

Lessons of Balance from *The Nerve Tour*

An Interview with Gil Hedley

By Lina Amy Hack, Certified Advanced Rolfer™, and Gil Hedley, PhD



Lina Amy Hack



Gil Hedley

ABSTRACT Anatomist Gil Hedley recently finished his *Nerve Tour* lecture series, over the course of a year and a half, offering over a hundred dates where he described the whole human nervous system in a five-and-a-half-hour presentation. This article is a conversation between Hedley and Certified Advanced Rolfer™ Lina Amy Hack, who attended the North American Zoom presentation. They explore the nervous system as a “nerve tree,” and the interconnectedness of humans with nature. Hedley shares about the life of the donor for the whole-body nerve dissection, and the importance of honoring the donor’s gift while learning these profound anatomy lessons. He contrasts regional anatomy with his wholistic, integral anatomy model. The conversation highlights Hedley’s unique approach to anatomy education that emphasizes the living, interconnected nature of the human form.

Lina Amy Hack: Hi Gil, I’ve invited you to do this article with me for our June 2025 issue about ‘Balance’ because of your recent lecture series – *The Nerve Tour*. You spoke about the anatomy of balance in many different ways. I attended the North American Zoom meeting on January 8, 2025, and let me disclose my bias, I thought it was excellent!

Our readers are structural integration professionals, somatic practice experts, and people interested in their general structural and functional health and well-being. We are all striving to find balance in our bodies and support our clients to

have balance in theirs. As I listened to your presentation, I wondered about your point of view on what it means to have balance in our human bodies.

Before you speak about that, I’d like to start with where your presentation started.

You presented many beautiful photos of nature, especially of trees, and you in the trees. As a fellow tree hugger, I connected with that imagery. Trees have the ultimate balance, as some of them soar hundreds of feet into the sky. What is it about trees that inspired you to make them a central theme of *The Nerve Tour*?

Gil Hedley: Thank you for reaching out. A few things come to mind. Let's start with how trees and nerves both have branching fractal forms. The tree was not an analogy for how the nerves appear in the tissue, I see the tree as a homologue to the nerves. They are the same natural form, which is why I called the neural tissue *the nerve tree*. We are trees that move around. Also in our bodies, we have this heart tree, right alongside that nerve tree, and those two wind together. And our branching bodies reach out to the periphery from those two amazing trunks.

But let me back up about the tree pictures themselves. People may have seen the Nerve Tour or on my website [<https://www.gilhedley.com>], a shot of me climbing a pine tree here in Colorado. The picture was taken when I was about halfway up it, and I remember Rachel had taken that picture when we were on a hike. Looking back at the image later, it looked like I was climbing the nerve tree (see Figure 1). So that image was a great inspiration to us during the Nerve Tour.

LAH: I like that you said, "We are trees that move around." That is how I think about my upright body and how I invite my clients to feel their legs and core, their trunk grounded on the planet.

GH: We have a nerve tree and a heart tree right at our core. And think about our breath, the gases we exhale are the gases trees inhale, and vice versa. We're literally sharing lungs with our treed planet. So, to me, they're not "other." The trees are mirrors of our form, and they may get on differently, but their root systems are interwoven with their neighbors through mycelial networks that are not unlike our own connective tissue form or invisible threads of connection with everyone we know. Trees are us; they're a part of our family.

LAH: Was it this dissection project that led you to think of neural tissue as the nerve tree? Or did you already think about the nervous system as a nerve tree?

GH: I've always thought of it as a nerve tree.

