Attention Span: How It's Getting Lost & How To Get It Back – Gloria Mark, Ph.D. – #1011

Dave Asprey:

You're listening to The Human Upgrade with Dave Asprey. Today's episode is filmed live at The Beverly Hilton, which is always fun. I love in-person interviews, because they'll just let you connect in a different way, which is kind of important, because we're going to be talking today about human-computer interaction and what that does to your brain with a really interesting and very well credentialed expert in the space. What you're going to get out of the episode today is you're going to learn how to manage your attention span and the things you can do in the world around you and inside of you so you have more control of your own biology. Oh, wait, that's the definition of biohacking. Your attention span is influenced by your environment. So, we're going to talk about exactly what you can do. We're going to talk about a new book on the subject that's really worth your time if you're feeling stressed and anxious all the time. Book's called Attention Span, and the book's author is none other than Gloria Mark.

Gloria Mark, Ph.D.:
Thank you, Dave.

Dave:
You are chancellor at UC Irvine.

Gloria:
I am chancellor's professor.

Dave:
Thank you. It does say chancellor's professor, which means ... What's the difference between professor and chancellor's professor?

Gloria:
Oh, it's an upgrade.

Dave:
Okay, got it. Oh, I like the language. So, pretty much the whole world of academia, it's like lords and lordships. Is it like that?

Gloria:
Sort of, yeah.

Dave:
Right. Do you ever have Game of Thrones in academia?

Gloria:
Not my knowledge, but I imagine there's a lot of activities that are parallel to those kind of thing.

Dave:

That's a fair point. I love it, because when I look at academic research in the world of biohacking, there's always this addendum. But, before you do anything, more research is needed. I'm like, "Well, now we know more than we did before, so maybe you could just edit your direction a little bit, even if it might improve later." So, I always have this internal battle where, yeah, I love academia, because you're validating or disproving the stuff that people are doing. At the same time, you're never willing to just stick a nail in it, and it's done. This is a best action, a best behavior, a best practice for what we know today.

Gloria:

Yeah, I think that's a good way of putting it. In a sense, you're never done. You're either always trying to disconfirm or confirm previous research, but you're never quite done. So, you have to put this qualifier that future research is needed, maybe not exactly the same kind, but in a slightly different direction.

Dave:

Is it because they're maintaining space for curiosity, or they're asking for more funding?

Gloria:

Well, I'm not that cynical to say asking for more funding, but it's usually good scientific practice.

Dave:

It is. Being open to be wrong is at the foundation of good science and maybe the opposite of the last couple years of ... Damn it, don't question the science. Because, if you can't question it, it's not science. At least that's how I grew up. I've have a bachelor's of science, and so you're asking some hard questions though about humanity. For 20 years, you've studied human-computer interaction, which fascinates me, because I'm all in neurofeedback and biofeedback and windows of attention span and 350 millisecond response times and all this kind of stuff. Because, I was a computer hacker, and now I'm interfacing computers with humans at my 40 Years [of Zen] as a neuroscience thing. What's changed over the last 20 years? You started, it was a very different world.

Gloria:

The world was different, and the field of human-computer interaction was very different. So, the field has been around since the 1980s. At first, the emphasis was designing the interface. How can we change the interface so that it's easier for people to use, whether it's a speech interface, audio interface, text based, touch interface. But, the field has expanded. So, now we're looking much more broadly. We're looking at how computers are integrated into our lives, into our practices. So, think of the interface is not just confined to the screen, right? But, it's thinking more broadly about how we're integrating phones, computers, tablets into our everyday practices.

Dave:

You actually studied fine arts, not some nerdy thing.

Gloria:

I did, I did.

Dave:

This fascinates me. You can tell you have this amazing shirt and this necklace. You have an artist's eye for the world. So, that wasn't enough. So, then you just got a big degree in math.

Gloria:

Well, it's not so easy to make a living as an artist. There are a lot of people who are so devoted to art, they would never, ever change and do anything else. And, I realized I was not one of those people. I also realized I'm good at math and science.

Dave:

So you like to eat, is what you're saying.

Gloria:

I like to eat, and I didn't want to have all this additional pressure in my life of trying to make a living. So, I thought I could be creative, but do it in a different field, and I could do it with math and science.

Dave:

I think that's beautiful and fascinating. So, you left room for art in the world, which is funny, because art is a user interface as well. Good art makes you feel a certain way. Good tech makes you feel a certain way. Bad tech makes you feel another certain way, maybe distracted and anxious. Do you use the same sensors in your body that you do for art to look at machine interaction?

Gloria:

Oh, that's interesting. When I studied art, you use a certain kind of thinking, lateral thinking where you're combining two different ideas that seem very, very different, and you find a connection between them, and you make a discovery. Science tends to be more linear, logical reasoning. But, I think that my art background really helped me a lot in approaching science, because especially if you're forming hypotheses, you can really take a chance. You can come up with some really different idea. You can think out of the box. I think that art training really helped me to do that. So, I didn't feel so confined. I would actually argue that everyone who studies science should actually also study some art form, art, music, dance, whatever.

Dave:

Interesting. I like that perspective, because one of the things that art and especially movement or music does is it embodies a sensation. So much of science is from the neck up in the head, but the very best scientists found some way to tap into the wisdom of the body. Surprisingly, the relationship between master musicians and master mathematicians is very high correlation, because there is math in the music, and vice versa. So, that helped you to perceive things.

