

Dave Asprey ([00:00](#)):

You are listening to the Human Upgrade with Dave Asprey. Today's episode is a really important one because you probably know I am a leader in the longevity field. I've written a major book about longevity and I'm planning to live to at least 180. But in the world of biohacking, which encompasses longevity and just anything having to do with human performance and consciousness, some of the practices of biohacking directly lead to longevity, but they're not gene therapy. They're not necessarily even a specific nutritional strategy around fasting to reduce mTOR or something like that. It's things like meditation, like, oh wait, people meditate, live longer. But that's a lot of work. And so what are the elements of this thing called the exposome, which is like the genome, but the exposome is the set of everything in the world you're exposed to, whether you know it or not, throughout your entire life.

([00:56](#)):

That is what programs your body, the definition of bio. I can change the environment around you and inside you so you have full control of your biology. Well, what if music was a meaningful part of a longevity practice, but no one in the field of longevity is talking about it? Well, it turns out there is someone talking about it in the music and at least Neuroscience field. It's a book called Music and Mind Harnessing the Arts for Health and Wellness. This is a book that just came out in 2024, and I thought, what if we had a conversation about music and longevity with Renee Fleming, who is one of the greatest opera singers to ever live. She's performed in the world's great opera houses in concert halls. She's only won five Grammy awards, and in 2023 was a Kennedy Center honoree and even sang the national anthem of the Super Bowl. So what the heck? Opera and longevity. How could this even be? Renee, welcome to the show.

Renee Fleming ([02:01](#)):

Thank you, Dave. Great to be here.

Dave Asprey ([02:03](#)):

What led you to write this book?

Renee Fleming ([02:07](#)):

Well, I had issues earlier on in my career with somatic pain and stage fright, and it led me to continue to read about anything I could find regarding the mind body connection and really regarding neuroscience. And I noticed that scientists were studying music and the brain. So I got to meet Dr. Francis Collins in 2015 and he ran the National Institutes of Health for 12 years, and I got to ask him why. And so I had just started at the Kennedy Center actually as an advisor, and I said, do you think we could provide a platform for science with the public? I think they'd all want to know why too.

Dave Asprey ([02:51](#)):

What an unusual path. So you have this beautiful voice, but you had terrible stage fright. And in the US at least fear of speaking or performing in public is the highest fear of all the people are more afraid of that than death even. But you chose a career that just put you what felt like death's door when you would go do this. How did, did you always have this stage fright? Did it develop? How does that even happen?

Renee Fleming ([03:19](#)):

I can't say I was a natural performer. My parents were both high school vocal music teachers. We were very much a singing family, I think. So I was used to doing it, but it wasn't in my nature to want to do it. I was more reserved. I was a bookworm. I did a lot of solitary activities. I was also very painfully shy, and so I had to learn a lot. And by and large, I kind of mastered it. I copied people, colleagues who seemed not to have this problem, but a couple of times it really got me. So in the last time, the really intense period was in 1999. And since then I've actually loved performing. I still get painfully nervous sometimes when I'm really under pressure, but I've kind of figured it out, preparation and just feeling grateful. And also rather than seeing the audience as judgmental, I feel like I'm sharing something beautiful with the audience. So I'm a conduit. It helped a lot. That particular transfer made all the difference.

Dave Asprey ([04:27](#)):

Turning a performance into an active service for me removes any possible degree of stress. And I think my largest audience was 15,000 people at Tony Robbins at an event, and we had an AV issue as I was walking out on stage. And I just remember my heart rate didn't even change. I was just so happy to be there. When I started my career, the first time I spoke, I didn't even know what I said because I was so terrified. But apparently it was good, but it took me a long time to even know what I was doing. I was in that state of fear. Maybe for me it was exposure therapy. But I want to know so many people listening have stage fright, and you're just this amazing performer who's done industry changing things. What does it feel like? Is it something that you feel in your body? Is it a mean voice in your head? Are there whirling, dervishes in the air above you? What is the physical and mental and emotional experience of stage fright?

Renee Fleming ([05:25](#)):

Well, for me, the pain was really the difficult thing because it undermined my beliefs that I could actually go on stage because it was a type of tension that had a huge effect on the muscles around my neck and around the base of my throat. So I really couldn't sing, and then it would kind of magically lift the minute I walked on stage. And so I knew it was not real. I knew it was something that I had created myself. So that's one thing. I mean, I can tell you that when I'm performing well, which is most of the time or comfortably I should say, I'm in the zone. It's a lot of flow state. I'm carried by the music. It's incredibly wonderful. So most of the anxiety, I think for me, played out in advance of the performance and not during the performance.

Dave Asprey ([06:14](#)):

So you got inside your head or it got inside your head ahead of time and you kind of wrestled with it. And once you made the leap, so to speak, then your voice would turn on, your muscles would relax, and then your voice was the amazing thing that it is.

Renee Fleming ([06:27](#)):

It was better. I mean, in a bad period, I sort of wish that I could get sick so I wouldn't have to perform. Of course, I never did.

Dave Asprey ([06:35](#)):

I appreciate that you're so vulnerable and honest about it because so many people do have this, even people who are on stage a lot, I've had a chance to work with some of them with neurofeedback to train the brain to have a different response. But it really feels like it's a body response. The body's trying to be safe, and it's so convinced that something bad is going to happen. It's the one clenching up and that it's not really me. And some of my friends I've worked with even went so far as to take drugs like beta blockers that block the adrenaline response so that they're just completely smooth when they go on stage. But being smooth means you don't have the peaks. You don't have the valleys. But was that something you ever tried? Did you ever try blocking your stress ahead of time?

Renee Fleming ([07:21](#)):

But you have to also remember that for singers, the anxiety response is your breath gets tight, your throat gets very tight, there are physical responses. You're shaking.

Dave Asprey ([07:37](#)):

I hear you. Wow. What an interesting experience to have when you're at such an amazing level.

