

How to Fix Your Brain When It's Tired, Wired and Slow – Matt Gallant & Mr. Noots – #961

Dave Asprey:

You're listening to The Human Upgrade with Dave Asprey. Today we're going to talk about something that's kind of interesting, improving your brain. Increasing something called BDNF, which is brain derived neurotrophic factor and neurogenesis and nootropics. And we'll talk a little bit about how collagen is tied in with all of that with a couple guests who've been on the show before.

One of the guests actually has been on lots of times talking about magnesium, enzymes, blood sugar, psycho and probiotics, and nootropics. I'm talking about none other than Matt Gallant, who's a co-founder of BiOptimizers and their new Nootopia line of nootropics. He's an expert in many of these systems. We've had lots of good conversations, including in person up here. So if you're a long time listener, you know that Matt has a lot to say and has been on the show a lot. In part because he and I have a BDNF... I'm going to call it a fetish, because I've been looking at pretty much two things for all of my biohacks. Have been mitochondrial enhancement and BDNF enhancement. When I say all of my biohacks, going back to the late '90s, was when I started going, "Wait, what's going on with this? How do I make these two things work?" So you have more power and more neuroplasticity. You can do all sorts of stuff that you otherwise couldn't really do.

Our other guest today is Mr. Noots, who is Matt's partner in making custom nootropics and the chief product officer for Nootopia. Mr. Noots is his code name, because he doesn't want his regular name out. Although, I think on the last show we disclosed your regular name. We unmasked you and all that, but you still go by Mr. Noots.

Mark (Mr. Noots):

Yeah. You outed me, Dave. You outed me.

Dave Asprey:

Yeah. I'm known for that. I did that to Batman too, so he's very angry with me. All right. Let's talk about stuff we haven't talked about before. Right now I want to get in first on neurodegenerative disease, and the reason for that is that I looked at so much evidence for neurodegeneration when I wrote my big book on the brain called Headstrong. When you look at Parkinson's, a little bit of Ms, you look at Alzheimer's, you learn all these things about what can go wrong. Those are things like aging, even if you aren't getting one of those things. And since then, I think COVID itself, when people get it, or maybe some other things that people got related to that, are not helping people's brain health.

I know that the damage to our society, to our children's psyche has been major, even just from not seeing smiles. That actually has noticeable effects on BDNF and things like that. I feel like overall our mental wellness and our brain aging is worse now than it was before, so I wanted to go in and revisit that stuff.

First, Matt, you kind of had a brain trashing experience like I did. Tell me what you've done over the last 10 years. What happened to your brain and what did you do to get at where it is now?

Matt Gallant:

Yeah. I was born with the wiring of an alcoholic on both sides of my family. I had some grandfathers who were alcoholic and some other close family. I was able to kind of manage drinking, but it got progressively worse, as most addictions do. At 28 I completely went off the rails for five years and was pretty much intoxicated every day, usually from morning to night. Then by the grace of God got sober at

32. The problem was, my brain was damaged. It was. Obviously when you push your brain and your body that hard and in those kind of ways, there's some consequences. My memory was quite damaged, my short term memory was shot. My ability to focus, for at least a couple years, was practically nonexistent. I started doing research on different things you could do to repair the brain, because I wanted to be productive, and the one thing I found that was my first breakthrough was lions mane. We'll talk more about BDNF, but lions mane is one of the most powerful ways to improve BDNF. In 30 days, my memory transformed, my ability to focus started coming back, and that started my journey on brain optimization.

I was so blown away by the results that I started adding good fats. Then I discovered photobiomodulation, then I discovered 40 Years of Zen, then it was nootropics. And all of these things help, but I've experimented a lot with lion's mane on and off and it's been one of the most powerful things. Can I hit you with the shocking stat and hit everybody in the audience with a shocking stat?

Dave Asprey:

Absolutely. I thought you were going to talk about electromuscular simulation for a minute there. But just a regular shocking stat. I gotcha.

Matt Gallant:

A hundred milliseconds decline in brain speed is all it takes to have dementia. I read that from The Edge Effect from Dr. Braverman. It's a great book. It's a great book on neurochemistry. It's a great book on understanding the brain. The problem is, most brains decline in speed seven to 10 milliseconds per decade, and that's not considering some of the things you just mentioned. I think with some of the consequences and damage that's been done in the last few years, it's probably a lot more than that. My grandmother had dementia the last few years of her life.

So I'm sober, I'm seeing my grandmother have dementia. It freaked me out, and that's really what led me to finding lion's mane and experiencing the powers of neurogenesis. But I'd love to queue up Mr. Noots to talk about the benefits and the power of BDNF.

Mark:

Cognitive latency and cognitive decline have a real strict parallel. When that latency's happening, you know that the next phase of that is loss of memory, loss of recall, loss of ability to actually do quick transactions. That turns into a lot of bad decision-making. Good decision-making comes from a speedy brain that can create new neural pathways and that can resolve cognitive information in more meaningful ways for outcomes.

BDNF, brain derived neurotrophic factor, is this core piece that is the catalyst for neurogenesis. Neurogenesis are blooms of new neurons that allow you to then create new neural pathways, as well as to attack old memories, old cognitive support systems, and the process of being able to go from being not necessarily cognitively aligned to being able to create brand new process. Molecular transformation, or molecules of transformation is what we call how Lion's Mane works with the brain.