Dreaming of Whole-Body Nervous System Dissection

GH: Doing dissection over all these years has simply reinforced this idea that the nervous system is a tree. The nerve project was a dream of mine that I held onto for decades before embarking on

the adventure. I had seen an amazing image of a 1924 dissection of the whole human nervous system (see Figure 2). The story goes that two medical students (Schalck, M. A. and Ramsdell, L. P.) had done a nice nerve dissection on an arm of a donor form for their medical school studies, and their quality dissection work was noticed by their faculty, who invited them to do the whole body like that. And they did. They spent about 1500 hours together working on extracting the whole nerve tree. It can be found today in the Museum of Osteopathic Medicine, pinned on wood and fixed with a shellac finish and small paper labels throughout the dissection. They didn't call it the nerve tree, of course, that's what I call it. That's what it looks like to me. But I don't like the word 'systems' so much. As you already pointed out, I look to nature for my mirror to describe human anatomy.

That specimen was executed at the highest level, as no one else has done before or since. There have been other attempts at a whole-body nerve dissection that I've seen on the internet. One of them I know is partly fudged, which I can tell by the overly symmetrical

and stylized presentation. I do this work, so I know what they had to do to make it look like that. And no, that's not what that looks like. There are very few examples of the whole nerve tree extracted from a single form, and the 1924 example is, in my opinion, the best of them, hands down.

It's one thing to look at a book of the nervous system and see page-by-page many different examples, drawings, and graphics, but it is an entirely different kind of education to extract a single person's nerve tree. Schalck and Ramsdell did that on such an extraordinary level beyond the pale of my understanding. Those two people really worked it out. And I thought, "Wow, that would be fun to do."

LAH: Wow, what a starting point.

GH: When looking at that shellacked specimen, you have to ask – How did they get that? What does that structure look like in context with the rest of the body? Sure, the finished product is astounding, but what's its relationship to me? How does it literally fit into my body?

I was enamored for decades at the idea of doing *that* project by documenting it, so that as the nerve tree was revealed, it

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Figure 1: Gil Hedley climbing a tree near his home in Colorado. Photo courtesy of Gil Hedley.

would be a learning process to see it as it comes out. Less about the words for each particular stringy bit, but more about seeing that tree in context with other tissues. How do those branches relate to what they're in, what are they doing there, and then we can see that story come to life, giving the audience a much more in depth meaning to the final image as it is revealed as a whole.

When I finally had the time to start the Nerve Project, I only had four and a half months booked in the lab. That wasn't going to give me the 1500 hours they needed for their specimen, and they didn't film it – I was trying to film it. So I knew I was not going to produce what they had, obviously. I'd need a couple of years to attempt to do what they did. I knew it was going to take time to learn the technique, and by the time I learned it, I knew it wasn't going to look like their project. So I asked myself, "What am I going to emphasize?" I decided I'd try to emphasize things that people don't know.

My audience being mostly bodyworkers, my gut feeling was to bring a deeper understanding of the peripheral cutaneous nerves. And we are pretty obsessed with talking about autonomic function, but who's ever seen those nerves? People ask, what do they look like? Where are they? How are they actually in relationship to other tissues? And so, as you know, I made those points my emphasis and tried to fill in the blanks as I went. I didn't have time to document the legs to the extent that I would have liked within my time constraints, yet I did have some of my team go to work on the nerves of the legs, so there would be some lower peripheral nerves to see.

The final image of the whole nerve tree astounded me. I didn't realize how far we could get in a detailed demonstration. I was pretty thrilled at the end. It took a bonus two weeks after the whole project was over of me alone at night, sawing and chipping, trying to get all the neural tissue exposed. I had

to basically erase the skeleton bit by bit for this project, so much of the neural tissues are encased in the skeleton, and that was challenging.

LAH: The ending of your nerve presentation was so moving, that part where you showed us the entire nervous system as one piece. It was an incredible accomplishment to celebrate with you.

GH: Yes, thank you! Happily, there was enough detail to convey the idea of the spectacular complexity of the system. It was the Captain's nervous system, one individual being a perfect example of human anatomy.

The Captain

LAH: The way you treasure your donors is a profound lesson in your work. Can you tell our readers a little bit about Captain? Who he was, and also, a lingering question I had from your presentation, why was Captain a "blue lingcod"?