Renee Fleming ([07:44](#)):

Yeah, fortunately, it wasn't very often. I mean, there were two periods I would say throughout my career where it came up and the last time it took about eight months for me to get on top of it.

Dave Asprey ([07:55](#)):

Wow.

Renee Fleming ([07:56](#)):

But I never stopped. You can't stop performing because then you won't go back for 20 years, which we know lots of famous people who did that.

Dave Asprey ([08:05](#)):

You just got back on the horse again. They say once you get bucked, if you don't get back on, you won't do it again. So you had the WHI do that, and you talk about somatic pain. What is somatic pain?

Renee Fleming ([08:17](#)):

Well, I don't even know if there's a great definition for what I had psychosomatic. I used to call it psychosomatic pain. So it comes from really your brain trying to undermine what it is you're doing, and it's always from a place of protection, things that sabotage us very often are things that your mind, your brain thinks is helping you.

Dave Asprey ([08:44](#)):

It's just trying to keep you safe. And I mean, let's face it, throughout most of history, if you stood up in front of the tribe and said some stuff, they didn't like you, they would've tied you up and fed you to a lion. So I think have some genetic memory in there, right? So no wonder it's a little bit scary.

Renee Fleming ([08:58](#)):

No question.

Dave Asprey ([08:59](#)):

You met Dr. Francis Collins who ran the National Institutes of Health, and this is a guy who discovered genes in a lot of diseases and actually led the Human Genome Project, but was also a musician. And you went in and got an MRI. What did you find in your MRI?

Renee Fleming ([09:19](#)):

So the fMRI is a machine that measures oxygen in the brain and the blood, and they tested me singing, speaking, imagining singing, and imagining singing was the most powerful. It affected more parts of my brain by far than speaking or singing, which totally surprised the scientists who we're looking at the test results, but it's because ultimately they said, okay, we get it. We think we get it. It's because you're a singer and for you, singing is second nature, which is true. And imagining singing in the MRI machine, which is loud took a little more focus and probably effort. So it was a really interesting experiment. Now, I mean to really know about that you might've had to do another one right after it with a nonsinger, just to see and to compare.

Dave Asprey ([10:22](#)):

What does it do to your brain when you're singing, we know yours, but for a general brain out there, maybe someone like me who has zero singing, I've actually taken voice lessons from Roger Love who's been on the show. I'm still not a singer in the slightest, but I'm a better public speaker, and I can read my audio books like a badass, but my singing ability is still very limited. We'll put it that way. But I did notice neurological changes just from paying attention to my breath and how I move. And I know that when I'm speaking, if my stomach is moving in, I'll emote better. All the stuff that to you is like, everyone knows that except we don't. So for me, it was like, whoa, my nervous system is changing just from the way I use my voice. But you went in and you looked at your brain, and what does that imply for those of us who aren't singers but maybe want to have young brains?

Renee Fleming ([11:11](#)):

Well, what I would say about the experience that I've learned since then is that music in particular is in every known area of the brain. And the brain is sort of, Francis refers to it as the most complex organism in the universe. And so the fact that music and certain artistic kind of activities are so powerful in us shows that in terms of evolution, at least we have been practicing these things since before speech. I mean, that's the latest that we could vocalize before speech. Neanderthals had the exact same throat that I do, so I just, I don't know that they were differentiating between singing per se because it wasn't the nature of the experiment. But I know when I sing, first of all, Deepak Chopra said to me, God, you're so lucky you're a singer because every time you sing, you're stimulating the vagus nerve.

([12:24](#)):

And I know that I am also holding my breath for long periods of time like a swimmer would. It's similar in that respect, which is why we've discovered that singing's fantastic for people who are in some stage of cardiovascular disease because they tend to be sedentary and it's exercise for them. And then when you add what we do and on stage and performances with performance practice and style and multiple languages, it is definitely very good for the brain. It's a rigorous type of activity, not one, I would say for classical music. It's not one that many people do, but other than one of the lucky people

Dave Asprey ([13:06](#)):

We know that breath work and breath holding and just conscious control of the breath has magical effects on the nervous system. Steven Porges, who invented polyvagal theory and that came on and recommended, oh, you should try humming, which is the same as singing that calms the brain in a way that you might not see or even feel right away, but it provably works. You're getting those. And we have lots of evidence that speaking more than one language profoundly affects and improves brain function, especially if you learned it earlier in life because it actually wires your brain differently. So it turns out if you're singing in a language that you maybe don't know, that's even better. So you start getting into that being a polyglot thing, and you speak three languages, right.

Renee Fleming ([13:57](#)):

But I've sung sang in probably 10 or 11, and many of them I have to learn by rote. So that's a very tedious memorization process. One, it's a whole opera in Russian.

Dave Asprey ([14:10](#)):

Wow. I was going to ask how you do that. So you don't actually learn the Russian, you just learn the shape of all the sounds.

Renee Fleming ([14:15](#)):

Yes, exactly. And you have to sound like you're an authentic speaker, and you also have to memorize what everyone else is saying to you. So needless to say, I haven't sung a lot of Russian operas. It takes a huge amount of time, but I speak French, I speak fluent German. I had a Fulbright scholarship and studied in Germany, and my Italian was quite good when I was singing there, but I would say French and German are my better

Dave Asprey ([14:43](#)):

Languages. French, German, and obviously English. Well, that is impressive. But

Renee Fleming ([14:47](#)):

I didn't start very young. I didn't learn any of them until I was in my early twenties. I was young enough, thank goodness.

Dave Asprey ([14:53](#)):

And maybe you just practiced them so well, or maybe you were more neuroplastic because of all your singing, so you learned them and it got baked in. Well,

Renee Fleming ([15:00](#)):

That's an interesting thought. I mean, music is a language, and certainly when I started in Germany, I did you develop an ear, if you're a musician from a young age, you definitely have an ear for language. I think that's probably true, but it's terrific. I mean, this is why I love the studies from Asal Habibi, who's at USC about childhood development playing an instrument, and she's just starting to do a whole series of studies on singing.