Yeah. That's kind of the piece there. And it's really important when people start realizing... In fact, a real key point of this is when you start creating new brain cells. A lot of us have been under the illusion that at 14 years old or at 22 years old or at 24 years old, we suddenly plateau and neuroplasticity goes out the window, and all three of us have proven that is absolutely not the reality. It's really important to realize that, as you're creating new neuroplastic elements, with this being BDNF and this cognitive enhancement type stuff through neurogenesis, that it's really important for us to then take advantage of that, program those neurons, program state change, program performance.

Dave Asprey:

How much of that brain speed that we talked about is actually driven by BDNF? I don't know. I thought that was more of like a mitochondrial thing and intellectual resistance. But do you have data that says increasing BDNF increases or decreases the speed of the brain?

Mark:

The after effect of BDNF. Just like in taking nootropic stacks, is that when the enzymatic process is separating those cognitive elements into the different neurotransmitters, there's a cognitive slump, delay, and then once they get caught up, then they're faster. Then you're firing. But it's during that processing time, you're going to slow down slightly.

The interesting thing with this is that this is raising your baseline OS so that you're actually operating at a higher baseline than anything else you put on top of it. Say Danger Coffee is going to be more effective. You're going to get a faster response rate, and you're going to be in a programming mode.

Now Dave, you're really familiar with garbage collection and software programming.

Dave Asprey:

I am familiar with both traditional garbage collection and software programming.

Mark:

When you throw a piece of code into RAM so it can be used utilized by the machine, if you forget to take it out again after the process is done, that little detritus, that garbage that sticks in there over time will fill up RAM and suddenly your machine will hang. You're going to have to reboot and do that. And that's when we talk about mitochondrial repair and some of those things.

One of the benefits of BDNF is... part of the process is also clearing out dead, old, ineffective neurotransmitters. When those neurotransmitters are then rejuvenated, now you've got much more product to work with, much more brain power to work with. It's clearing up RAM and it's creating more RAM at the same time.

Matt Gallant:

I want to talk about myelin sheath, because it relates to this.

Mark:

Huge.

Matt Gallant:

I think the most important system in the body for basically our experience of life is our nervous system. People separate nervous system from brain, but there's no separation. It's all one system. Our brain sends signals through our nervous system, and again, the nerves have this myelin sheath which covers it. And Lion's Mane, fats, and Dave, thank you for being a proponent of saturated fats, because those as well help rebuild and maintain a good myelin sheath. I remember, Dave, I asked you a few years ago, if you remember this, we were on a private 40 Years of Zen call and I told you I couldn't drink coffee anymore. Because I would drink a cup and I'd get fried, and that feeling of fried-ness, in my opinion, was that my myelin sheath was worn out somewhere somehow. Then when I started rebuilding it, now I'm drinking Danger Coffee and I've got no problems.

Quick anecdote, I've done 40 Years of Zen six times. And by the way, for those of you who are listening, put that on your bucket list and your to-do list. It's been absolutely one of the most transformational, if not the most transformational, thing I've done for improving my life. Having done six trainings, what we would do each training is we'd figure out, okay, how can we make this training better? One of them was increasing just the amount of time and intensity, as you know, Dave. When we added Lion's Mane, like 10 grams a day, that took our training result from day to day to absolutely the next dimension. The brain could recover.

Because BDNF is almost like a steroid for the brain. Now, if you give a human being steroids and they don't go train weights, they don't go lift weights, they'll actually still gain some lean body mass on a DEXA scan or body fat scan. But obviously somebody who's going to push their brain, whether it's through learning or doing something like neuro feedback, they're going to be able to transform their ability to get rid of bad habits, old ways of thinking, negative ways of thinking, and install new, powerful ways of thinking, which is what you also do at Zen. BDNF was a game changer, and specifically doing up to 10 grams of Lion's Mane.

But here's the great news. We've blown that away. We're going to talk about that. We've found a way to hyper concentrate Lion's Mane, well Mr. Noots has through his brilliant extraction processes, and we've blown away what I've ever experienced using 10 grams of normal Lion's Mane. Excited.

Dave Asprey:

Yeah. I want to talk more about that, because you guys have been sending me, for the past few months, these different beta tests in this attractive container with a very professional label called Collagenius. I know there's collagen in there, but it's got a whole bunch of different interesting things in there. We're going to talk about that, but your focus on dosage is really interesting. There you go. Mr. Noots is holding up the new one.

Mark:

New and improved.

Dave Asprey:

All right. New and improved. There you go. I like it. This is what happens when experts in nootropics try to be marketing guys. I don't know.

Matt Gallant:

Well, you can call a genius and [inaudible 00:13:35] ways to look at it. Just a quick note on the dose, and Dave, I'm glad you bring that up. There's a truth when it comes to any molecule, whether it's toxins or positive ones, which is the dose creates the effect. If you drink one glass of wine, it's very different than six and 12. Again, as a recovered alcoholic, I know that. Then it's also true with supplements and positive molecules.

Now, certain things you have to be very mindful of the dose, because again, optimal dose is the key with anything. However, there are certain molecules out there, like enzymes another good example, where the effects are dose dependent. When you increase the concentration, the amount, the potency of that key molecule, you just get better results. And that's what Mr. Noots did, so really excited.

Dave Asprey:

Okay. That's interesting. What you have now is a drink mix which is collagen based, but it's got C8 MCTs, cocoa butter instead of cow butter, which makes it more acceptable for people who have dairy allergies. And there are a good number of people like that. You've got two different kinds of collagen in here. You've got marine collagen and bovine, but then you've got a selection of mushrooms along with some cacao. Why cacao from two different places? I thought that was a little bit obsessive. You've got Dominican and Peruvian?

