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**Description for the longer Video which is only accessible to people in the USA**

<https://www.pbs.org/video/lisa-feldman-barrett-cdazo0/>

"Kelly Corrigan speaks to neuroscientist, professor and author LISA FELDMAN BARRETT. She offers ways to reframe anxiety as determination and describes ways in which we can take care of each other's nervous systems. Lisa also explains the creation of emotions, the debate between NATURALISTS and ENVIRONMENTALISTS, and why she believes most traits can be developed." (emphasis added)

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**Text from the captions of a YouTube series with Lisa Feldman Barrett**

<https://www.youtube.com/@lisafeldmanbarrett7059/videos>

LISA FELDMAN BARRETT

CAPTIONS FROM YOUTUBE VIDEOS - MUSINGS FOR MOVEMENT

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Freedom ((Musings for Movement #1)

Hey, everybody, Happy Thursday, April 8, 2021.

As many of you know, I co-direct a scientific laboratory with Dr. Karen Quigley. And during the COVID pandemic, we've been sending daily video salutations to our lab peeps. We can't meet in person; we do meet on Zoom. But in order to keep things a little more personal, we send these daily thoughts. And it's been suggested to me that maybe you might be interested in hearing some of these salutations. And so I thought we could give it a go. So think of it as a little moment of meaning, from me to you.

Yesterday, I had the great privilege of having a conversation with the historian, Tim Snyder, from Yale.

We were doing an event where we were discussing the relationships

between my book "Seven and a Half Lessons About the Brain" and Tim's brilliant book "On Tyranny."

I don't know if you've read this book. But if you haven't, you should. It's quick. It's a short read. It's full of really important information about authoritarian thinking. And I have to tell you, I found great comfort in reading this book in my most difficult moments... the moments I found most challenging during the last presidential administration.

And so yesterday, Tim was discussing his new book that he's writing about freedom. And he had this really interesting definition of freedom, which I've been thinking about ever since.

He suggests that freedom is not the absence of a government telling you what to do. Freedom is actually the ability to envision possible futures for yourself, and maybe even enact those futures.

And I just think this is really profound. It relates to a very basic function of the human brain and actually, of all brains. And that is the ability to remember the past and use it to predict the future, which we sometimes refer to as "mental time travel."

In fact, our brains are so... human brains are so good at doing mental time travel that we sometimes have trouble actually staying present in the moment. And I was thinking about the the things that actually make it harder for people to envision futures that are different from the the life that they're currently living, things like being afraid of uncertainty, or avoiding ambiguity and complexity.

These are the harbingers of authoritarian thinking. But they also make it really impossible for people to learn new information, which allows them to then predict or envision a different future.

And there are also other kinds of things which limit people's freedom, limit their ability to imagine things as different than they currently are. Things like having a, you know, having a body budget that is running a deficit. Things like pain and suffering. Depression..

There might be also developmental differences or developmental changes that make it harder to predict the future

like, you know, an infant's brain or a child's brain, even an adolescent brain, isn't fully developed. Its capacity to wire, in a wiring sense, to be able to predict the future to the extent that a neurotypical adult brain can.

And I was thinking that, you know, this idea that freedom is about possible futures, envisioning possible futures, on the surface kind of looks like it's inconsistent with Buddhist or contemplative traditions, which understand freedom to be about being present in the moment. But in thinking about it, I realized, well, there's a difference between willfully being present in the moment and being trapped in the moment.

And to me, this is, I don't know, a lot of, there's a lot of interesting opportunities to think through what this means for your own life, particularly in this political moment.

And so with that, I will bid you goodnight and I will see you again soon.

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## Stop Telling Me To Smile ((Musings for Movement #2)

Hey everyone, Happy Saturday, April 10, 2021.

So I just finished a workout - a Peloton workout. And here's what's on my mind. Fitness instructors, please stop telling people to smile. Smiling is not an expression of happiness all the time.

Research shows that in the Western world, people smile about, you know, somewhere between 20 and 40% of the time when they're happy or feeling pleasant. And they do all kinds of things with their faces otherwise when they're happy, other than smiling. And similarly, people smile frequently when they're not happy. There's really interesting research by Paula Niedenthal and her colleagues about the symbolic meaning of smiles around the world.

I can tell you that when a fitness instructor, or anybody, a physician, or, you know, a person as I'm walking past them down the street tells me to smile, happiness is not what goes

through my mind in that moment.

I've been working out with an athletic instructor, an athletic trainer, for more than 15 years. His name is Michael Alves. I originally started to see him because I was recovering from inner ear damage that influenced my balance, impacted my balance, and made it really hard for me to walk.