Dave Asprey ([15:35](#)):

That's interesting. I think singing might be more important than learning piano or a string instrument. Maybe not If you want to be good at math, are you good at math

Renee Fleming ([15:43](#)):

Then? No, I don't think so. I mean, there's no question that learning music and learning to read music and especially the kind of music that I have been involved with my whole career, which is complex, is mathematical, but it's simple math.

Dave Asprey ([16:00](#)):

My grandmother had an advanced degree in nuclear engineering, believe it or not, would play on the piano. Her love was mathematics, and she would always play the piano really, really well until very late in life when she finally got some Alzheimer's in her late nineties and recently passed. But it was amazing because the relationship between math and at least math and piano and those things, I think it helped her be better at math. And she thought the same thing.

Renee Fleming ([16:29](#)):

That makes sense to

Dave Asprey ([16:30](#)):

Me. It does.

Renee Fleming ([16:32](#)):

Oh, definitely. Yeah.

Dave Asprey ([16:34](#)):

You mentioned some stuff in your book around, there's studies around dementia and Parkinson's and PTSD and Alzheimer's and things that say like music. Does that, does listening to music help or is it playing music that makes a difference for a younger brain?

Renee Fleming ([16:49](#)):

So listening to music creates endorphins in the brain and even activates the natural opioids that exist in the brain. So it's very helpful. It can reduce anxiety. Even just 45 minutes or half an hour can reduce anxiety by 25%. But actively engaging with music is certainly beneficial for children, I would say, especially for children. And what I would say about, and why I'm so interested about this study is because if you're learning to play an instrument, there's a whole translation process that takes place where you're looking at the page, which is the music, and you're translating that into your body and your hands. And so that is a little bit more mathematical than what we do. On the other hand, singers, we are wrestling with foreign languages and still the same musical components, and we are translating it into the body, but it's not as difficult.

([17:51](#)):

The amount of practice that instrumentalists have to play in an orchestra, for instance, it has to start when they're very young. And it's many, many hours where singers can come on the scene in their teens and be incredibly successful and discover, only discover then that they have a voice. I was lucky. I had a ton of music training as a young child, so it was easier for me. But yet, it's an interesting question. I would recommend all of it, frankly, for people who have an affinity or who just like it, but I wouldn't, I would say it's all beneficial.

Dave Asprey ([18:33](#)):

Well, certainly we know that it can delay dementia, maybe gone on longevity and brain function. I talked about that to a certain point, getting, see now cognitive dementia is a big thing. So if singing to yourself while you do the dishes is going to fix that, it seems like a very low cost longevity strategy. But a lot of people feel silly singing to themselves, especially around others. Me included.

Renee Fleming ([18:59](#)):

One of the interesting things is that music memory is the last memory to go in. Most people I saw this was my husband's aunt who didn't know anyone. She didn't open her eyes, she couldn't speak. But if you prompted her with three pitches, she would sing one of five different songs, perfectly perfect pitches, perfect words. And so scientists trying to figure out why this is, is it muscle memory? Is it perhaps that this musical memory lives deep in the brain where and hasn't been affected by the disease yet, but it's quite interesting.

Dave Asprey ([19:45](#)):

Do you think that your somatic pain, that when it would pop up, that it came from being pushed when you were very young on all this musical training, was this an old response or was this a primal response?

Renee Fleming ([19:57](#)):

I think I, I sort of was uncomfortable with being judged. This notion that I was kind of, again, when you're on stage,

Dave Asprey ([20:08](#)):

You're being judged.

Renee Fleming ([20:09](#)):

It's built into the word performance. You have to perform, meaning that that yardstick is there and you will be judged a tent. You could see it now with all these television shows, the judges holding up their cards. So that's not a comfortable place to be for a lot of people. And it wasn't for me either. So that's why I had to kind of change the narrative and change the experience for myself. And I'm so glad I did. I absolutely love performing. I'm touring right now, a beautiful piece with National Geographic that's about climate, and they created 30 minutes of films for me to sing to, and it's such a gift and people love it. And you're sharing a message at the same time.

Dave Asprey ([20:52](#)):

What's your next city?

Renee Fleming ([20:55](#)):

I'm going to Aspen actually in a couple of days. I also am at the music festival there in the summer a month.

Dave Asprey ([21:00](#)):

Oh, neat. I was there two weeks ago. I like Aspen.

Renee Fleming ([21:04](#)):

It's beautiful. Yeah,

Dave Asprey ([21:05](#)):

If you travel a lot, I've had the honor of working with a good number of professional musicians who are dealing with the stress of being on the road, the stress of flights, circadian disruption, staying up late at night, all the things that happen on bright Lights that mess with your sleep. What do you do to keep your body and your voice healthy when you travel?

Renee Fleming ([21:29](#)):

Well, I find denial really useful. I don't think about jet lag. I don't think about fatigue. I don't think about being on the plane. People complain about the MRI, and I say just if you've ever flown economy, it's basically the same thing. It's a small seat. Make yourself at home. So definitely, in fact, I would say most of my colleagues who've been successful at some point early in their careers, you can't get sick. You don't get paid if you don't perform, you can't be too neurotic because again, then you become a burden to the companies that you're performing with. So we sort of develop a kind of strength and certainly an immune strength. So I think I've only canceled a couple things in my whole career.

Dave Asprey ([22:27](#)):

So you really just put yourself in a, this is not really happening. I'm just going to do, it seems to work really well. I do honor my circadian biology with the color of lights of glasses and timing of food, but I don't worry about jet lag, and I don't experience it anywhere on the planet anymore unless I do the few things that I know jack up my system. But it's been a huge gift to go from being kind of disabled when I would land and Heathrow from SFO or something to just be able to land and just be myself. So you mastered that. I think maybe practice so your body just learns as part of it too.