Matt Gallant:

I'm a cacao fanatic. I live in Panama. I've traveled through most of Central and South America and I love trying cacaos. When we were formulating another product called Protein Breakthrough, I tried cacaos from pretty much every country that grows cacao and I just fell in love with these two different farms. One's in Peru, one's in Dominican [Republic]. They're different. Cacaos are like coffee, they're like wines. They have notes. I love the combination of the notes between the more earthy Dominican style and the more fruity Peruvian. To me, the combinations is beautiful.

Dave Asprey:

So were you actually doing lines of cacao in those countries?

Matt Gallant:

You know, I have not. I can honestly say out of all the drugs I've done, there's not too many I haven't, I've never snorted cacao. Yet.

Dave Asprey:

For listeners, there is a cacao ceremony where a medicine person will blow cacao dust into your nose. I did it once at Burning Man and, dude, just not a good idea. I'm sorry. You could just eat a couple extra bars of it or whatever, but I don't know, that was not my favorite experience. But I did cry. Not from the psychotropic effects, but just because my sinuses hurt. So there you go. That was my experience. Maybe there's people who love it. But I do recommend a medicinal cacao ceremony with all of the sacredness that comes with it as a true plant medicine, but you can drink it in hot water and stone ground. That just seems a little bit less... I'm not doing cacao enemas, I'm not doing cacao in my nose again. I haven't tried enemas. I'm not going to. But I'm just saying, there are times when you just don't need to do that.

Mark:

Yeah, yeah. Yeah. That's good.

Matt Gallant:

I want to cue Mark up. Again, for those of you that are listening that didn't listen to our first podcast, Mark is the most brilliant nootropic stack designer that I've met. He's been doing extractions in chemistry since he's seven. That's over 50 years. Now Mark, talk about what you've done with the mushrooms, because I think that's the breakthrough here.

Mark:

That was my first chemistry set in 1967. The goal is, how do you take the valuable, important, key molecules from the mushrooms and get them into a density that's high enough that the effect is experiential? When I say that what I'm saying is that you don't just want to have the benefit, like a lot of

these typical nutritional supplements. Well, I know that if I take this, I know if I take CoQ10, I'm eventually going to have a benefit. I might have a benefit. Or if you do PQQ from the wrong vendor, you are supposed to get an effect and you get nothing. Or [inaudible 00:18:20]

Dave Asprey:

Ah, you read that part of my book about PQQ, right?

Mark:

Darn right, man. It was really important. As we were going through this process of going from one to one really, really high quality... We went through over 100 vendors of mushrooms, because mushrooms are adulterated all over the world. A lot of mushrooms aren't mushrooms. They're the mycelium and they're just basically sawdust with mycelium. We wanted to try to really get to a point where we were working with really, really clean source material, and then our extraction process was going to capitalize on that and just make it better. Just increase the density of what you were getting. These molecules. We really invested ourselves in that process.

We talked about how we found chocolate notes, but one of the most important things is we found that there is these interesting sub-molecules that make up the main components that are the parent molecules of the neurogenesis process. We found that as we get closer and closer through the extraction process, two things happen. One is we got cleaner and cleaner mushrooms. We started with really clean mushrooms, no discernible mold, COA is clean. And the COAs that we do, third party test...

Dave Asprey:

COA, for people listening, is a test, basically, that you're running to figure out what you're actually getting. You can order something, but then when you see the COA, like, "Oh, look at all the other things that rode in on it." This is a measure of how clean it is, and some vendors are willing to show you their COA. Some aren't, usually because there's a proprietary ingredient.

Mark:

That's exactly right. What we did is we started doing extraction. The first one was to macerate the actual fruiting bodies of the mushroom. Soak them in a warm water bath and apply 44 kilohertz. What we found is that we could start releasing... There's a thing called chitin that wraps around the cells of the mushroom and it keeps the active ingredients from becoming available. That's why raw mushrooms are outside of the protein benefit and some other, maybe, side things. They're really not a medicinal product, raw mushrooms. Once you get it to 160 degrees or so, things start to change. The chitin breaks loose and then you start throwing a sonic extraction process on top of that and the chitin not only breaks loose, but the actual fruiting bodies start releasing these really powerful nutrients and chemicals that are the molecules of change of radical expressions. That's what makes them available.

Then you run that through a process, make sure you get all of those isolated nutrients out of there, then you go on a second round and take that macerated body and you go run it through a 70% alcohol. Then you cover that alcohol with nitrogen so you don't get any oxidation and you're not losing alcohol into the... and you're not losing key molecules as well. Then you run that through a microporous membrane and now you've got extremely intense, extremely powerful isolated molecules that combine and do all of these cool neurological enhancements. As well as physiological. That's what we did.

Dave Asprey:

So it's basically ultrasound, is the secret to the way you're processing these? All right.

Mark:

Ultrasound... Everybody uses heated water. They have to. You can't break down the chitin without it. But the ultrasound brings another level of extraction process, and the ultrasound is used on both the heated water based extraction and on the alcohol extraction. Then the nitrogen of course keeps the alcohol from both evaporating, as well as keeps any oxygen from getting in. Because it would have a tendency to then oxidate.

Matt Gallant:

You know, now that Mark's opening the bag, we might as well open it a little wider. If you change the frequency, you get different molecules that come out. That's a big part of it. It's finding which frequency will get the right molecules to come out essentially. That's the magic.

Mark:

And we've been doing that for years with *Celastrus paniculatus*. We run anywhere from a 20 kilohertz to 120 kilohertz. And you'll see these molecular release points as the cell vibrates at a certain frequency and suddenly says, "Ah, I got to give up this molecule. I got to give up this molecule." It's great stuff.