Over the past 20 years, if I date myself when I worked in tech, one of the big companies I worked for was acquired by a company still around today called Akamai. Akamai was all about making website response times faster, because people were losing their attention spend waiting for a webpage load. We made hundreds of millions of dollars by making webpages load faster. There was all kinds of cool tech layers and all this stuff in there, but at the end of the day, that was a major part of user interface. Then, where should menus be, and when can you click? And, just be fast. What's changed from the faster is better UI from 20 years ago to where we are now?

Gloria:

Well, faster is better, it's created an expectation and a certain norm. If a webpage doesn't load super-fast, it's going to lose people. So, there's a lot of pressure on designers and tech companies that pages should load fast. But, if we back up and we think more broadly, what's happening with our attention when we have access to information so fast within milliseconds at our fingertips? It's created a culture and a way of thinking, way of behaving, that we can also switch attention very quickly. Every time you have the least little urge that pops up in your mind, you know can go after it and get that information. You can get it fast. Someone who contacts you, there's also expectations that are wrapped up into relationships that we have online, especially with email and Slack, that if you contact someone, you expect you're going to get an answer fast. Maybe we can talk a little bit more about that later, but that's social capital exchange.

Dave:

So, now since information is mostly free and mostly right away, it feels to me like I've been an early adopter of technology. I had the first PalmPilot. I actually worked for the company that acquired PalmPilot and rolled it out in a big way, which was the great-great-great-grandfather of the iPhone and all of that. My first email account was in I think 1991 or '92. The first e-commerce ever on the planet was out of my dorm room, because we didn't know to call it e-commerce. So, I'm one of those tech people.

Every time it got faster and more accessible, it felt like my brain expanded, because, oh, great, if I need to know something, it's right there, and I can quickly look up that one fact about Akkermansia bacteria that I couldn't quite find, and then I can complete this amazing picture in my head. Whereas before, you and I are both old enough to remember microfiche. You ride your bike to the library and go in and find a little piece of plastic and put it on an amplifier magnifying glass thing and scoot it around and then read the thing and then press a button to make a photocopy after you put a nickel in. If you're under 35, I just explained horse and buggy, but this is how research was done. The internet seems like it's kind of done a lot of good in that way.

Gloria:

So, I want to make this clear. I do not want to go back to the days of microfiche.

Dave:

Thank God. Okay, we've got that one out of the way.

Gloria:

I am very excited about technology. I'm very excited about innovation. I just think that we're still in the Wild West, right? We just need to think more carefully about how technology should be designed and deployed. Going back to what I said earlier about integrating into our practices, how can we make a better fit so that we're not exhausting people when they use technology?

Dave:

It's been used a lot as an example, because it's kind of cool, but Bhutan, the Kingdom of Bhutan just said, "Look, we're measuring gross national happiness, and that's our goal." Then, that changed the government behavior towards limiting tourism so people could have happier sheep and all sorts of stuff like that. It seems like Amazon and Google and Facebook could give two shits about how happy people

are, as long as they're extracting the most attention and the most money. Do you think we're going to fix that problem?

Gloria:

That's going to be a tough problem to fix, and I think the solution has to come at different levels. We can work on it individually. We can work on it at an organization level. We can work on it at a societal level. I'm not sure tech companies are going to change, but I think we can enact change through other directions.

Dave:

In the book, you talk about four types of attention. Can you walk our listeners through what are the four kinds of attention?

Gloria:

Sure. So, let me actually start by saying there's a common narrative that there are two states of attention. You're focused, or you're unfocused. I started reading the academic literature on engagement and focus, and it turns out that people are really happy when they're focused. They're not very happy when they're unfocused. But, as I've been observing people for a very long time, and I realized there's a whole other dimension that's important in the mix. That's how challenged are you in your engagement in something. So, if I'm reading tax law, I'm engaged, but I'm pretty challenged, right? I'm just not good at reading tax law.

Dave:

And, you probably don't care about tax law.

Gloria:

And, I probably don't care so much, although I sort of have to care. On the other hand, I could do something where I'm very engaged, but not at all challenged. You can play a mindless game. You can surf the internet. You can go onto social media. There's all kinds of things you can do that engage you. Solitaire is a good example, but you're not challenged. Your mind is lightly engaged. So, that's another type of attention. We call that rote attention. If you're not at all challenged and you're not at all engaged with something, that's boredom. Interestingly, the German word for boredom is [German 00:14:44] which means long time. When you're in a state of boredom, you're not really using attentional resources, right? And, you've got all these spare, excess resources. So, what do you do with them? You pay attention to time. So, I think that the German word sort of nails that.

Dave:

Interesting.

Gloria:

Then, the fourth state is when you're challenged and really not engaged. Maybe tax law is a better example of that, or when I talk to software developers, and they have a bug. They have to fix the bug, but they're just-

Dave:

I hate that.

Gloria:

Not-

Dave:

That's just a pain thing when you get there, because it's just very frustrating. But, I guess you're still paying attention when you're frustrated, because it's challenging, but you're pissed off.

Gloria:

You're pissed off, and it's mandated that you have to do something. You're not truly engaged and motivated.