Renee Fleming ([23:01](#)):

Well, and I will say with one caveat, and that is that even if I'm game, my voice does not necessarily comply when I go to Japan, for instance, or anywhere in the Far East. Frankly, it takes me a few days for the boys to kind of respond because that dehydration, the dryness, all of that, but also the different time. So that's where I would say that my will and desire to just keep going doesn't quite work out.

Dave Asprey ([23:35](#)):

I've definitely had the same issue since my standards are much lower than your standards for voice. But still, if I'm on stage, it matters. Belam inhalers are my friend. This is a little steroid that affects just your lungs and your vocal cords. And so if I'm reading one of my audio books, I'll get the whole thing done in three days, but it's eight hours a day of being able to maintain this voice. I can only do that when I use steroids on my vocal chords. You ever do that?

Renee Fleming ([24:06](#)):

No. I am going to start taking notes. Actually. You seem to have a lot more of this sort of current solutions. So yeah, I only read my first chapter, my introduction, and I thought, well, I'm glad I'm not doing more than that. I don't speak well. My speaking voice is just terrible.

Dave Asprey ([24:25](#)):

It's very challenging to read a book, to be honest. And I suspect that the same part of you that was critical of your singing voice might also be critical of your voice. Voice because you sound fine to me, but

Renee Fleming ([24:37](#)):

Well, I get tired. I can't go loud restaurants. I just can't.

Dave Asprey ([24:41](#)):

I think that's a sign of intelligence, to be honest

Renee Fleming ([24:45](#)):

There. I'll take it.

Dave Asprey ([24:46](#)):

I know so many people who are just aware and they're relaxed and say, I go to a loud restaurant, I don't want to eat there. It's just so loud. And I think if you have a regulated nervous system and you're calm, you don't want to go there. And if you're dysregulated anyway, it just feels like energy.

Renee Fleming ([25:02](#)):

No, that makes sense. I know when I was on Broadway, no Broadway singers go out after shows if they're doing eight shows a week, and maybe they're the really youngest ones, but at a certain point it catches up with you quickly.

Dave Asprey ([25:19](#)):

There's also the rock and roll guys. I had the incredible experience of Roger Waters and the band invited me backstage in Vancouver, so I hung out with them. And after the show, I mean, these guys are flying everywhere. Let's go out for drinks. I'm like, is this happening? How do these guys perform? I can't even drink and feel good the next day. How do these guys do that at three in the morning? But they were there doing it, and they've done it their whole lives. So hats off. I'm guessing wine isn't a major part of your life, or do you drink?

Renee Fleming ([25:50](#)):

I drink. Yeah, I drink moderately, absolutely. And I have the same tent. I have the same desire after performance to go have a drink with my colleagues. And if I can find a quiet place to do it, I'd do it.

Dave Asprey ([26:03](#)):

Yeah, we went off site. They would've been mobbed. So it was just some random bar in Vancouver. Okay. So that's probably about the GABA activation, just the relaxing kind of coming down. I've seen that from others after state. After a show, you're wound up and you want to burn it off. You're not going to go to a gym or something. So a couple of drinks chills you out and you still feel okay the next morning when you do that?

Renee Fleming ([26:26](#)):

Yeah, I mean, definitely. As long as I stay hydrated, you got to drink a lot of water with it, then it's fine. And plus, when I'm singing opera, I just sang the hours at the Metropolitan Opera. In New York, we only have eight performances, and there are about two a week. So you have plenty of time to recuperate. And then there are friends who are coming to those eight performances that you want to see. So it's kind of a tradition.

Dave Asprey ([26:54](#)):

It's a tradition. Okay. So you go out and you relax and

Renee Fleming ([26:56](#)):

Do something. Yeah.

Dave Asprey ([26:57](#)):

Got it. Now in opera, you are singing with other people, at least for some of it. There's some research that's in your book, the part about the medical muse, about singing, touching the Heart, and they're talking about the potential of singing in a group about it, improving your health more than singing by yourself. And I look back at my yoga practice and meditation, and you have the sangha where people come together and the whole community sings. You have a couple of good singers there and things like that. Do you think that singing with others on stage is better for you than when you're at the diva singing by yourself on stage?

Renee Fleming ([27:37](#)):

That's a recent study, actually, and I find it really interesting because, I mean, first of all, there are a lot of studies just lately around singing in a group. So for instance, if a woman with postpartum depression, the worse her depression is, the more she's helped by singing in a choir. So stunned me. There are just certain studies that I just think, wow, how does that work? And of course, the one with cardiovascular health, health and vascular health in particular, that the benefits of CE choir stroke choirs are incredibly beneficial. I think it's the social cohesion piece. It's people being together. And I also love the fact, and I now tell the audience when I'm performing, that when we're in a shared artistic experience, our brainwaves align. That's got to be beneficial. And it's certainly got to be from our millennia of drumming together, chanting, dancing, all of the things that have kind of made us or supported the tribal people that we are.

Dave Asprey ([28:48](#)):

Have you heard about the EEG studies of people doing improv jazz together?

Renee Fleming ([28:53](#)):

Yes. Yeah. And also Charles Lim studies this, he's at UCSF. He studies creativity and does fMRIs actually on jazz musicians and also comedians, which is all improv. And I mean, speech is improv, but it's really fascinating what they find. It's amazing, isn't it?

Dave Asprey ([29:14](#)):

The synchronization and all. It is fascinating. I have a neuroscience company called 40 Years of Zen that does brain training in five days sections for high performance people. And understanding, man, you put two people together. Our brains interact with each other in ways that are so not verbal and not visual. It's very low level math stuff, but it feels like if you sing and you harmonize with someone, of course it's going to make your brains harmonize and even your heart rate variability will harmonize. And that's been studied by a different group, the HeartMath Institute. And you look at all this going, well, maybe there's something to be said about something as simple as Weiss Ohm with my children. When they were real little, I'd be like, oh. And then they'd learn how to do it and we'd learn how to make our voices match.

Renee Fleming ([29:59](#)):

Oh, fabulous.