Dave Asprey:

Mm-hmm.

Mark:

Yeah.

Matt Gallant:

Just a note on BiOptimizers, and I think, Dave, when we did the last show, the show before, I brought this up, but we've evolved so much. Three years ago, BiOptimizers did a partnership with the International Burch University in Sarajevo in Bosnia. Now we have 15 people working full time, including two chemists. We have molecular docking experts. We've invested in a half million dollar HPLC machine. We've done over 400 enzyme experiments, 400 probiotic experiments. Now we're experimenting on fats, and Dave, I think you're going to love some of the things we're discovering, which we'll release hopefully by year end. But we're using science to get out of the realm of theories and opinions and really create the best-in-class products.

To create the best-in-class products, I got some data on Tuesday just to use an example. We were testing lipases and there was a 300% difference in the potency of the worst enzyme versus the best. Now, these are all like, you go online or you find manufacturers of these lipases and they'll send you the lipases. We tested about 14 of them. Again, by using science, we're able to really find the best raw ingredients and then we take them to the next level by maximizing the extraction. But wait, there's more. We then create and do experiments to maximize the synergy. We're applying for two patents. Not for this product, but for the enzymes, because we're finding... And Dave, you're going to love this. This is huge. We're finding non-dose dependent co-factors that multiply the results of things. You're a huge fan of stacking and so am I. We've talked about that on previous shows. Now we have hard evidence that we're about to patent on certain molecules that multiply the effectiveness of certain other molecules.

I'm opening the bag here, because this is the strategies that we're using to formulate all of our products. I'm not worried, because A, the ability to create the kind of lab we have in Sarajevo is extremely difficult and we just have the right people there. And Monya's been amazing. Anyways. All that to say that we ended up with a 50 to one extract of Lion's Mane. Like I said before, I've gone to 10 grams a day and the dose that we're using in Collagenius is essentially like 200 grams of Lion's Mane. That's the translation.

The results are you're just powered up. We'll talk about some of the other mushrooms, because it's not just Lion's Mane. We did that for three other mushrooms and Mark took them to a 100 to one. So Mark, maybe talk about some of the other amazing mushrooms that are inside Collagenius.

Mark:

Awesome. You ready? In addition to Lion's Mane, we also did a 100 to one Chaga extract, which is really great. It's an anti-inflammatory and immune booster. It really is an incredible... And actually, Chaga is interesting in that it is not your traditional mushroom. It actually is a canker that grows on the bark of a tree.

Dave Asprey:

Wow. That's great marketing. You got a canker extract Collagenius? Man.

Mark:

Boom. More. Where do I get more?

Dave Asprey:

Matt's going, "Goddammit." Right?

Mark:

Yeah.

Dave Asprey:

Keep on going, Mr. Noots. But it is interesting, because it's the only fungus that does that, which is why around the world it's used medicinally, because it has unique powers.

Mark:

It really does. It really does. And then a 100 to one reishi, red reishi, which is the ultimate anti-stressor, and then a 100 to one cordyceps. These are cordyceps that are actually grown, versus cordyceps that are found in ant hill and use that as their source. They're really powerful, used to alleviate or to basically increase athletic performance and maximize brain health at the same time. They're really good for oxygen transport within the cell, within the red blood cell, so really healthy in there.

And again, as we got into these hyper concentrations, the cocoa and chocolate notes started coming out more and more and Chastity, my lab assistant, put that together and said, "This would be so great as a co-factor in collagen." I'm 60 years old now, she's 50, and she's going, "I need more collagen in my system." We all love the benefits of collagen and we thought, "Wouldn't it be great if you could take the benefits, especially some of the..." You talk about your Danger Coffee, Dave. Danger Coffee.

Dave Asprey:

Mm-hmm.

Mark:

Right? You talk about re-mineralization, and some of the micronutrients in mushrooms that you only get through mushrooms, or are very difficult to get outside of mushrooms, that are not bioavailable in pill form but are super bioavailable as the molecule inside the mushroom, those are an incredible co-factor in collagen.

Dave Asprey:

Something else to just call out. There's a company that's well known for putting mushrooms in coffee, and it doesn't taste good. Mushrooms generally ruin the taste of coffee. And as you guys talked about, there's a lot of different stuff in mushrooms and a lot of people are just selling sawdust mushroom [inaudible 00:27:58] In fact, I have a podcast seven, eight years ago going back with a company talking about just the problem that a lot of mushrooms don't work, because you're not getting that. So I've been opposed to putting mushrooms in my coffee, because it tastes like crap. In fact, we used to put mushrooms in coffee the first year when it was still called The Bulletproof Coffee Shop in Santa Monica. Now it's The Upgrade Cafe.

But Collagenius in coffee tastes good. You guys know I like collagen in coffee. I invented that as far as I can tell. But because it's extracts the way it is, it actually just makes it taste like a mocha or something. It's something you would want to do, not something you're doing and holding your nose, and that's an important distinction. I don't know if it's the addition of the cacao or just the way you're extracting, but it's something you want to drink and it's a noticeable fact. It's pretty cool. I think that's because you were telling me earlier it's like more than a pound of mushrooms have gone into making those extracts.

Matt Gallant:

Oh yeah. Yeah. Well, there's quite a few pounds that go into the extracts, but actually the equivalent for every dose, which is about 17 and a third grams per dose, equals 1.2 to 1.5 pounds of mushrooms. Pounds of mushrooms.

Dave Asprey:

Oh, that's not per container. That's per drink.