GH: The trees are mirrors of our form, and they may get on differently, but their root systems are interwoven with their neighbors through mycelial networks that are not unlike our own connective tissue form or invisible threads of connection with everyone we know. Trees are us; they're a part of our family.

GH: Oh sure. Captain Jim Gramke (1946-2022) was the father of my friend, Madhav Gramke. I knew the Captain as “Jim” of course, but when it came time to do the project, I wanted to commend him to the world for his accomplishments by denoting his service to the country. He was a pilot his whole life (he got his pilot’s license at the tender age of fourteen!) and was a Vietnam War veteran. He flew helicopters in Vietnam as a teenager, literally, and then he was a corporate jet pilot for decades. He also flew medevac helicopters for some time, and then was the security detail for the space shuttle launches for many years at Cape Canaveral, Florida. Finally, when he retired, he had a stunt plane and he’d fly up and down the coast of Florida doing tricks at shows and things like that. So, he was a very accomplished pilot and a wonderful man.

LAH: The story of you and your donor has adapted my mind into a whole new level of understanding loving relationships. It took me a minute in the class to register what you were saying, that the donor – Captain – was your friend’s dad, who you knew very well, and his wife as well. I felt like my neurons were making fresh synapses when I saw the picture of all of you so happily together. You allowed us to understand Captain’s life as a person. Then, the tender instruction you allowed Captain’s form to give us, your presentation was a multilayered offering, opening mind, heart, and soul. I remember you mentioned the many people who assisted you on the project, and Madhav himself figured prominently in the lab work, if memory serves me right.



Figure 2: Photograph of the 1924 whole-body human nerve dissection on display at the Museum of Osteopathic Medicine. The Museum of Osteopathic Medicine owns the image, catalogue number 1999.08.01. Printed with permission.

GH: Yes. He has given me a ridiculous amount of his life and service. Madhav assisted as the camera person for six months on the A-to-Z Project, and then three days a week throughout the whole nerve project. And so, his parents came to love his involvement with my work, and we all became friends. Jim had signed donor papers to donate himself to the lab, as I have, and as many other healthy people have done. We have a little donor program, and it's a nice thing to do. So, without any illness on the horizon, Jim told me he had signed up for the donor program in Christmas 2021, and then by late June the next year, he died unexpectedly from a brain hemorrhage.

Jim was diagnosed with a cancerous brain tumor, and within a week, he had surgery, and complications led to his passing. It was a sudden surprise to the family, to Captain himself, and everyone who knew and loved him. But then, his body came to the lab. I talked with his wife, Claudia, Madhav's mom, and we transported his body from the Denver airport together to the Institute for Anatomical Research in Colorado Springs, Colorado, in a U-Haul van I rented. I offered her several options regarding how we might best make use of his form: perhaps for a one-week dissection class, or in the lab for several months as a prosected lab "teacher" for the various groups served by the lab. Or, I had this third idea, and shared what I was thinking about doing a nerve project. She's said, "That's the one. That's it."

What followed was a kind of warning to her that this bigger project would lead to his form being famous, and shown visually around the world, and was she okay with that? It certainly wasn't going to be able

to be an anonymous project if she chose that one. And she was absolutely okay with it, and so was Madhav. There he was after all, helping me work on the project.

And why was he a blue lingcod?

LAH: Yes, you had that beautiful photo of the blue lingcod, and you said that fish was a kind of an analogy for the Captain.

GH: Right, I showed some imagery from a fishing trip in Alaska where I caught a blue lingcod, a one in six thousand fish of that species (see Figure 3). It's an albino version of the lingcod. Lingcod are a common bay fish in Alaska, but there on my line was this beautiful blue lingcod with teal color throughout. It was so beautiful, an incredible fish. In the presentation, I shared that, "We are all variations on the theme of human, except, even more extraordinary, each one of us is truly one of a kind in eight billion, not merely one in six thousand."