Dave Asprey ([30:00](#)):

I think it was regulating for their nervous systems,

Renee Fleming ([30:02](#)):

I'm sure. And Nina Krause's chapter on Sound, which also talks about having music training, enabling us to tune out extraneous sound, and it quiets the brain. So she would play back a brain's playback of a phrase and then a nine musician's playback of a phrase, and there's a lot of noise in it. So you harmonizing with your children had to have a tremendous benefit on them. And not only that, but a bonding benefit.

Dave Asprey ([30:35](#)):

I definitely know it helped with bonding, whether it had a musical benefit or something. I have no idea. Both my kids have pretty good musical skills, but they're in a type of school that encourages the arts even though there aren't many of those left. They're in a Waldorf school, they were now they're in a high school, but they spend a lot of time moving their bodies and singing together in a group and all stuff that maybe I would've done in school, but most kids don't. I think it's helped 'em enormously. But how do you do an AB test? You can't take one kid and do that and the other kid and not do it because

different kids, so we'll never know for sure, but it sure seems outcomes are calmer nervous systems if nothing else. Right.

Renee Fleming ([31:16](#)):

Well, that's why the studies actually on children having artistic practice are useful. This is why we need the science to come up. We need the level of the research. I'm funding investigator awards for scientists, young postdoc scientists who are working with an artist to create a stronger pipeline. And where you think that the NIH has now spent \$40 million just funding music research in the brain, and they're going to continue to fund that, and they've just added dance to it because of movement disorders like Parkinson's and MS stroke, brain injury, brain trauma. There's a real there there with the initiatives and the sort of plasticity of the brain enabling people to heal in many ways. So this is exciting because I think ultimately the goal is to embed the arts and healthcare.

Dave Asprey ([32:09](#)):

It would be pretty incredible if it happened. And some of the biohacking movements which I started, we have this idea that, well, we had the old ancient Tibetan singing bowls or choir singing and that these are ways of changing consciousness. And now we have different technologies with sound where you can do this. And one of the more interesting ones that crosses over directly with what you do as a female opera singer is the sound of a woman's voice modulated certain way, directly changes vagal tone in humans. And Steven Porges, the polyvagal theory guy we talked about earlier, realized if he modulated a woman's voice just the right way, that he was radically healing people's nervous systems to the point he had it. Okay, this is prescription only because otherwise people, they're letting out too much trauma to not have someone there with them to help them through it, just from the power of the voice and like, wow, how much of this is ancient knowledge and how much of it is new?

Renee Fleming ([33:10](#)):

I would call that the lullaby effect. Lullabies are so universal, and I love the study that showed that babies responded to all alibis. It didn't matter what culture they were from, they recognized them.

Dave Asprey ([33:27](#)):

Yeah, there's some beautiful thing. Do you ever channel maternal feelings, divine love? Are you channeling emotion when you're singing or is it just coming through you? How does that work?

Renee Fleming ([33:38](#)):

Oh yeah. The more emotion you channel, the stronger the artistic kind of signal, I think. And I try, I'm always trying, particularly in opera, when I'm telling a story, I'm always trying to move, push the boundary as far as I can without breaking down. Because once you break down, then the audience cuts off and they're worried about you. Whereas you want them to be in their world experiencing the emotion of the story that you're telling or the character that you're portraying. And there's no question it makes a difference if you get right on that boundary, that sort of line. So yeah, I think we feel, and then we think, and feeling goes through the nervous system goes through the spine, movement rhythm all goes through the spine. And so I do think that the feeling part of us needs to be activated more. We're very kind of closed off this loneliness, isolation, this whole horror of an epidemic in the world. I think we're overwhelmed, and that's been the human response when we really need to connect and feel.

Dave Asprey ([34:54](#)):

When you're feeling overwhelmed and you're not going to be out of stage soon, do you stand in the kitchen and sing to yourself?

Renee Fleming ([35:01](#)):

No, I have to say I do not sing. It's my job. So it's kind of the last thing I want to do. I am a nature fanatic, so I've already hiked today, I've been outside. I am looking at this incredible green landscape, and that's where I want to be. But I'm also, there was a wonderful book that came out last year that was a bestseller called *Your Brain on Art*, and I work closely with them with Susan Mag Salmon. And so I said, I am now a arts poster child because come January 1st, they said, I'm not getting sucked in to all this, the election, all of this stuff that will make me depressed and anxious. I am reading novels, going to plays, hearing music. I am really experiencing the best aesthetic experiences and things that are healing that make us feel good and happy color. So I have to say it works. I highly recommend it. And

Dave Asprey ([36:10](#)):

So you're feeding yourself or nourishing yourself that way.

Renee Fleming ([36:12](#)):

Yes. Helps us all flourish.

Dave Asprey ([36:15](#)):

If the opportunity came up tomorrow to do a project with Metallica or Eminem, would you think about it?

Renee Fleming ([36:25](#)):

Well, I did a Hard Rock album already.

Dave Asprey ([36:28](#)):

Oh, wow. I don't know about that one

Renee Fleming ([36:29](#)):

Called Dark Hope. And it happened because the manager of Metallica, Peter Mench, he and his partner said Q Prime. They said, we want to pair you with the best young rock writers.

Dave Asprey ([36:43](#)):

Wow, that's so cool.

Renee Fleming ([36:46](#)):

I sang a song from Arcade Fire, a lot of bands like that, and it was really fun and really interesting. And I also did Peter Gabriel and Leonard Cohen and Leonard Cohen's, hallelujah is probably the most popular thing I do on my concerts.

Dave Asprey ([37:03](#)):

It's one of my favorite songs ever. That was why I started taking Boys Lessons was so I could learn to sing Hallelujah halfway decently. Still dunno how to do that yet, but it may happen.

Renee Fleming ([37:14](#)):

Come on, you have to send me a recording. We all want to hear you singing. Hallelujah.

Dave Asprey ([37:17](#)):

I'd have to make a hallelujah recording first. Maybe a little more practice. We'll put it that way. But what a beautiful piece of music.