Mark:

Dose. Per drink.

Dave Asprey:

Okay.

Mark:

Yeah.

Dave Asprey:

So it would be relatively difficult to eat a pound and a half of mushrooms and then drink some coffee, and so this is a way of getting more in. If this sounds a little bit radical, a while ago I talked about

polyphenol supplements. And same thing. If you ate enough vegetables to get polyphenols that mattered, you would spend your entire day in the bathroom trying to cram food in and get it out the other end and you wouldn't get enough polyphenols. You actually can't do it. So what you're doing is you're using a lot of lab chemistry... And that thing you talked about with lipase earlier, those are enzymes that digest fat. As you would imagine, there's hundreds of different lipases that digest different types of fat. There's like a bunch of locks and a bunch of different keys that unlock them. We're saying, "Well, we got all of that stuff dialed in, so we got what we wanted out of it." This is stuff your digestive system simply couldn't do and this is one of those biohacking things.

This may be like, "What are you talking about?" Look you go back 1,000 years and you were to go to a pharmacy in ancient China and they had a bunch of jars or bowls or ceramic whatever full of powders, because that was the best they could do. And what did they do? They would make tea, which is a hot water extract. We're just taking those very old ideas and accelerating them with our knowledge of how the world works so you can get something that tastes good and something that works better than just eating a bunch of mushrooms off a tree. That would probably actually be bad for you. This is just an evolution of history, but it's pretty high tech and the results are better than you could do if you just ate a bunch of stuff.

Matt Gallant:

And just another note on collagen, we didn't add it just for flavor. Back to co-factors. Collagen are key for repairing the brain. There's a lot of studies that have come out just showing the... Skin's taken all the limelight on the power of collagen. And Dave, again, you've been instrumental at really putting collagen on the map, not just in coffee but in general. But there's incredible brain repairing benefits to collagen, and that's why we add it along with the other things as a co-factor.

Again, the co-factor synergy component of supplementation cannot be underestimated, and we're going to prove that. Because the issue is, and you know this Dave, in a supplement world you have molecule creators and then you've got supplement companies. The supplement companies typically buy raw ingredients, the right ingredients, and put them together in formulas. Nothing wrong with that. But there's a huge lack of research on combining things and what happens when you combine things. That's what we're heavily focused on as a company. We're really excited to bring, again, some of these research papers and patents to the world and share it, because I think it's going to open up some eyes.

Dave, you know this because you've been doing it for a long time and that's why you take all the supplements you do. You combine things because it works. When you start compounding different elements, you can produce exponentially better results. Dave and I have done, again, neural feedback and photobiomodulation and you can take nootropics like Nootopia, Collagenius and next thing you know your brain's performing better than it ever has. And of course, if you're taking effort and you're pushing your brain through business or through learning or through neuro feedback and you're feeding it all of these things, your brain just starts getting to a point that is beyond what it was when you were 18 years old. And Dave, you're the poster child, pun intended, for that. Anyways, I'm excited.

Dave Asprey:

I think it went from the short bus to the long bus. We'll put it that way. I mean, it's hard to put words to it what it's like when your brain doesn't work very well. It's not like I wasn't smart when I was a kid. I think that I lost a bunch of it, but man, it's like being in a fog. And you really want your brain to work, but it just doesn't. You're pushing as hard as you can and it just doesn't matter. It's like trying to run through mud. It just isn't there. It's when you realize you can drop all the mud and, oh, now I actually get to learn how to run on a hard surface. So part of it is getting rid of the stuff that's built up and just

getting to baseline. I did that a long time ago, and you could do that nutritionally, but then it's like, "Okay. Now how do I, instead of just not running in mud, how do I run like an Olympic sprinter?" And that's a different set of skills.

I think nootropics, they have the ability to get you out of the mud. Certainly they saved my bacon when I was in my early 20s. My career's taking off and my brain is going in the wrong direction. I still remember that \$1,200 package of pharmaceutical nootropics from Europe that took six weeks to get here, and they worked. And if I hadn't have done that and learned about Provigil and all, I wouldn't have graduated from business school and all.

But a long time ago, I fixed my brain and ever since then it's about how do I hack my brain? How do you actually actively tweak it and upgrade it? That is something that is possible for everyone. Some people are really going to get into that and other people are saying, "I actually wanted to trick out my sports car." It's the same kind of thinking. It's just, where do you put your energy?

I got to say, BDNF and mitochondrial activation are the two things you need. After that you can tweak neurotransmitters. I think neurofeedback is very important. I do know that the first brain focused photobiomodulation device ever made, I had that. There were 100 of them made and sold in a Yahoo group back when Yahoo groups still existed. That thing worked and that's why I have a photobiomodulation company. That's why TrueLight exists. And it's not just brain focused, it's whole body.

That stuff matters, but I don't know where the cutover line comes from, "You know, I got my brain back," to now it's an upgraded brain. I actually want to ask you that, Mr. Noots. What's your take on that? How do you know when you're just back to baseline, versus you just went past baseline?

Mark:

I had an experience, Dave. This is great. By the way, I love this. One is that it can sneak up on you if you're not self-aware, if you're not testing. Dual N-Back or things like that can be really effective. At least getting you... Here's where I am and here's where I'm trying to go, and these seem to be improving. But the other is, when you talk about that recovering or rejuvenating the brain, and you mentioned it really well, when I went from... I started smoking weed when I was in fifth grade and I quit when I was in seventh grade and I became a runner.

Matt Gallant:

Talk about a good call.

Dave Asprey:

Geez, that's early.