The individual is the starting point of my human dissection work, which I call integral anatomy. You have to witness what's there in front of you. Each person is a perfect representation of the human form, which cannot be reduced to common anatomy images. Those images are averages that represent literally no body. People feel like they have mistakes in their bodies when they don't match those averaged anatomy images, but those drawings are not generated from the flesh of one person; it is an average of many dissections reduced to one image. No single body will ever represent that average.

You couldn't find four points on the human body that would be identical between individuals; it doesn't exist. You can't



Figure 3: Blue lingcod caught by Gil Hedley on an Alaskan fishing trip. Photo courtesy of Gil Hedley.

do it. A town tried. They wanted to do a sculpture of the average human, and so they got all the statistics and found that the best they could do was find someone who came close to two points of a fifty-point checklist. There's no such thing as the average human. We are each rarer than the blue lingcod. There is only the spectacularly unique individual person.

LAH: This is a profoundly healing message for me, as I grew up, my body was an outlier and I had this desperate feeling where I wished I could be an average body. You helped me with this in a dissection class twenty years ago – each one of us is perfectly unique.

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Not to be overly
critical of the
before and after
shots, but the
proof of balance
is in the lived
experience, not
in the photo.

Gil Hedley

No Pictures

LAH: I feel it necessary to mention, as you rightfully mentioned several times throughout your presentation, you asked all your participants to not take pictures of the screen of the Zoom presentation. No screenshots of the donors. Not only is the dissection your intellectual property, you emphasize the sacred sharing that Captain and all the donors have trusted us to learn from their forms. So I only took notes from your workshop, old school. Now these notes feel like I did kind of 'copy' your presentation, but the copy is filtered through what my brain and what my hand could reproduce on the page. I drew drawings, I copied the drawings, and made notes of whom to attribute to the different things, of course. I hope that kind of thing is okay.

GH: Absolutely, I encourage that. And thank you for hearing that request. As much as I asked folks to respect that, a few people somehow still don't hear it, they don't pay attention, or they just think they're above it. I had a lady in the front row whip out her camera and take a picture of one of the in-person presentations. I was so shocked. She claimed (dubiously) it was just of me, and evaded me when I asked her to delete it, yet I had said so many times, no pictures of the donor images I was sharing. We're talking about my friend's body here, and I'm very keen to protect it. All of my donors are friends by the time I'm done with them. Whether I know them or not, I treat them with all the same reverence. I have someone's family member's body in front of me, an intimate diary of that person. And I kept telling people, I was going to make my recordings available to them to learn from later, so just enjoy what was being offered.

LAH: And we really feel that connection as an audience. It's beautiful how you help us learn through your care and sacred intentions with your donors. It's hard to convey that to our readers in words; it's a felt thing. And you did give us access to the video to study later, and I did just that. I thought that was generous as well.

GH: I am keen to teach, right? I'm not trying to conserve this intensive work; I'm sharing it. I have a website with 350 hours of visual content on it. You don't need to take pictures, I will provide them to you right there, in that safe and appropriate container.

LAH: And I know I was better off pausing the video, drawing the image myself, and

letting my brain process the information. It's creating my mental map.

Regional and Integral Anatomy

LAH: Speaking of anatomy maps, can you tell us more about the difference between the common regional anatomy that all of us learn in school and the integral anatomy that you teach?

GH: Sure. Regional anatomy and integral anatomy are buddies; they're friends. If we're talking about human anatomy, regional anatomy is the process whereby we systematize our knowledge of the human form. Regional anatomy is interested in the division and separation of the body into parts, which it then takes great pleasure in naming, organizing those names into taxonomies, to organize knowledge and make it transferable, to make it possible to communicate with one another about the human body. I have no objections to studying regional anatomy, and have spent quite a bit of my own energy doing exactly that.