And so I needed to work with free weights. And so I started to work with Mike Alves, who is amazing, and I've worked with him ever since. And not a single time in the 15 years that we've ever worked together has he ever told me to smile. He might focus me on my breath. He might focus me on my heartbeat. He might focus me on the sensations I'm feeling in my muscles. Actually, it's very, very similar to what really good yoga instructors do, where they direct you to pay attention to what we would call in science, the "interoceptive sense data" from your body. It gives you much better body awareness. And frankly, it gets you comfortable with a heartbeat, you know, a heart slamming against your chest or, you know, the heat that you feel when you're, when you're, really really working hard.

So my advice to you, unsolicited advice, is just ignore people when they tell you to smile. Realize that when they tell you that, they're really telling you that more for them than for you. Use these moments of exercise to be mindful of what's going on inside your own body. And for me, it was an epiphany really, to learn to feel comfortable with, you know, a slamming heart against your chest, or the sweatiness of heat, or, you know, the weight of really, really sore, heavy muscles.

And so that's my little diatribe on the tyranny of smiling. If you're interested in the kinds of things I do for self care, because sometimes people email me and ask, I'll tell you:

Michael Alves, you can find him on the web.

And I also do classes at Thousand Petals Yoga, remotely, also absolutely fantastic. Yoga classes by Sommer and Paul Sobin. Really good at orienting you to the alignments of your body as you're doing yoga.

And just for the record, I love Peloton classes. I find them really motivating. In the moments when instructors tell me to smile, I find it motivating in a different way. But still, they give a great workout.

So have a good Saturday, everybody.

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### Turning Outward ((Musings for Movement #3)

Hey everybody, Happy Tuesday, April 27 2021.

So this is me in the wild... I just dragged my ass out of bed, I'm not wearing any makeup, my hair is not done. And I'm about to go exercise as I do every morning.

Today, I want to share with you a concept that I just learned from my brilliant graduate student, Clare. It's a Quaker concept called "turning outward of the self." And it means using one's experience and the events of one's life for the benefit of others. And it's, you know.... All concepts are tools for living.

And this one is particularly useful to me at the moment because I am, one week from today, going to be having major back surgery.

So I've been having significant pain for some time. And in the last couple of months, I really haven't been able to walk. It's a real mess back there. So in the coming weeks and months, I will be sharing my thoughts and feelings in the hopes that they'll be beneficial to you in some way.

And I think it will also be beneficial for me, because when your body's screaming at your brain 24/7, you have to find ways of being your best self... being who you want to be. And for me, that means science and communication in fellowship with others.

So I think we're going to be taking this adventure together to the best of my ability.

So I hope everyone is well in this time of COVID: good health and good spirits, and I'll talk to you again soon.

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#### The Curious Adventurer (Musings for Movement #4)

Hey, everybody, Happy Wednesday, April 28.

So here's my thought for today.

Right now, my brain is learning that there's something wrong with my body. My body is sending information - ascending nociceptive information, that's what it's called, nociceptive information - to my brain about tissue damage, and my brain is learning that there's tissue damage, and that information is resulting in pain. So that's not chronic pain. Chronic pain results when the tissue damage is healed, and your brain continues to believe that there's something wrong in your body when there isn't, and you feel pain as a consequence. So what needs to happen is that my brain needs to learn that there's something wrong now. And then as I heal, it needs to continue processing the prediction error, that things are healed. All of which is, you know, a great body-budgeting expense.

And so I've been thinking a lot about what's the best concept, or meaning-making path, to make it easier for my brain... for my brain to make it easier for itself to accomplish this great task?

And I think that the answer is not the standard one in Western medicine. The standard narrative in Western medicine is that you're a warrior. You know, you're either a triumphant hero who has battled against your disease, or you are a tragic hero, someone who has been bested by the disease.

And I'm going to attempt to have a different narrative, which is the "curious adventurer." Because the curious adventurer doesn't shy away from discomfort and isn't afraid of it, and, you know, tries to dissolve moments of suffering into moments of discomfort and kind of strip

away the distress.

So an analogy would be, you know, when you're sick with the flu, you don't berate yourself for having the flu. You just drag your ass into bed and watch movies, and, you know, drink tea and do whatever you need to do to feel better. You don't... you're not scared of it, you don't avoid it. You just deal with it. And that's what I'm going to attempt to do. That's what I'm attempting to do.

Sound simple? It's super hard. Every day, I give myself just a little bit of time to feel distress. And then I try to honor that and then bring myself back to this narrative of being a curious adventurer. Because when you're a curious adventurer, everything is an experience to be learned from. So that's my official position.

And I'm gonna really try to stick to it. And I'm going to try to be really, really compassionate with myself in the moments where it's a real struggle.

So, until next time.

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### Uncertainty (Musings for Movement #5)

Hey, everybody, Happy Sunday, May 2, 2021.

