

So you're never just doing alpha or just doing gamma. So having said that, I like to describe it sort of as, as an ocean. So when you are, going to learn deep sea diving, first you start in a pool, right?

So, so it's important to, to start with the surface, where we normally are at the surface of the ocean of the subconscious, if we can use that analogy, is, is beta actually.

So beta is where we are right now. It's very, you know, prefrontal cortex oriented. We are problem solving. We're taking all our information from our senses, so very externally focused.

And that is where we do our work. Right? So when we're in beta and we want to train beta to be more honed in, it's

about, being indestructible, right?

It's about, being able to deep dive on problems for hours at a time. So that's the benefit of of data. Beta. But when beta gets out of hand, it's too dominant, right?

Because we are, you know, inundated with information from our socials and the media, etc.. Then we can start getting towards burnout. So if we can't down regulate the beta and allow the next level alpha to come in, then we it could become a problem.

So it's all about the balance of the brainwaves and, and using, the dominant state that's required for the task that you want to do at the time. So the alpha that comes as you're going deeper and I imagine you're in now, you're swimming in the ocean.

You're not just at the surface. You're kind of going a little deeper. And and at that level you're relaxed. You're still very embodied. It's almost like like it is like, like going to a spa and being I think about like the hot, cold spa.

Is that where your body's kind of tingly? Your, you're feeling really good, that alpha, level, we often call it calm or a relaxed state. And you want to be there when you're with family, with friends.

You don't want to be problem solving. You don't want to be scrutinizing and judging things. You want to be just receiving and very content with yourself.

Right. And so that is very helped by biofeedback as well as the alpha brainwave training. They're they're very, synergistic. And now when we go deeper than that, we get into theta.

But for sensai, we actually do an alpha theta that's in between. And so alpha theta is much more hypnagogic. So this is where you can rewire your brain.

So you had mentioned earlier like you know our belief system. Right. The mental habits that we have, can we rewire those. You can rewire those alpha theta.

And so we have a program that's alpha theta that we refer to as, introspection. The mission around that, that, that two month protocol is called freedom. Now.

And this is where we bring in gratitude meditations, or forgiveness meditations. And it's, it's it's own contained, you know, two month journey on reprograming yourself as you want to.

Right. So it's not somebody else doing it to you so that alpha theta is important. That's hypnagogic state. Theta is actually meditative. So, if you're familiar with like, float tanks, right, where you're no longer getting any input from outside, you're completely inwardly focused, and you're still that's theta.

And and then the next one is delta. And we're familiar with delta in sleep states. Right. And so the one that's missing from all of this is gamma that we touched on earlier.

And gamma is unique in that it feels like it's at the bottom of the ocean. It's very, very profound. But it's actually higher and faster than all of these.

So we've been going slower. Right. And bigger waves as we go towards the bottom of the ocean, towards sleep. And at the top is actually gamma. But gamma feels like you're, you have sunshine at the bottom of the ocean.

So it's very profound, but it's very, very lucid. And so if anyone's familiar with, like, lucid dreaming or very high creative states that are, that are profound, and still very inwardly focused, that's where gamma comes in.

And so a gamma theta meditation is quite sublime, right? That's like what people often think of as a very, sort of ultimate meditation state. Wow, what a great rundown.

And so, guys, I would definitely encourage you to go check out sensai or CNN as a AI and you'll be able to learn how to reverse your biological brain.

And the brain trainer that, that Paul has been talking about. So be sure to check that out. Paola, you're a wealth of knowledge and, you know, really excited to try this out for myself.

And I just love what you're doing. What what you're bringing to the wellness community. Any last words of inspiration here for our audience right now?

I mean, I think that, even if it outside of sensai, I think it's really a matter of, people deciding that they have agency over, over their mind. I think it's healthy for us to just take breaks from our media.

I think that is already a very big, bold step. It's actually hard for us to do. We have we have a pretty serious addiction. And even just taking 15 minutes to be silent, focus on your breath.

It doesn't have to be meditative. It can be in nature. I think that's incredibly healthy and very valuable for us. Yeah. So good. All right, guys, well, check out sensai AI or sensai.

Check that out. And, we'll see you all in a future interview. Be blessed.