Renee Fleming ([37:25](#)):

But my close buddies are Grateful Dead.

Dave Asprey ([37:27](#)):

Oh my gosh.

Renee Fleming ([37:28](#)):

By the way, Mickey Hart of the Grateful Dead was doing this stuff 25 years ago. He was working with Connie Tamino who wrote this chapter on Alzheimer's and dementia and Oliver Sachs, he was very close with Oliver Sachs. So Mickey was one of the first people to tell me, Hey, Renee, here's where you go. Here's who you talk to if you're interested in this.

Dave Asprey ([37:51](#)):

Wow. I look at these musical greats and there's a guy, Shep Gordon, who was on the show a while ago, who's been a manager for almost all of the greats at one time or another. He and Rick Rubin are probably two of the most profound muse people that I know. And I got to go to Shep's private Christmas party where there was 25 or so legends of rock, just jamming, just singing together songs. It was one of the most profound spiritual experiences I've ever been to. Just hearing these people carried just like you to carrying this amazing ability to resonate and just playing with it, it just blew me away.

Renee Fleming ([38:31](#)):

What? It's incredible. And you must have just been pinching yourself.

Dave Asprey ([38:35](#)):

Yeah, it was a very special evening. And I think about not just how it sounded, but there's an energetic, almost like a vortex kind of a feeling there when you have that much creative force in a room.

Renee Fleming ([38:49](#)):

Yeah, it's true. No, it's true. It's incredible. And I have to say, I am always thrilled. I mean, frankly, the people who I'm stimulated by now are scientists. I feel very grateful to be in a company of scientists on a regular basis because I get to learn so much basically when I go on the road, because I'm still touring

probably 80 concerts a year. Wow. I always invite, I present, I bring the audience, and I invite scientists to join me and researchers and healthcare providers, and we have a whole conversation. And the audience, they're very simulated. I think people, they don't just all think about this. And once they're exposed to the idea of the healing properties of various different artistic mediums, they go, oh, that makes sense. Of course we get it.

Dave Asprey ([39:42](#)):

It makes a lot of sense when you dig in and your book is cool, it's eclectic. You've got all these different experts talking about it, and it's clear that you're great. Love is music, but you're also doing the nature thing. And I'm comparing what I'm learning from you and your practice, maybe practice you don't talk about all the time. The other guy who's coming to mind is Frank Zane. Have you ever heard of this guy?

Renee Fleming ([40:01](#)):

No.

Dave Asprey ([40:01](#)):

He's one of the most famous bodybuilders, Mr. Olympia, but from back in the seventies, and I interviewed him, and I'm interested in anything, anytime people are pushing the limits of human performance with our brains, our bodies, what are we capable of that most of us don't do? So I kind of figured he might be a bit of a meathead because he's a bodybuilder, a little bit of a stereotype. I've been a bodybuilder too, not one now. And he comes on and he's one of the most enlightened, peaceful guys I know of. He says, oh, I play the flute two hours a day, the breathing, I spend my time in nature, and that's how I recover. And you just had this beautiful body awareness as a performer, similar to how I'm imagining that you would have how you're standing, where your ribs are, where your air is, where your energy is, and it's so practiced and beautiful. We don't even know why it's beautiful, but you know it because it's in you. Like what this bodybuilder has the same ethos as a singer would have on stage, or a beautiful dancer. So there's some commonality. And I think nature is also something that's highly leveraged in the musical industry from what I've seen. Do you see a lot of that?

Renee Fleming ([41:15](#)):

That's good to know. I mean, it's ironic because most of us spend our time for decades in urban settings because that's where we're performing. And concert halls aren't typically in rural areas,

Dave Asprey ([41:34](#)):

But during recovery periods, that's when you go out and you get into nature.

Renee Fleming ([41:38](#)):

Yeah. Yes, exactly. But even cities, I just spent six weeks in New York City and was in Central Park every day. So yeah, we have to find them, but we're lucky. We have an amazing park system in this country. So there are things that we can do. Not everyone, and I wish everyone did have access to it. I was just in LA actually for a week, and I have to say where I was staying was downtown. It was very much a concrete, I would say there was just nothing around just to even take a walk.

Dave Asprey ([42:17](#)):

You have to take a drive to Calabasas or Malibu, and it's a bit of a hike there from downtown

Renee Fleming ([42:23](#)):

Happen. Yeah, exactly. I was too busy. I had long days, long schedule. But yeah, that would've been, that's what I needed.

Dave Asprey ([42:31](#)):

You talked about the grateful Dad, and you can't talk about the Grateful Dad without talking about psychedelics, and there's some interesting overlap between activating musical centers of the brain and psychedelic experiences. What is your take on psychedelics and music and their inner relatedness?

Renee Fleming ([42:47](#)):

Well, it's interesting. First of all, I can tell you that no studies on psychedelics are done without music. Music is used to prime the person who's part of the study to help the person achieve the maximum benefit, and then it helps them calm down. And these are, I don't know a lot about it, but I think they're long, multiple hours when you're having that access. People that I know work are using kind of micro doses. And so that's all I can tell you is that music is just very much a part of that experience.

Dave Asprey ([43:33](#)):

My first psychedelic music experience was without psychedelics, it was actually doing something called Holotropic Breath Work. And the guy, I was actually, it was a great honor to be able to interview the inventor of that Stan Groff, who's the father of transpersonal psychology.

Renee Fleming ([43:49](#)):

Interesting.

Dave Asprey ([43:49](#)):

Which even includes Polyvagal theory as an offshoot of, oh yeah. He treated 3000 patients with LSD in Czechoslovakia in the fifties legally. And then when it became illegal, he took an old yoga technique, he and his wife developed it. That makes you trip balls. And so I'm at this personal development thing, and I'm 30 and I don't know anything about this stuff, and it is like taking LSD or a big dose of mushrooms, and I'm doing this, but they're playing just the most amazing soundtrack that was carefully curated to take you to places so that you would experience all the healing you could do. And today we use ketamine as an optional add-on to manura feedback program in Seattle representing because of the neuroplasticity that it turns on. So most psychedelics make the brain soft like a 20-year-old, so you can learn better and you can learn how to self-regulate better. And I look at whether it's Burning Man or any of the other experiences I've had, music is an integral part to it, but if you don't have a conscious psychedelic therapist, you just get, it could be good music or it could not be good music.