Dave:

So, it's forced attention.

Gloria:

It's kind of like forced attention, but it turns out, going back to what I said, that people are happiest when they're engaged or when they're focused and least happy when they're unfocused, we actually found ... Maybe you can guess, these four different kinds of attention, when are people happiest, which type of attention?

Dave:

Probably when they're focused.

Gloria:

No.

Dave:

So, engaged and challenged doesn't make them happy?

Gloria:

No.

Dave:

So, maybe it's rote, then.

Gloria:

It's rote. It's rote. People are happiest when they're doing easy things, when their mind is lightly engaged. Why? It's not stressful. When you're focused and challenged, there's a certain amount of stress. Now, you might be more rewarded after a period of time when you're focused, but you're not necessarily going to be at your happiest.

Dave:

Interesting. That's true. It can be tiring to be focused. Well, maybe you can explain something that I picked up early in my not-so-successful academic career. In my undergrad, I decided I was going to take two semesters in one, because I had already been ... I was in the end of my fifth year of my four year degree, and I had another year to go. I'm like, "I have to get out of here. I just can't do this." So, I just said, "I'm going to abuse myself for a semester." I was the first guy in the school to have a laptop, because I put it all on my MasterCard and paid it off over the next, God knows how many years. I'd go in class, and I'd sit there. Classes are slow and boring for me. So, I started playing solitaire, FreeCell actually.

I played FreeCell the entire class, and I would just switch over whenever, once every five minutes, the professor would say five words I should write down. My GPA went from 2.9 to 4.0 that semester, and everyone got so mad at me. How dare you? You're playing a game during class. I had two things. I'd say, "Well, No. 1, how dare you look at my screen? That's private. No. 2, do you want a copy of the notes I'm taking during all this so you can pass the test?" What do you mean? I emailed them the Word document I was writing, and they're like, "Oh, my God." Pretty soon, the other guy in the class who was really bored, we'd both play on the same screen. Why could I get A's when I played FreeCell all the time, and if I just had to sit there with someone talking real slow, I just couldn't get good grades?

Gloria:

Okay, so my guess, I don't know for sure, but I guess-

Dave:

You're an expert. You have to know.

Gloria:

Well, I wasn't there at the time observing you. My guess is you picked up a lot of information, because when we do rote work, we're not really using our full attentional capacity. So, you're doing this kind of rote activity, a little bit mindless. You may have to do a little bit of thinking with solitaire, but you probably were picking up quite a bit. Some of the greatest writers and scientists and philosophers have used rote work as part of their great discoveries.

Dave:

Knitting would be another example.

Gloria:

Knitting is a great example of rote work. The philosopher, Ludwig Wittgenstein, said he had his greatest ideas when he peeled potatoes. Now, you have to be somewhat engaged when you peel potatoes, because otherwise you're going to cut-

Dave:

Peel your thumb, right?

Gloria:

Peel your thumb. But, he used that kind of light engagement as an opportunity to think great thoughts. Another example, and I really love this example, the great poet and writer, Maya Angelou, talked about she had two ways of thinking. She had her big mind and her little mind. Her big mind was what she used

when she did deep thought, when she produced her great work. Her little mind was used for replenishing herself. She did crossword puzzles. She did easy things. She actually did her work in a hotel room. So, she rented a hotel room by the day, and she brought with her a notepad to write on, a bottle of sherry, and crossword puzzles. She would alternate between invoking her big mind and her little mind. So, you can think of both of these components of our thinking as really important. They're necessary. Big mind requires exertion. Little mind is what you do to replenish, step back, refresh. In the meantime, ideas might be churning around in the back of your mind. They're incubating. When you come back to big mind, you've maybe got some good ideas.

Dave:

So, instead of taking a nap like Winston Churchill did, you just do something that's rote. I think that works really well. One of my favorite ways to absorb a book is I'll put it on audible on 1.8 to 2x, depending on the narrator. Then, I'll play FreeCell to this day on my phone, because I retain way more when I listen to it super-fast, and my brain has something to keep it engaged because ... Or, maybe it's all the smart drugs and neurofeedback and brain tuning I've done, but I just need a lot of information to really stay engaged. I feel like that engagement bump from doing something mindless, maybe I could try knitting. Maybe it would be good for me.

Gloria:

So, one more example, Einstein played the violin. He claims that his idea for special relativity, theory of special relativity is partly due to the time he was playing violin.

Dave:

Because, his brain was engaged with playing the violin while he thought about stuff.

Gloria:

Yeah, or maybe it was more rote. He was a very good violinist, and so maybe it was a little bit more automatic.

Dave:

Okay, so he was just kind of stroking away on the strings and going, "Oh, look, there's the universe," kind of thing.

Gloria:

I don't know. He was a very good violinist.

Dave:

Okay, wow, that's fascinating. So, one takeaway for listeners is that maybe they can turn up their engagement with something rote when they need to go into thinking time.

Gloria:

I would say yes. It's really important to not dismiss this kind of rote activity, because we can use it strategically. We can use it strategically to replenish, to refresh, instead of trying to push through with hard focus for lengthy periods of time, which is one of the things I do. Then, I suffer the consequences,

because I get exhausted. But, you have to understand when it's time to pull back, replenish, relax. Then, you can go back with fresh eyes.