It's about 8pm in Boston, and I'm taking a break from packing for the hospital, to send a big thank you to everybody who's taken the time to send such thoughtful messages to me over Twitter, and LinkedIn, and email and so on.

I've just been so grateful to receive these messages. Each one is, like, a little gift, even from people who I don't know. You know, it's really nice to know that... It's always been nice to know that my words touch other people. And it's really, really nice to be touched back. So thank you for that.

It's been a really interesting weekend. So much I could talk about. I think the main thing that I thought I would talk to you about tonight is uncertainty. You know, in the

books that I've written, and the podcasts and lectures and so on that I've done, I talk about the burden of uncertainty - that for a human nervous system, almost nothing is worse than uncertainty. It's very, very expensive for a body budget.

And even though I know this as a scientist, I'm just sort of blown away by how true it is, actually, in everyday life, particularly when you're facing something like, like I'm facing. The only things that are really certain are that I'm having an operation; at some point, I will recover; and, you know, I'm asking people who've had this surgery, or I'm watching YouTube videos, and trying to find out, you know, more information, trying to figure out like, okay, so how's this gonna go for me. And the only, the only certainty that I can really come up with is: there's going to be a lot of crying and a lot of swearing on my part.

Other than that, what I see is just a lot of variation. And that kind of uncertainty really is hard on a body budget. So that's interesting, I find that really, really interesting.

The other thing that I find interesting is how the medical establishment tries to deal with that uncertainty or how they deal with it. I can ask a lot of questions, as I'm sure you realize, I can be a real pain in the ass to nurses and physicians' assistants, and even my doctors asking for information, you know, to approach this like I would approach anything else in my life, which is as a scientist. And when I asked for information, like, you know, "what can I do to reduce the likelihood of nausea after awakening from general anesthesia?" the answer that I get is something like, "well, if you're afraid of nausea, you should speak to your doctor." And every time I broach the issue of uncertainty, and is there any way for me to get information, I'm faced with people labeling my experience as anxiety or as fear; at which point, I try to explain to them that no, really actually, I'm just asking for information.

I think in our culture, any kind of uncertainty or arousal, like

jittery feeling, or... people... their go-to concept for making sense of the sensations is anxiety or fear instead of, you know, just plain old uncertainty or curiosity or even enthusiasm, although in this case, admittedly, it's not enthusiasm.

And I think some people in the healthcare world really are aware of this. So my colleague, Charles Nduca, who is a surgeon in the UK, a colleague and good friend, sent me this really interesting article called "How Words Hurt." And the article is really about how the words that you use help to co-construct your patients' experience for them.

So clearly, this person, you know, really needs to read "How Emotions Are Made." In fact, I think everyone in the healthcare world should read that book. But it's really important, I think, to me, that I remain the main guide for how I construct my experience through this. I certainly do have moments of fear and anxiety, but mostly what I'm feeling is uncertainty. And the one thing that I can say that I feel really certain about is: I'm really grateful for your notes and your encouragement. I'm really lucky to have a really supportive family.

Hello, world.

That's my husband, Dan. You know, Dan comes to me and he says, "Do you need a raised toilet seat for when you come home?" And then I say, "Absolutely not, I will not need that, I will be fine, you know, using the regular toilet seat." And then Dan quietly orders the raised toilet seat and puts it in the basement for the moment when I actually need it. You know, because sometimes I guess I'm certain about things and I'm wrong.

Anyways, that's me for Sunday evening.

I hope you had a great weekend, and I'll talk to you soon.

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## How We Move (Musings for Movement #6)

Good morning, everybody. It's Tuesday, May 4.  
I'm about to head to the hospital. It's about 5:30 in the morning,  
but I thought I would, you know, reach out and and say hello.

Yesterday was a pretty difficult day. I probably spent 95% of my  
time yesterday doing kind of normal stuff. I gave Grand Rounds. I  
did a podcast. I met with my students about various papers  
and things. The other 5% of the time, you know... I had my  
moments, it's just.... My family's been really great. My  
family made me breakfast for dinner last night because I  
can't have anything to eat this morning.

I tried to keep myself occupied yesterday when I wasn't working  
by thinking about big existential questions, like whether my body  
is actually part of myself or just a container for my brain,  
which is actually myself. And reflecting on that,  
I think it's really good thing that I can intellectualize and  
make everything really into a big intellectual philosophical  
question. Intellectualizing has always served me really well.  
And if something works, don't mess with it, right? That being  
said, you know, I'm not unaware of what I'm about to face, and  
it certainly feels pretty daunting.