([44:59](#)):

If you could sing three songs that you would want someone to experience when they're in this state of awe and openness, what three songs would you choose?

Renee Fleming ([45:09](#)):

Well, my Go-to throughout my career that have been the most popular, I think I always say Aliens love these songs. It's amazing. Grace Ave, Maria Pacini, OMI Ocado, which is the aria that you hear all the time on these talent shows. And I would say Hallelujah. Those are the four that are, they seem to be universal.

Dave Asprey ([45:35](#)):

Those are some power songs. If I heard any of those during a psychedelic journey for healing, I would be touched to the core. So okay, that's a powerful

Renee Fleming ([45:45](#)):

Set. Well, and we want a transcendent experience. Transcendence and awe go hand in hand, I think. And they're incredibly healing experiences, and I think music can definitely inspire that. I remember where I was and what the room looked like when I heard extremely powerful pieces of music. And I bet a lot of people could say that.

Dave Asprey ([46:13](#)):

Yeah, the first time you hear it, what

Renee Fleming ([46:15](#)):

Exactly.

Dave Asprey ([46:16](#)):

I'm thinking, for me, what popped into my head? I remember the first time I heard smells like Teen Spirit by Nirvana, not your genre, but a really powerful song.

Renee Fleming ([46:26](#)):

But the cool thing is it's unique to each of us in all of the therapies. The therapeutic use of music is taste based, meaning it's like what is important to you? And I love the fact that that typically occurs when we're teens, and that's the music that we remember in really late in life. And it comes back and the words, you still know everything. So it is interesting. And so a good therapist will say, tell me what your favorite music is and start there.

Dave Asprey ([46:59](#)):

There's also a longevity technique, especially when people are starting to experience dementia. You take a group of people similar age, and you put 'em in a house that has all the same utensils and TVs, like the right model of TV for their age when they were 20 or when they were teenagers with the TV shows and the music playing on the radio that they would've heard. And suddenly all of their faculties light back up and it's like they're young again, and it lasts for a while. I think

Renee Fleming ([47:29](#)):

About that experiment often because we buy into aging to some degree, we buy into, I'm a person who likes to get used to a negative idea in advance, so which would kind of speed up my response to aging. And I think, no, the experiment, that experiment is the right way to go, is to actually, the people that will age well very often don't see themselves as aging. They don't acknowledge it. Another form of denial.

Dave Asprey ([48:00](#)):

I am 28% old, is the way I look at it. That's

Renee Fleming ([48:04](#)):

Great

Dave Asprey ([48:05](#)):

Because my minimum expected life is 180 years. So I'm just telling all the cells in my body, you're just 28%. And I think they might be able to think in percent because years seem pretty made up. Anyway.

Renee Fleming ([48:17](#)):

That's a wonderful idea, actually. That's a really good option.

Dave Asprey ([48:21](#)):

Well, here's a question for you. I'm into the field of longevity, not so I'm afraid of death at all, just because there's lots of fun stuff and beautiful stuff to experience, and that state of awe and transcendence is valuable. So if my number is 180, if you could feel and look as good as you do now or better, how long would you want to live?

Renee Fleming ([48:42](#)):

Well, I just lost my mother and went through her last two years with her. And so I think that really depends on quality of life. It really depends on your health, but not just that who is left in your life that you can interact with. I think the social piece we're finding is incredibly important. So I don't want to be around if I'm alum.

Dave Asprey ([49:09](#)):

Loneliness is one of those things that's right there with stage fright for most people.

Renee Fleming ([49:15](#)):

Well, and if you can develop relationships with people who are younger, I know so many teachers, my family, they were all teachers and they had that. So that is definitely one thing to do is to curate relationships with lots of different age groups. Another thing about aging that interests me, and there's

a whole future section in this book, one of the chapters from MIT talks about the fact that Lee Waits eye has a whole project that shows that 40 hertz vibration in both sound and light can actually clean up flex in the brain. So again, we're back to or focused ultrasound, which is another version of sound. They're finding that the properties of sound can actually have a huge effect in healthcare. I mean, with focused ultrasound, they're now operating on glioblastoma and brain cancer without cutting the skull open. So we're just starting with this.

Dave Asprey ([50:23](#)):

We just are, it's funny where we've got a lot of connections. My newest company is called the Wasabi Method, and we used a sonic shockwave on soft tissues to those muscles, like the ones that you had in your diaphragm that would just lock up. You can actually hit them with a focused sound wave and it causes stem cells and nitric oxide and growth hormone and releasing of muscles that might've been tense for your entire life or for years, sometimes in one session. And so it's amazing. In fact, this morning I went through, because I've had some shoulder stuff going on for a long time, I went through and used it on the shoulder with a therapist friend, and it's like, oh, that muscle. Now it works. And it didn't before, but it's just based on sound inside cells.

Renee Fleming ([51:11](#)):

That's amazing.

Dave Asprey ([51:13](#)):

And some of the stem cell doctors are playing sounds for stem cells as they're growing in culture to change what they do. There's so much we don't even know. Right.

Renee Fleming ([51:22](#)):

Wow, that's amazing. And somebody said to me about the ultrasound too. They said, in five years we may be blasting apart cancer cells with sound.