Dave:

So, at the core of my work in biohacking, it's been to push that level out as far as possible so that you can pay attention for way longer than you ever thought you could because of yak butter tea or because of all these things. There's a bunch of stuff in our environment, including notifications thrown on all the time, including bad lighting, including stale air, including junk food. All of those reduce the length of time and the depth of your focus. When you're making full power, God, who knows what I might do? I could totally pay attention to this stuff, and I can create. Then, you take some artificial sweetener and whatever other digital opium of choice, and all of a sudden, you're just like, "I'm so tired. I could go five minutes, and I need a break."

Gloria:

Yeah. Well, also we have a limited capacity of attentional resources. Think of your attentional capacity, your resources as very precious. We have to think very carefully. How do we allocate them? We don't want to be drained of these resources, because then you can't function very well at all. I've come to become more aware of when I'm heading toward being on low, when my tank of resources is just draining. It's a signal to me to stop, pull back, and do something so that I'm more refreshed.

Dave:

In several of my books and certainly on lots of episodes, I've talked about decision fatigue and the famous study from Israel where the parole board lets people out in the morning, because it's easy to say, "Sure." By the time they're-

Gloria:

After lunch, after lunch.

Dave:

When they get the dip after lunch, when then suddenly, oh, I'm just too tired to say yes, so you have no chance of getting out if you're late in the day. How related is attention to decision fatigue? Is it the same energy? Is it the same part of the brain?

Gloria:

So, if you have to exert a lot of effort for making decisions, yeah, you're using up your cognitive resources, especially if you're replaying events, replaying scenarios over and over in your mind. Yeah, you're using up resources. So, in that sense, there is a parallel.

Dave:

Okay, that makes sense. There's a parallel, so you get tired from focusing too long. I have found that you can train your focus with neurofeedback. I can focus and so can Zen master people. I can focus for very long periods of time without getting bored, or if boredom happens, it just goes away, and you just focus, focus, focus. As someone who had ADHD and Asperger's when I was younger, I don't think I would've even considered that to be possible.

Gloria:

But, let me ask you, this kind of focus, which of course I would love to achieve, how much challenge is involved in this?

Dave:

Let's see, very, very little now. But, when I started, focus on the dot. 10 seconds later, you're focusing on what's for lunch or whatever. I can focus on the dot for minutes and minutes and minutes. It's not effortful. It's just like it's a command, but to get there, it took hours and hours of training where every time I lose focus, the sounds that I was hearing would change. Then, that engages the ego to say, "Well, I don't want to lose the video game. I better learn to focus again." So, you can engage automated operating system parts to train focus similarly like Zazen meditation, which is more for a warrior caste in Japan. It's meditate on a dot at your feet with your head at a certain angle.

That's just focus training, versus say if you're doing a meditation for farmers. A farmer meditation is less focused and more diffuse and more around emotions flowing through and all. So, it could be an individual brain thing, but I have found with training 1,500 people doing neurofeedback, that attention is trainable so that you can have way above average, many, many standards of deviation above average. I think that's something that executives and people who really want to go places, they need to do it via some way or another. Because, what have you seen? You measured the average attention span looking at a computer back in 2004. What did you find?

Gloria:

So, back in 2004, when we first started measuring this, we found attention span on any screen averaged two and a half minutes. At the time, we thought, wow, this is really short, a lot shorter than I imagined. But, we've continually been measuring this over the years using computer logging techniques. So, we get objective measures. In the last five years or so, it's reached a steady state of about 47 seconds on any screen. My PhD student, right before the pandemic started, she had logged attention of 50 information workers over 30 days and found an average of 44 seconds, which is about-

Dave:

Very close.

Gloria:

The same, very close. Other people as well have replicated this. So, I feel pretty confident that that's a good indication of what our attention spans are.

Dave:

It kind of makes me sad. I have 3,000 articles that I've written on DaveAsprey.com about biohacking and human performance. They're all long-form journalism, usually two to 3,000 words. That format has largely died in the last five years. People just don't go to read stuff like that. It's essentially TLDR. So, then you get these dancing TikTok videos with the bullet points from it. Unfortunately, that means you don't have the asterisk for safety, but not if you're over six feet tall, and all this stuff you should know. So, there's a lot of stupid stuff being bandied about.

Gloria:

Yeah, it's really a shame that this kind of long-form journalism is not appreciated. I see now in news articles, they always say five-minute read, seven-minute read, so that the reader can make a judgment whether this warrants their time. Is seven minutes too long? I'm not going to read it.

Dave:

You just changed my life. So, you have a quote from Cal Newport who's a really well-known guy. He wrote a book called Deep Work, and I'm pretty sure I've interviewed him. I'd be shocked if I haven't, but I've had 1,000 interviews. So, sometimes if I know someone's work, maybe I talked to them, maybe I didn't. But, he says, "You're the definitive expert on distraction and multitasking in our increasingly digital world. Your book is a must read for anyone concerned about diminishing intention span." Who's concerned about diminishing attention span? Who cares about this?

Gloria:

A lot of people. So, I've been studying people over the last couple of decades, and so many people complain about their inability to pay attention. They feel overwhelmed. They feel exhausted, not everybody. In all fairness, not everybody. Some people have very good ability to self-regulate, but a lot of people don't. So, I would say there are a lot of people who are very concerned. Even I teach university students. A lot of students also who I talk with are very concerned about their inability to pay attention for long periods of time.