At the same time, we must add to the conversation about regional anatomy that it's a complete falsification of reality. We miss out on integral anatomy if we end the inquiry at regional interests. Integral anatomy is less interested in naming and taxonomies and organizing knowledge in that way; integral anatomy emphasizes the relationships between those created "parts" and the demonstrable continuities of the whole, the context for everything.

People who have an interest in integral anatomy want to see the nervous system in its context and know the relationships. When learning about anatomy, we imagine the parts and recreate them in our mind, but to witness the actual whole from which those parts are derived is an entirely different endeavor. This is the emphasis of integral anatomy: context, relationship, and continuity. I do not dissect to create "parts" to be believed in. I dissect to feel into the relationships and continuities, adding that information to my remembered sense of the whole, which is more complete and better understood for the effort.

We can look at the whole-body layers in relationship to each other, right? And then beyond that, I invite people to notice textures and shapes that emphasize the qualities of this individual, to see the newness and uniqueness that is in front

of your face in the moment. With integral anatomy, you address what is actually there as opposed to the memory of what should be there from the imagined pictures held in their minds from the study of regional anatomy.

As an anatomist, I do this, and this is a useful point of view for bodyworkers. When you are with your clients, you have the opportunity to witness the uniqueness of a person in that moment, and serve their needs, as opposed to re-enacting your memories and fantasies of what might be good for them. When working with people, we are stepping into an ever-unfolding process. That was one of the reasons I thought it would be neat to be a Rolfer way back when; to me, Rolfing Structural Integration was a profession that would require me to always be learning. In my mind, it was a practice that was going to keep me on my toes, to keep learning and studying to get any good at it. Of course, I bailed long before I got any good at it, haha, I found this other passion for sharing anatomy, and this became an important part of my life's work, my unending unfolding of learning. The body is a universe, and you never get to the bottom of it.

LAH: By sharing your path, the rest of us get to learn. You are such a good communicator. In my view, you are also an artist in presenting your nerve tree ideas. You showed us many tree pictures, so then I started picturing the nervous system with an overlay of a tree.

Nerve Tree and Heart Tree

LAH: Here's my big question: Since the peripheral nerves reaching surfaces like skin and organs are so small, they are like the leaves of the tree, then their nerve fibers are so slender so they are like the small twigs, the nerve fibers bundle into thicker and thicker nerves, which is like the branches of the tree that reach the trunk; the thick trunk of the tree is like the thick spinal cord of the body. But then, does that make the roots of our human nerve tree the brain? Is the nerve tree an upside-down tree with roots upward? (See figure 4.)

GH: Why not? Let's make the brain a big root ball. Yes, this is how I see it. Why not, just think of Groot.

LAH: That's a new model for my mind and I love it, I'm still integrating this idea in my Rolfing concept. We teach our

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clients about the head going up, seeking the upward direction, with length and softness in the rest of the body. So now, I see this as my upside-down nerve tree roots – the brain – going upward to the far stars.

And before we go too far with the nerve tree, you also spoke about the heart tree being intertwined and inseparable from the nerve tree. Throughout your presentation, you taught that the nerve tree and the heart tree are together.

GH: Hard to miss when you dissect it. You might not get that connection just from your imagination when learning

body systems because books present them as separate concepts. In the body, our arterial tree is coated with nerves. So if you want to see an artery, you have to kind of strip its autonomic tunic of neural tissue. Once you've done that a few hundred times, you can't help but realize it is hard to get these two things apart. Nerves climb arteries like vines.

And on the flip side, I shared in the Nerve Project tour a beautiful image of a brain with the intricately branching heart tree intimately penetrating it. With respect to the brain, the heart tree is embedded in it, and continuous with it. The blood vessels

are so intricately buried amidst the brain tissues, they are one. Again, we have the hardest time understanding ourselves as being one.

It's this crazy struggle for us with our dualistic minds, language, and teaching style. This idea that we start with parts and then try to work towards understanding the whole is a real challenge. We learn anatomy with a list of names of parts we need to know, and we end up with this giant pile of parts, pieces, names, and words where we spend the rest of our lives trying to stitch it all back together.