Dave Asprey ([51:31](#)):

It seems very likely. And the 40 hertz light you talked about for Alzheimer's, I found myself at some kind of health event about maybe seven, eight years ago, and they wanted people to connect. So instead of the normal business mixer, they had a pajama party. It was down at the Salk Institute. So my assistant sends me Red Hugh Hefner pajamas, and everyone else is in a unicorn onesie. They're all investors. I'm like, this is kind of embarrassing. Oh,

Renee Fleming ([51:59](#)):

That's

Dave Asprey ([52:00](#)):

Bloody. So I sit on the couch and the lady sitting next to me is not in pajamas, and she's the lead researcher from Harvard who discovered the 40 hertz light that breaks up the tle. So we spent the whole party ignoring pajamas and talking about brain stuff. And I have a 40 hertz light downstairs that's specifically designed to stimulate that response in people, but it's not paired with the 40 hertz sound. And now you're giving me ideas. So there's so cool stuff going on.

Renee Fleming ([52:26](#)):

Yes, yes. Yeah. Actually, composer wrote a piece for me with the Coronas Quartet that disguises the 40 hertz vibration, not the most attractive sound. And so imagine you could go to a concert hall and practice brain hygiene. It's pretty neat.

Dave Asprey ([52:42](#)):

Wow.

Renee Fleming ([52:43](#)):

Yeah.

Dave Asprey ([52:44](#)):

Some of the EDM artists are now intentionally putting binaural beats and other things into it. I talked with Ken from Crystal Method about that, and they're thinking about, there's some consciousness that gets snuck into things. And if you want, after we're done with this, if you want, I will ask the company that makes those Freddy Hertz lights to send you one just for your own twinks.

Renee Fleming ([53:08](#)):

That would be lovely. Thank you.

Dave Asprey ([53:10](#)):

You're one of the few people who knows about that kind of research.

Renee Fleming ([53:12](#)):

Yeah. I can't believe you have one That's incredibly

Dave Asprey ([53:15](#)):

Cool. I'm kind of a nerd that way. That's the whole biohacking movement. That's what we do. It's like, what are the things in our environment that might make a difference? And I feel like there a time when I really was using music for healing and just to have it around in the house. Juul has a good voice for that. And then I went through a phase of, I think my partner at the time had sound sensitivity related to pregnancy. And so it got quiet in the house, and now I'm like, how do I curate the soundtrack for my own life without having to spend a thousand hours on Spotify? So I got to ask you, do you have a soundtrack for your life? Could you name a song or do you have a playlist that you use? How do you do this?

Renee Fleming ([53:58](#)):

I feel bad saying this, but I don't have music on in the background.

Dave Asprey ([54:05](#)):

You don't have to feel bad for that. It's fascinating because you make it yourself so you don't need it.

Renee Fleming ([54:09](#)):

Well, it's just that I would say it draws my attention so much that it just doesn't function very well as a background thing for me.

Dave Asprey ([54:21](#)):

Oh, it can be in the background because you love music so much. So it just comes to the foreground right away.

Renee Fleming ([54:26](#)):

Exactly. It comes to the foreground. And I mean, I do love jazz. I have to say that that's something. Jazz is a real respite for me away from my

Dave Asprey ([54:35](#)):

Work. Without vocals or with vocals?

Renee Fleming ([54:38](#)):

Both. Both. And I love piano jazz, and I've always loved singers. In fact, I love singers from all genre. They always interest me. Great deal. But it's not typically background.

Dave Asprey ([54:52](#)):

I have a weird confession to make. I have never liked either improvisational jazz or bluegrass. In fact, they've always made me want to be violent. My dad plays bluegrass, by the way, but that's not why there's something it does to my nervous system. And then one night I was really tired and I was driving, and I probably should pull over, but there was nowhere to pull over. And so the windows down, and I turned on the jazz station. And because I was so tired, it was the most beautiful music I've ever heard. I was like, oh my gosh. Now I understand why people like jazz. I understand why the people like bluegrass. I totally was vibing on it, I think because some part of my brain was so tired to just shut down, and then I could actually hear it.

Renee Fleming ([55:33](#)):

Oh, interesting. Maybe it kept you up. But I mean, jazz, classical music has fractured into so many different styles that you have to kind of, and in fact, that's one of the issues I think if I were going to have a Spotify list or any kind of a playlist, I would have to spend hours curating it just to get what I like. But classical music, it's the same thing. It's centuries of music now. Even opera is not one thing anymore. But yeah, I like certain types of jazz, not all of it.

Dave Asprey ([56:10](#)):

That makes sense. And it's such a neat fact too, that only 6% of songs that people are listening to today are new songs. And it used to be in 20, 30 years ago, it was mostly new songs. The radios were all playing them at the same time. So people who are in their teens today have just this beautiful access to a hundred years of the world's very best music. And so you see 14 year olds vibing on Phil Collins. Like what?

Renee Fleming ([56:41](#)):

That statistic shocks me. Wow. Yeah. My children actually like a lot of the same music that I liked when I grew up, but that is a shocking statistic. Only 6%. It's true for my audiences. I find that audiences in live performance, they really want to hear things say. Now you can sprinkle in new things, but there's usually a rebellion if you try to do all new things.

Dave Asprey ([57:11](#)):

I've talked to a few artists who are like, I just don't want to sing that song again. I'm going to go, I'm going to be sick, but if I don't sing it, they're not happy. So they do it. That's their active service. So then they have permission to play their new song. Right,

Renee Fleming ([57:23](#)):

Right. Exactly. Exactly. There are some bands who are famous for things that they did in the late fifties, and they still do it. Yeah, that does seem difficult. I get that.

Dave Asprey ([57:38](#)):

Yeah. But if you love to sing, you'll love to sing. And I think that's what it comes down to. Renee, I know we're coming up at the end of our hour together. It is such an honor to be able to interview you and go inside your mind because on stage, you do things that just seem impossible for people who aren't opera singers. And I love it that you curated such a powerful book. It's called Music and Mind. If you're listening. And this appealed to you, your music, whether you sing it or whether you've listened to it, it's a part of your longevity strategy and part of your happiness strategy. And we just had one of the world's greats teach us. So thank you, Renee.

Renee Fleming ([58:15](#)):

Thank you so much. Really a pleasure talking with you, Dave.