Mark:

I've got older siblings.

Matt Gallant:

Great call. Yeah.

Mark:

Yeah. My big brother, who's one of my heroes, convinced me to quit smoking weed and take up running. Steve Prefontaine dropped by our school a few years earlier, so he was our iconic guy. He was the guy

behind Nike. And so, I started running every day. Started running every day. And hardcore. Like run till you puke type running. After six months, I woke up one morning on a Saturday and my brain was finally clear. I noticed the cognitive difference of smoking weed every day to six months of not smoking weed and running like a hardcore maniac, and becoming a really good competitive runner, and suddenly my brain was clear. That's the baseline 101.

But then there's the other one that you have where I had just gone through a real collapse back in the early '90s. You and I talked about Durk Pearson and Sandy Shaw. I had read the material, absorbed their material, started working with a bunch of interesting early stage nootropics, and-

Dave Asprey:

Those are 1980s longevity, we'll say influencers, researchers, and also nootropic researchers. They called them smart drugs back then. Those are like the grandfathers of the OGs basically.

Mark:

Oh yeah. Yeah. Aren't they the founders of LEF? Life Extension-

Dave Asprey:

Yeah. They created the Life Extension Foundation, I believe. But I don't think they're involved anymore.

Mark:

No, no. I don't think so either. So I flew out to New York. I spent six months and I got really healthy. I went from being chronically sick, chronically sick, mold, to being super healthy. Thyroid performance. I flew out to New York to do a venture capital deal for a guy from my industry, and I remember walking into the room and I could... There was venture capitalists on one side, a couple of angel investors with them, there were movie theater owners on another side of the table, and there were these two technologists that owned this laser technology company and they wanted me to represent them. Because I had been through the business multiple times before and bought, sold and built an ink 5001 out of that.

I'm looking at the room and you could kind of read the room completely, and I just got up, I turned around, I grabbed a whiteboard marker and I started writing. I had no idea what I was going to write. I had no idea what I was going to do. All I wanted to do was diffuse the room and make a deal happen for these guys. I had them laughing in about 15 minutes and about a half an hour after that we had them looking at what the terms sheet might be.

I think that you know... And by the way, I went from being probably the saddest of my life to being the happiest of my life. Not because of that event. Before I got to that event, because my health and my neurological processes were finally back to a point where I could riff with really smart people and have fun and contribute to the conversation. Not feel like I was being run over. I think that's that kind of cognitive performance increase that we all look for. And we may get sparks of it once in a while, but we don't know how we put it together.

One of the things we're dedicated to in Nootopia is how do you program your state change? You can do that. You can go from sick to superhuman. You can align yourself with the very specific neurochemicals that are going to give you the specific outcome for the specific time period you need to get the performance you need. That's really, really when life gets really fun, because you can do it for everything you do.

Dave Asprey:

Yeah.

Mark:

[inaudible 00:40:23] body energy, sex, sleep.

Dave Asprey:

There's a feeling of effort, like you're trying, you're pushing, and then when you cross over that line, there's a sense of effortlessness. There's a scene in probably the original Matrix. And I have to say that the final Matrix was a travesty of both filmmaking and storytelling, so we wouldn't even talk about that one. But the first Matrix, there's a scene where he's fighting. Doing his, whatever. Full on, working really hard to beat the other guy. And then he just realizes something and he puts a hand behind his back and just completely fights with one arm. It was like, "This is effortless. I'm not even trying." That's how it feels when you hit that next level. When you hit baseline, it's like, "You know, when I push, I get there." And when you're like, "I'm barely pushing and look at all this stuff move," that's when I feel like I cross the line there.

For me, writing books, thinking of things, I don't have to try, it's just there. It's like nootropics are a lubricant for thinking. They just remove friction and that's a powerful thing. There just aren't words for this, but it feels good. And you stack that with the 40 Years of Zen and the other things that make your metabolism stronger so there's actually more raw power, and you have myelin, which is part of neurogenesis, that insulation on the nerves so that they have less electrical resistance; all of a sudden you're like, "Wow. I didn't know I could do this."

That's that flow state you want to see in professional athletes. They make it look after effortless. They're doing these things that look impossible and it's elegant. That's to me how it feels when I'm on the right type of nootropics for my brain and when I'm eating the right stuff and I'm not drinking alcohol, I'm not smoking pot, which I don't. Neither one of those is good for your brain. I don't like the way they make me feel. I have yet to download the ability to fly a helicopter remotely in two seconds in the middle of a gunfight, but I'm going to get there. That's my plan.

Matt Gallant:

Love it.

Mark:

I love it. No, great metaphors. You go, Matt.

Matt Gallant:

I'll share the curious moment I had in that period after I got sober. I still remember to this day. I was in my previous place, and I had to write copy. I'm sitting at my computer screen and I'm literally... I cannot write copy. Keep in mind, I was a copywriter for years and I could write a sales letter in three hours, max four or five. For seven hours I came up with one paragraph. That was kind of the bottom for me. Not the bottom of drugs and alcohol, but the bottom of realizing, holy shit, my brain is damaged.

Now, you ask a great question, Dave, which is, how do you know how your brain's improving? One of the things you realize when you're doing neurofeedback is that your brain has no ability, or not a very good ability, to sense itself. It's almost like you would throw somebody in the gym that's pitch black and you would tell them, "Hey, do this exercise." You can't see it, you don't have any feedback. A mirror

is a feedback system. People are feedback systems. Neural feedback gives you the ability to show your brain how it's performing, what it's doing, what it's not doing.