Dave:

I think this is a tech problem with a tech solution, because this is the history of technology. We create a problem in technology. We use technology to fix the problem and usually make a different one worse. But, that's just how humans are. We've been that way since we started cutting forests down to make ships. This is just how we do it. So, it seems like you can train attention with video games.

Gloria:

Well, there is research that shows, yes, you can do that. But, as a parent, would I want my kids to spend endless hours playing? These are complex video games so that they can gain the skill of multitasking. I would ask, to what end? Okay, maybe they're better multitaskers. Maybe they can pay more attention, but life and time is finite. I know that you want to live until 180. I actually do think that there are some promising approaches, and I do think there are smart assistants. I think we can make them even smarter. I see a smart personal assistant as a coach, not a technology that's going to do everything for me, but that's going to train me, how I can use my attention. The important thing is that I need to own that agent. I need to own my data, not a tech company. But, that data needs to reside on my computer.

Dave:

You think you should set the goals for your own agent instead of letting someone else with a profit motive set the goals? How dare you?

Gloria:

How dare I?

Dave:

You've been paying too much attention. Stop that right now.

Gloria:

How dare I even think of that? But, yeah, I do think that a smart agent that can learn from my behavior, can understand when my resources are starting to be depleted, when I'm starting to make errors, understanding my context when I need a break, what's the right task for me to do at certain times. Absolutely, I think that can be a benefit.

Dave:

Ray Kurzweil is famous for saying, "The singularity is near," and he's a chief technologist at Google. He says, "Well, we're just going to upload ourselves to the internet, and then we'll be immortal." I actually don't think that meets my definition of life. We could go into all the esoteric, mystical, and other experiential things about why that is, but that's not what we're talking about. What I do want is I want a digital copy of myself online that'll do all the drudgery shit that I don't want to do that isn't me, so I can treat it like a slave.

Gloria:

Sure, sure.

Dave:

Wouldn't that be the best? Because, you handle all those dumb alerts, and then all the alerts it generates get handled by everyone else's, and then we can all just sit back and party.

Gloria:

Yeah. That's what AI is intended for.

Dave:

It's what it could do.

Gloria:

It's what it could do. It could do this kind of boring, mundane kind of work that we can't do, but shouldn't waste our time doing. But, then it leaves humans to do the more ambiguous, complex kind of work, which of course might exhaust us more.

Dave:

All I know is that if I could have a smart agent that was actually answering all the text messages, I literally have 900 unanswered text messages. It doesn't bother me at all. Sometimes you see stuff. Sometimes you don't. I've missed massive opportunities because of that, too. I'm not saying which famous, famous now discredited rapper reached out that I didn't see for months wanting to do a book. I'm like, "Oops." You just don't know, but it feels like FOMO with something. I'm like, "I'm just going to miss out," and everyone has this all the time. You have two choices. You miss out on the other one. How much of our attention problem is FOMO, just fear of missing out driven?

Gloria:

Oh, it's certainly part of it, right? But, it's also we're social beings. There's so much social dynamics that's intertwined with the internet, our relationship with the internet. I talked about social capital earlier. The internet is a marketplace of social capital. You do a favor for me. I'm going to do a favor for you. I'm

going to answer your email, because at some point, I hope you're going to answer mine. Or, I hope to get some kind of resources back by answering your email. There's power relations wrapped up in the internet identity. People are concerned about maintaining identity. We are social beings, and there's so much of that that's involved in the internet. But, fear of missing out is just one part of it.

Dave:

I saw a couple studies maybe five, six years ago that talked about the brain benefits, the cognitive benefits of reading 20 minutes of fiction every day. It was any kind of fiction that required you to paint a picture in your head and imagine what you were seeing. It really just had broad, whole-brain benefits. Then, another study came out that said that listening to a book had the same effect as reading a book for that system in the brain. That's for fiction, because you have to go through that artist thing of, oh, what would that character look like? You're kind of painting the picture as you go. I think the very best scientists learn how to pay attention so that they're drawing a picture in their head of what they're working on. Certainly, that's how my brain works. Do you have an artist painting or a sculpture in your head of all this data?

Gloria:

I do. In a lot of ways, I've retained that ability for thinking visually, and things make a lot more sense to me if I can put them into some kind of graphical image. So, if I'm trying to think of some framework, I have to think of it in terms of something visual, 2D or 3D.

Dave:

You build a visual framework. Same thing, for all my books. I end up drawing out the most important things as a graphic. Then, once I do that, they're locked in there forever, or I have to teach it on the whiteboard. Then, it's done, and you've taught for 20 years, which makes you really good at that. There's a new trend where people, usually young people, are saying, "You know what? I'm going to do the minimum required in my job. I'm burned out. I'm tired. I'm stressed. So, I'm not going to quit. I'm just going to show up and not do anything until I get fired."

Gloria:

I see.

Dave:

It feels like that might be tied to this kind of burnout from just constant hits on our attention span. What do you think about that whole system?