I woke up this morning, about five o'clock, thinking about how  
remarkable it is, like, the state of sleep, actually? Like creatures can  
actually put themselves into an altered state of consciousness  
every day as a routine thing? And I think I was thinking about  
that because I've been practicing with hypnosis,  
self-hypnosis, to see if that's going to be useful in this  
experience. But I'm trying to keep myself grounded. And while  
I do intellectual acrobatics, I'm trying to keep myself  
grounded in really, really simple things. Like, I heard the  
birds chirping this morning when I woke up. My eyes are  
itchy because allergy season is starting.

I guess my final thoughts about this are, I'm trying to be grateful that I actually can have this surgery. The whole thing is going to suck. But at least I won't be stuck in the situation that I'm in right now for the rest of my life, which I would be if it were 100 years ago, or I was living in another country. In some countries in the world, people actually don't have access to this kind of medicine. So on one hand, it's totally barbaric. Surgery is totally barbaric.

And I was saying this to my husband this morning; he reminded me of the Star Trek episode where Dr. Spock... or not Dr. Spock, Dr. McCoy... goes back in time, and learns about or sees surgery and, in his exclamatory way, he talks about how barbaric it is. And it is barbaric.

But I'm also really grateful to have the chance to do it, because it's going to fix a mechanical problem that's been causing me quite a bit of discomfort and has been limiting my daily activities for some time.

So that's where I am. I hope you're doing well. And I'll check in with you on the other side of this. Thanks for tuning in.

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## How We Move (Musings for Moment #7)

Greetings, my friends, this is May 27, and it's been about three weeks since my surgery. And I wanted to reach out and thank everybody for their thoughtful comments. It really made a difference, and I felt really, really cared for. It's a really wonderful feeling, actually, to be feel cared for by people that you don't actually personally know, even though you sort of have a connection out there in the interwebs. So, thank you.

I'm coming to you today from my bedroom with my two new best friends, my pillow, my back pillow, and a continuous ice machine that pumps ice water through a pad that I use to ice

my back in between episodes of walking.

I had originally the intention to be making these videos, little snippets, all the way during my recovery. But I was somewhat thwarted in that by the actual act of recovery. And I say "somewhat" thwarted, because it turns out that under a reasonable amount of pain medication, I actually tried to make some videos, and then completely forgot about them, and sort of discovered them. So maybe if I'm feeling very brave, at some point, I'll post a couple of them. You know, they're humbling and amusing.

Today, I'm just going to share one idea, one insight that I've had, which has been challenging, but also really, to me, really, really interesting. And that is, when your brain goes to move your body, it's really constructing as a motor plan, it's really constructing what you'd call an action concept. So it constructs this abstract concept, "to stand" or "to reach" or "to sit" or "to lie," and "to lie down." And then what it does is unpacks these abstract plans into a bunch of different, really specific patterns of muscle movement, so you can make exactly the same movement to reach, or to sit, or from a standing position, or so on, exactly the same movements. They appear exactly the same from the outside, but actually, what's going on under the hood is that the actual pattern of muscle movements can be can be actually pretty different.

And so what's happening when you're recovering from surgery is, you know, you're usually not aware of all of the little movements that you make in order to execute an action concept like "to sit," "to stand," "to reach," but when you're recovering from surgery, you certainly do. And so what's happening, really, is you're taking this kind of abstract thing and you have to break it down into 100 little movements, you know, so "to sit down" or "to stand up" becomes really a series of many, many, many little movements that you're very much aware of, and sometimes cause you pain, or are difficult to execute. And, to me, this is just really

interesting, as a scientist. It's also like I said, really, it's been really challenging at times. Because I've become aware of my body in space, you know, in ways that I certainly haven't been for for many, many years.

And the analogy that I would give is that, a couple of months, more like a couple of years ago, maybe a decade ago, I thought that I would learn to paint. And so I studied with a Dutch realist painter. And what she taught me is that, if you want to render a three-dimensional object, like let's say this little cup, onto a two-dimensional canvas, you don't just look at the object in its three-dimensional form and then try to paint it. If you try to do that, you'll get a pretty shitty looking painting. Instead, what you do is you take the cup, and you try to break it into little pieces of light. And then you try to paint the pieces of light onto the canvas.

So you know, here we have a bowl and, it has some bright yellow parts and some darker yellow parts, and it's got some kind of white and some gray in various places. And so you're basically trying to deconstruct the object into these little pieces of light, and then you paint the little pieces of light onto the canvas.

And most people get a pretty decent three-dimensional image onto a two-dimensional canvas. Except me, I still ended up producing pretty shitty-looking images. So thankfully, I'm a little bit better at breaking down my motor movements into lots and lots of little, more granular movements. When I say I'm good at it, it's because I have, after all these years, I have a reasonable amount of body awareness. I can be mindful about particular sensations in my body. But it is exhausting. It's absolutely exhausting. And fascinating.

So, I will probably reach out to you occasionally over the coming weeks. But for now, I'll sign off and hope you have a terrific weekend.

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