But there's other ways as well, and what I started doing was tracking how many words per minute I could write. That does another thing to your brain, which I think every successful person does unconsciously, which is as soon as you make a decision that something's important and you create a ladder in your mind that when you go to the next rung, you are winning... And those are key points. You make a rung and you decide that climbing that ladder is winning and each rung is a win. You create the structure for dopamine loops. Dopamine loops is what drives us forward.

Now again, entrepreneurs typically genetically have higher dopamine naturally, but every human being... This is even more important for people that aren't naturally motivated. And as a coach and I used to coach people in weight loss. You take your goal. Okay, you want to lose 100 pounds. Okay, great. Let's create this ladder of five or 10 pound targets. Let's make every pound a win. Let's make every successful meal a win. So you stack dopamine loops from big macro ones, okay, for two years this is our objective, and then weekly, and then you have daily goals. I think that's where our gratitude habits and gratitude lists are so powerful, because you're creating these heart... You're creating this ability to feel like you're winning on a daily basis.

When you start doing that with your brain with any trackable activity, again, one, you're creating that dopamine loop, which is key. But two, if you start experimenting with nootropics and things like Lion's Mane and you start tracking your brain speed, whether it's a P300 neurofeedback or any task that requires focus, it's really powerful. Because again, you're creating the right structure to improve. Because again, what gets measured will improve over time. And you're creating a split testing background with different neurochemicals and different compounds.

Now, I want to say too that to me Lion's Mane is not a nootropic. It has incredible brain enhancing effect, but to me it's like brain food. It's like good fats in lion's mane... When people talk to me about nootropics, I say, "Well, the basics are really good fats. A lot of DHA for your brain." DHA is the key fat for the brain. And then add Lion's Mane. To me, that's the base for a really good, high performing brain, and then you can start playing and adding other things. Of course, all the biohacks that Dave teaches, that you teach Dave, enhance mitochondria. And I think your book Headstrong is... that's my favorite book that you wrote and it's a book that everybody should read. That's another element, but that's more on the energy side. We're just talking about what makes up the brain, which is a lot of DHA. And what fuels the ability to create new neurons is BDNF. So feeding it DHA and BDNF to me is a beautiful combination that produces incredible results. That's it.

Dave Asprey:

Do you remember, I probably mentioned in one of my first books, the brain test that I used to first test nootropics?

Matt Gallant:

No.

Mark:

No.

Dave Asprey:

It was a program called FreeCell, and this is a free game of solitaire that's was on early Windows things. You could still get it on an iPhone. It's an interesting game, because it's the only solitaire, little card game, where theoretically every game can be solved. But some of them are really hard to solve. And if you play one or two of them, you can sense, wow, today I'm really struggling. I just can't see it. But once you've played a dozen games, there's patterns. This tests working memory and pattern recognition at the same time. So you're like, "Oh, that one just was effortless, and then this one I had to work really hard on it." That was what first showed me that some days I was a zombie. It was an objective measure of how stupid I could be, and it turns out I was living in a moldy house and then I'd eat the wrong thing and my inflammation would go off the charts and then I was just incapable of doing it with any speed at all. And then other days I'd try my first nootropics. I'm like, "Wow, look at that. I just sailed through it." It was my sense of friction versus effortlessness.

I don't usually play FreeCell anymore, but there's lots of different ways you can do it. You just pick something that requires some working memory and some concentration and either you're good or you're not. Little arcade style video games. Same thing. If you play the same video game on your phone, some dumb little thing, every day, if some days you die all the time and you fail, what's wrong with your brain? It's that straightforward. You should be able to do it the same way every day.

Matt Gallant:

Another big one too is word recall. Tracking how many times a day are you struggling to find a memory or find a word. That's a big one.

Dave Asprey:

Should be zero. Should be zero. It happens to me maybe twice a week and each time I'm like, "Whoa, that's so bizarre. What did I do that caused that?" It's usually sleep or toxin related. In fact, it almost always is.

Matt Gallant:

Another thing too that Dave's group does at Zen is brain scans. They do a brain scan at the beginning of the week and another one at the end, and then when you go back, you do another brain scan. The brain scans don't lie. These brain scans are using incredibly expensive, high tech EEG technology to measure exactly what's going on in your brain. It's essentially like an MRI level. But more on an electrical level, which structures and regions of the brain are getting activated. And when you see the changes, the positive changes where... Sometimes you want things to quiet down in certain parts of the brain. That's what meditation does. It helps shut down certain structures and regions that you don't want. Then you see the activation of other ones, or you can train the connection of different regions of the brain. That's where the cognitive functional capability boosting effects of 40 Years of Zen are off the charts.

You come out... And again, if you're feeding it things like Collagenius, which by the way, we've sent some of our staff members at Zen recently and the whole Zen team was just devouring our team members' Collagenius. They loved it. But yeah, when you're feeding at things like Collagenius... And again, the cordyceps are experiential. I just want to talk about cordyceps, because we can talk about lion's mane nonstop. I remember the first time I tried a 10 gram dose of cordyceps. I was in Vancouver. We were at a seminar, me and Wade, and he says, "Hey, you want to try this?" I did a 10 gram dose, which is pretty high. I was energized in a big way, but not in an adrenaline, noradrenaline, cortisol type of way, because it's more an ATP boosting effect through the oxygen transport, which is very different than just squeezing out more adrenaline out of our adrenal glands.

So cordyceps is a really unique, powerful energy booster that, again, you can just blend that with Danger Coffee and you get the combination of the positive adrenaline, noradrenaline response from the coffee, as well as with the ATP production.