Gloria:

It could be tied to burnout. It could be tied to just that the work is not designed to be interesting or engaging. So, there's this term called presenteeism. How can a person have greater presenteeism in the workplace, which means greater motivation, engagement, interest, excitement in their job? So, it seems like there's something about either the design of work, could be the work environment, could be colleagues. This could all play a role. So, I would say certainly our short attention spans could have something to do with it, but I think it's a much bigger problem.

Dave:

Okay, so it's a systemic stress, and it's a work design thing. If a job is terribly boring and requires lots of attention switching, that's just a recipe for burnout. I feel for all the Amazon warehouse employees and things like that. I worked in a warehouse for five years putting auto parts in boxes, and it was some of the most horrible, mind numbing work I could ever imagine. I'd listen to a radio talk show, because we didn't have podcasts back then. This was early '90s, so there was nothing visually stimulating worth listening to. I just pushed a card around all day long and read numbers from list. I would never wish that on anyone. Now, it's far more stressful, because they're measuring your number of heartbeats, and they penalize you if your heart beats too many times or whatever.

Gloria:

Oh, yeah, that's really bad.

Dave:

How would you go about using your knowledge of attention span to make a boring job better?

Gloria:

How to make a boring job better? Well, I would go back to the design of the job, and I would try to introduce variation. I once also worked in this assembly line kind of thing.

Dave:

Okay, you know the feeling, right?

Gloria:

In fact, I didn't even last a day. I quit by 3:00 o'clock. I would just watch the clock move. So, I think their variation needs to be tied in. People need to have some kind of stake in what they're doing. They need to feel that if they perform well, they're getting some kind of benefit from it more than just pay. There needs to be careful thought into what you can do to make something fulfilling and even something that's really boring. Let me give you a thought experiment. Imagine you owned a company, and this company-

Dave:

Or, seven, okay.

Gloria:

Well, okay, let's pretend you don't own your seven companies. But, let's imagine you own a company, and this company is ... You're shipping, I don't know.

Dave:

Widgets.

Gloria:

Widgets, right? And, you're the CEO of this Widget, Inc. Maybe all of a sudden, doing this boring packing, maybe it starts to have meaning for you, because you're the CEO. You own a stake in it. I'm just throwing this out as an example that if something can be made more meaningful, and it involves some creativity to think how it can be designed to be more meaningful, then people might be less burned out.

Dave:

So, adding meaning means that it becomes less boring. This goes back to flow states, which you also talk about a little bit in the book. One of the things, the greatest thing I believe that creates flow states, is service to others. You could also do extreme skiing or put your life and limb in jeopardy, but usually over time, you're flipping the roulette wheel. You're going to land on green one of those times and hit a tree. So, I don't think extreme sports and endurance and all that is a longevity way to approach flow, but helping other people even in small ways will turn that on, according to research. So, maybe there's some flow stuff in there, but you know something about attention, multitasking, and flow. Tell me about the flow story of attention.

Gloria:

Right. So, there is a myth that flow is a regular occurrence in the knowledge workplace. It's actually very rare, and it has to do with the nature of the work. I used to be an artist, and I knew how to get into a flow state. I got into a flow state almost every day. It was the nature of the work I was doing. I was creating. But, for most knowledge workers who write reports, or you're analyzing, crunching out numbers on a spreadsheet or doing email, this kind of work is just not conducive to flow. Flow is about using your skill at an optimal level. The thing you're doing, the task you're doing can't require more skill than you have, because then you wouldn't be in flow. If it requires less skill, you're not going to be in flow.

Dave:

You have to surf right at that edge.

Gloria:

You have to be at that sweet spot. If you're watching a Netflix film, you're not in flow. You're engaged, but you're not in flow. It's about using your skill at an optimal level. That's when you're most creative. If you're a knowledge worker and you want to achieve flow, there are things you can do to achieve flow. You can find a hobby that you're passionate about. You can do art. You can dance. You can play music, sports. There's a lot of ways you can achieve it. Sometimes if I'm brainstorming with other people, we can get into a flow state.

Dave:

That's one of my favorite forms. Even now, some of the times we're creating ideas, oh, that's cool. Then, it just feels good, and it's really easy to do, right? But, let's face it, a lot of jobs, I used to work at Baskin Robbins scooping ice cream. There's no flow state there. It's not going to be that way. So, let's assume that most jobs aren't going to do it. Most of us are going to create flow state via other things that we do. Even video gaming can put you in a state of flow.

Gloria:

Oh, absolutely, or coding, complex coding.

Dave:

Yes, for sure.

Gloria:

A lot of coders say they get into flow.

Dave:

I do it from writing, too. I try to explain to my team, look, it takes me about 45 minutes to go into writing mode. I usually drink a Danger Coffee, and I'll take a hit of nicotine, and I'm kind of just relaxing. I might even play a dumb little arcade video game that's engaging, but not challenging. Then, my brain snaps into that, and I can write for six hours. I'll crank out 10,000 good words, unless someone interrupts me. Then, it's all for naught. What's going on with my attention there? Can you help me hack that?

Gloria:

Yeah. When people are interrupted, it's often hard to get back. Another statistic is that when people are interrupted from a task, it takes 25 and a half minutes on average to get back to that interrupted task. You're not mind wandering those 25 minutes. You're doing other things. Think of interruptions as being nested. You get interrupted. You get interrupted from-

Dave:

I like that.

Gloria:

So, it's a nested interruption state of things. Then, you go back. What's happening is the way I can ... Here's a good metaphor to describe it. Every time you do a task, think that you have an internal representation of that task. So, you're writing your book. You have in your mind the information you need, the topic you want to write about. You maybe have a structure of how the information is going to be organized. So, you've got this internal representation. Then, you go and you're interrupted or you check email, or let's say someone comes into your office and interrupts you and has a pressing question.

What's happening is you've got that internal whiteboard with your internal representation. You're quickly erasing it, and you're rewriting this new representation, whatever this person is asking you. So, as people switch attention every 47 seconds on average, they're writing and erasing and rewriting on this internal whiteboard of their minds. Of course, when you go back to your interrupted task, there's a switch cost. The cost is the amount of time and mental effort that it takes for you to reorient back and recoup that information. There are things that people can do to keep them on track to prevent them from changing whiteboards. One of the things that I talk about is this idea of meta-awareness. Now, I imagine a lot of the listeners do mindfulness meditation, so they're very familiar with that.

I learned it. My university offered a course when the pandemic hit, and I took it and I found it was really great for helping to relieve stress. But, I also noticed that when I was working on my computer, I could do a similar kind of exercise to keep myself focused on what I was doing and prevent myself from getting knocked off the track. It goes back to the idea that when I do research, I observe people. I'm a professional observer of people. So, I'm always asking questions. What is that person doing? Why are they doing that? So, I'm always trying to understand. I realized I could turn that on myself. I could say, "Do I really need to check that news site right now? Why do I have this urge to stop what I'm doing?" So, I continually ask myself these questions, and it's a way to make these unconscious habits to bring them up to conscious awareness.

So, I practice that, and it's become second nature. Even when I feel, okay, I need a break, what's my level of resources? Yeah, I'm getting tired. I need a break. So, I go off and I to do something rote. Let's say I'm reading a news article. After reading it for a bit, I ask myself, "Am I still getting a benefit from it?

Am I still getting value? If not, go right back to work." Or, if I go off to social media or do something else, as soon as I stop getting a benefit from it, then it's time to stop and go back.

Dave:

Okay. There's four things in your book you teach people to do. One of them, I love this, develop meta-awareness. Hey, this little thing, camera behind you, watching you, going, "I wonder why they're doing that. What other automated systems are doing stupid things? Why am I thinking about tacos right now? Maybe it has something to do with what you ate at your last meal that made you hungry." That's also part of meta-awareness that I teach. So, thumbs up on meta-awareness. That's No. 1 of what you can do. What else can you do?

Gloria:

You can practice forethought. Forethought is an important principle in developing agency. It simply means imagining ahead downstream how your current actions are affecting what happens later. It could be in two hours. It could be the end of the day. It could be the end of the week. Before I go to social media or before I decide to check the news, I imagine what's my end of the day going to look like? I've got a book chapter that I plan to finish by the end of the day. If I spend two hours on social media, 10:00 o'clock at night, am I going to still be writing that book chapter? 2:00 o'clock in the morning, am I still going to be on that book chapter?

No, I don't want to be. So, I want 10:00 o'clock at night, I want to be relaxing, chilling, reading, maybe watching some video. But, I don't want to be still working on that book chapter. So, practice forethought, because it again helps you realize how your current actions impact what you're doing downstream. It's especially important for students. Students are notorious for staying up late to finish work. You can practice forethought years in advance, right?

Dave:

I do.

Gloria:

You figure out your own time scale about what works for you at this point in time. But, I love that idea.

Dave:

In fact, Stew Friedman, leadership professor at Stanford, had us do a 20-year forethought exercise. We actually wrote a letter to ourself to send years later and all sorts of things. It's really powerful stuff that gets to the underpinnings of your operating system. So, now we've got meta-awareness is the first thing. How and why am I doing what I'm doing right now? No. 2, what's the impact of what I'm doing right now, which is forethought. What's No. 3?

Gloria:

Well, self-regulation. Now, there's a lot of hacks that you can do to increase your self-regulation. I'm sure a lot of people know if you really need to do serious work, leave your phone in another room.

Dave:

Change your environment, right?

Gloria:

Yeah, so you could change your environment to make it conducive to focus. These are hacks that can be done.

Dave:

Okay, that's three. No. 4, what's that?

Gloria:

Number four is self-reflection and course correction. So, there's different things that we can do. One is you can think we can all be smarter about how we design our day. So, the typical way to design your day is you write down all the tasks you need to do. You put time. This task is going to take me one hour. This one, I'm going to finish by 11:00 AM. But, the smarter way to do it is to consider that our different tasks require different amounts of mental effort and to arrange them in such a way that you're not doing one hard task after another to wipe yourself out, but to realize that we have rhythms of our attention. This is what we found empirically, that people have times when they're at their peak in focus, when their mental resources, their tank is full. There's other times when their resources are less. There are individual differences. For some people, your peak is at 11:00 AM.

Dave:

It's a circadian kind of thing, right?