One more note too on brain performance. I'll tell you, Dave, you know what blows my brain out more than anything else? There's plenty of research that shows this.

Dave Asprey:

Nitrous oxide.

Matt Gallant:

You know what? I don't think I've tried nitrous oxide.

Dave Asprey:

That was a really good automotive joke. I mean, come on. [inaudible 00:51:34].

Mark:

No, no. You were on it, man. You were on it.

Matt Gallant:

Anyways. As far as what blows your brain out, it's stress. And why? Because it destroys your hippocampus. When you hit past a certain stress threshold, your hippocampus gets damaged and your short term memory gets... I mean, mine gets obliterated. It's that night and day type of thing.

And of course, when you build resilience in life, whether it's through doing 40 Years of Zen work, meditation, or you feed it things like Magnesium Breakthrough, which is our bestselling magnesium formula, which we've done a podcast on; that's a game changer on resilience, because it helps counter a lot of the sympathetic fight, flight or freeze response that our nervous system can get trapped into at times.

But reishi is a phenomenal parasympathetic needle mover. Now, it's not as needle moving as magnesium in my opinion, but almost everyone reports a grounding, calm feeling from reishi when you start increasing the dose. And again, we're using a 100 to one extract on the reishi and it's powerful. When you get the energy boosting, the BDNF, the calm grounding effect, you get six to eight hours of focus and energy that's very different than traditional nootropics. To me, again, this is more of a brain food than a traditional neurochemical enhancer, which is typically what most nootropics do.

We have a special discount for everybody listening. If you go to nootopia.com/davegenius, we want to give a little shout out to Dave here-

Dave Asprey:

Oh, thanks man.

Matt Gallant:

Yeah. **[Nootopia.com/davegenius](https://nootopia.com/davegenius)**, and the code is **Dave10**. I do believe the code is already pre-programmed on the page. We have a special launch price discount and bulk discounts and all kinds of discounts on top of Dave's 10, so go check it out. It's my personal favorite product for the last six

months, and I'm not saying this because I'm here pitching it. It's my core thing that I wake up and do, and been using to power my brain since Mr. Noots gave me the first mystery batch.

It's always a good day when Mr. Noots shows up with a mystery potion. I have to say, it's one of my favorite things in the world. But yeah, at your event he gives me that and then 30 minutes later I'm feeling this pleasant sparkling effect in my brain and I'm like, "That's the BDNF." When you really push BDNF... And I've done major cycles of Cerebrolysin, which is a really powerful BDNF booster, but you have to inject that. Not everybody's willing to inject themselves with things. I think lion's mane at this level of concentration and in combination with the other ones... There is no mushroom... If you calculate how much molecules you're getting for the price, there's no comparison.

So again, nootopia.com/davegenius. Dave10 is the code. Special deals for everybody. And again, come visit me and Mr. Noots at Dave's event. Really excited. Dave's been a game changer in my life and I think that he's building, again, the next generation of health leaders, which is everybody listening. I'm always mindful of, you teach somebody one thing and then, just by hanging out with their friends and family, they're talking about it, they're sharing it, then they get infected by the passion we have about health and then they talk to other people. And if we fast forward three, four generations, we've transformed the world from, again, sick to superhuman, which is our mission at BiOptimizers. So thank you.

Dave Asprey:

I love it. Just for listeners, there's all kinds of stuff you can do to make your brain work better, make your body work better. You don't have to do anything. It's your choice. And you should probably start with the stuff that's free. Learn how to sleep. Maybe skip some breakfast already, and then do the things that are most important for you and it may be making your brain work better. I think it's really important. But honestly, if your thyroid's broken, maybe you ought to hit that first and then work on your brain. But you don't need to have FOMO for it and you should do the things and try different things, like I have for the last 25 years. I'm just doing my best here to curate a lot of really good stuff and to reject a lot of not really good stuff so that, if I recommend something or I bring someone on the show after a lot of vetting like this, that you can at least know that it's worth your time to give it a try. And doesn't mean it's going to work for you. It just means it has a much greater chance of working for you and you're much less likely to get screwed.

Matt Gallant:

And BiOptimizers has a one year, 365 day, no questions asked money back guarantee. Our refund rate is sub 1.4%, which Dave, as you're aware, in eComm, that's phenomenal. It's phenomenal in our space. So yeah, 365 day guarantee. You can buy the products and hit us back. And by the way, our customer support answers every response in around 25 minutes. We believe we have some of the best customer support in the entire industry, and you're protected by our guarantee.

Mark:

And it's freaking delicious.

Dave Asprey:

It actually does taste good, which is great. Because, like I said before, the mushroom coffee thing is... I feel like it's kind of a gimmick. I would rather have minerals in my coffee. But hey, I do put minerals in the coffee I sell, so maybe I'm biased. I just like coffee that tastes good, and I do believe coffee tastes good with Collagenius in it, so there you go.

All right guys. Thank you for being on the show again. Thanks for continuing to innovate and do good stuff. It's just really important that we have some quality supplements out there that are made with care and with scientific rigor, because there's too many people who can just throw some stuff together in their garage and then try and sell it. You've got a lot of supplement companies now that are owned by the largest pharmaceutical and big food companies in the world. Some of the brands that people think are all hippie and natural are owned by companies you wouldn't believe. You guys are a young company. You're lean, you're mean, in a good way, and doing stuff there. And that's what I'm looking for. All the supplements I talk about on the show are efficacious, they work, and they're from companies that are worth paying attention to. So thanks again.

Matt Gallant:

Thank you.

Mark:

Thank you, Dave.