Gloria:

Yes. Yeah, plus it also has to do with from the time you wake up in the morning, your resources are gradually declining. But, it's important to be aware of what your own personal peak of focused attention is and to design your day so that you do your hardest tasks and those that require the most creativity at that peak. The other thing to keep in mind when you design your day is that tasks have an emotional valence, which means there's an emotional quality associated with them. Some things make us happy. Some things are not so fun to do. Again, when you design your day, arrange your tasks so that if you have to ...

Let's say you have a meeting with someone who is a very difficult person. Then, you want to create a break afterwards or do something fun or something that's enjoyable after, so you're not just doing one task that invokes negativity after the other. So, you want to think about achieving a balance. One of my favorite things is that in Japan, there's a phrase which means negative space or quiet time. The actual Japanese word escapes me.

Dave:

Is it because you're distracted?

Gloria:

No, not because I'm distracted, because I'm not a Japanese speaker.

Dave:

I wouldn't remember it either.

Gloria:

But anyways, it's the idea that when you design your day, you deliberately design in negative space or time for contemplation or times for breaks. Consider it as important as a time you're devoting for hard work.

Dave:

Wow.

Gloria:

Think of Maya Angelou, big mind and little mind. You want to design in time for little mind. You want to do it deliberately. When I was a visual artist, we learned that the negative space in a painting is as important as the image that you're creating. You have to be very aware of that negative space. It helps define and it gives importance to the image you're creating. So, it's the same when we design our day. We want to think about that negative space and think about it in a meaningful way and how it can be used to support the rest of your day when you really want to do hard creative work.

Dave:

I have room to improve on that part of it. I am always saying, "My most productive days are when I have an hour, and I'm just going to call people and text people and do stuff." Then, my days are almost always this, that, just back to back to back. I think most executives have this, because especially if you're working with someone to schedule your time, or even if you're scheduling your own time, oh, I scheduled 45 minutes of do nothing time, but here's a cool thing to do. I'm going to put it in there, and then I'll do my contemplation later. What's the trick for protecting your contemplation time?

Gloria:

Well, it's the same trick you would use when you schedule something important that you have to do. As long as you realize this is really important, you have to protect this time. You write that into your schedule, right?

Dave:

Part of me thinks then, all right, the right thing to do is to say there's a bonus. If I actually achieve 70% of my scheduled contemplation times this quarter for my staff who helps me to schedule my day. The problem is I know that I'm the one who's probably going to say, "Yeah, I know we had contemplation, but I'm going to call this guy, because there's a deal happening or because I want to talk to this neuroscientist." I feel like I would be the one who would do it, and then my assistants would be at me, because I took away their bonus. So, I have to solve that one, right?

Gloria:

We all have to solve that.

Dave:

Okay, so there's one problem. We spent at least five minutes, which is way too long, talking about these four things. So, maybe we should get up and do a TikTok dance and point at things. Then, we could have the four things.

Gloria:

Yes, then people would pay attention.

Dave:

Tell me the four things that give you agency in the digital world, Gloria Mark, Ph.D.?

Gloria:

The first is meta-awareness intentionality. No. 2, forethought. No. 3 self-regulation. No. 4, self-reflection and course correction.

Dave:

And, if you had to absorb this in that amount of time, you need to read Attention Span, because maybe it takes more than 30 seconds to explain this. That's money. All right, that was fun. Gloria, where is attention headed? Are we getting to the point where it's a one-second attention span? How bad can this get?

Gloria:

I'm hoping we've reached the nadir of our limits. It's hard to say. I'm an optimist. Historically, there have always been doomsayers. When the printing press was invented, people said, "Oh, no, it's going to ruin our attention." Radio, television, there have always been doomsayers.

Dave:

They were kind of right though, weren't they?

Gloria:

Well, they are. They are right, and of course, now people spend 10 hours a day on some screen on average. So, that's not great. But, I am an optimist. I think that the pendulum will swing back the other way. I do think, whether it's a tech solution, whether people just get so fed up with being distracted and wanting to ... people who want to improve themselves, they might eventually decide that they're going to do something about it. So, I'm optimistic that there will be a change. I hope that my research wakes people up.

Dave:

It is waking people up. The idea here is that if you want to perform well in the world, you want to build a company, you want to have a successful family, successful life, successful ... whatever success is to you, you must cultivate a firewall for your attention that you control. That means when a tech company uses a sneaky method to steal your attention, that you have enough meta-awareness to say, "Fuck you, Google, or fuck you, Mark Zuckerberg," or whatever it is. And, you do it without having to think about it. It's automatic. I will tell you right now, I do not see ads on my screen, because I have programmed my eyes to not look at them, and it's automatic. I don't know what they say. I'm not reading them. You can do that, but you're in charge of your attention. You're in charge of your biology. You're in charge of those things, and it's an intrinsic right.

You can give it away a little drip at a time. Or, you can just say, "This is mine, and it's inviolable." Part of being a biohacker is that hackers are the people who control systems. They control their own system, and they control other systems as necessary and convenient in the environment around them. You can control the algorithms. You can control AI, and you can be unprogrammable. That's why I want you to

keep listening to the podcast and do all the other biohacks, because actually, we all need to be very dangerous people, because who knows what we might do? Something good. I'll see you all on the next episode. In the meantime, you might want to pick up a actual paper copy or an audible version of Attention Span by Gloria Mark. Gloria, thanks for coming in from Irvine.

Gloria:

Thank you so much, Dave. It was a lot of fun.