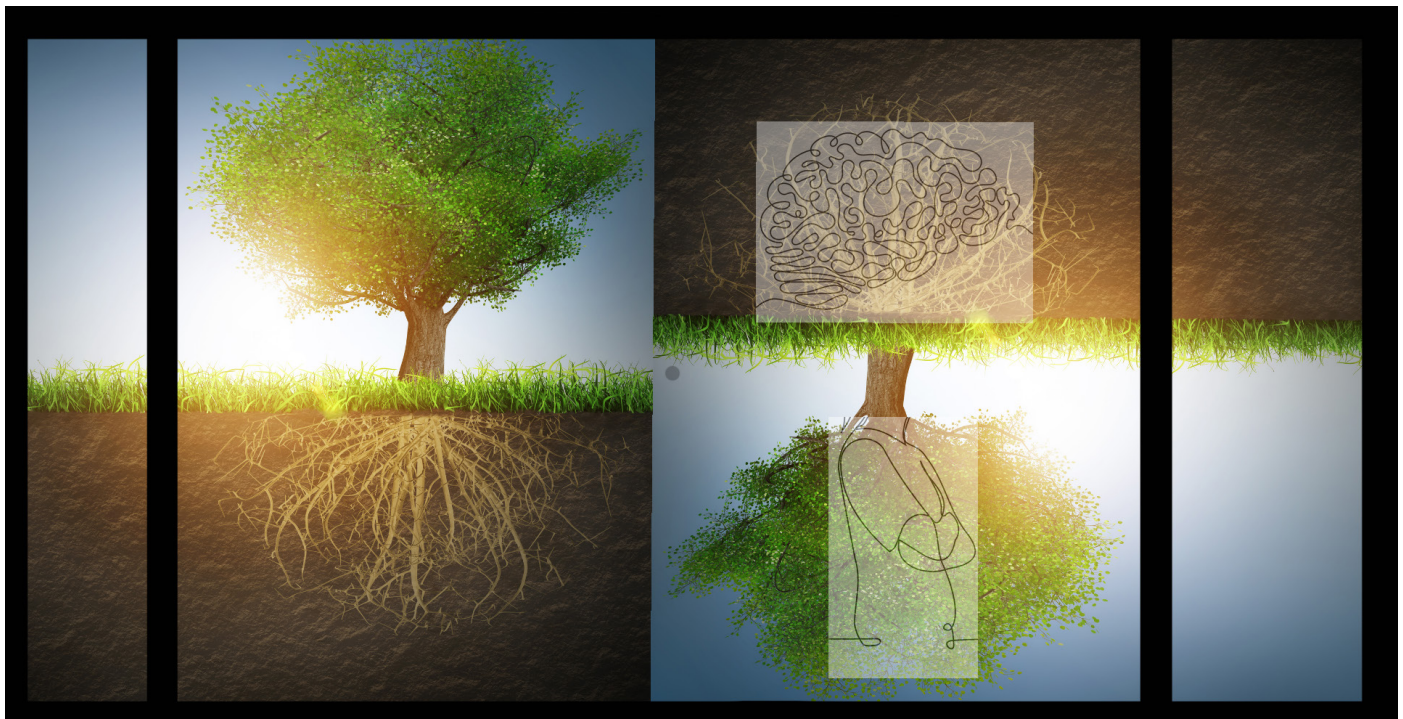


Figure 4: The nerve tree is upside down, where the leaves are the periphery of the body, the trunk is the spinal cord, and the brain is the roots. (Image by Lina Amy Hack, with images by Kamila Balmukasheva, zzayko, and andreusK on istockphoto.com.)

In the lab, if you show up with a regional mindset, you will create a pile of parts that meet your concept. You can produce it, confirming the model with which you showed up. But if you show up with an integral perspective, then instead of placing your energy on that separated set of things that you created with the scalpel, you place your attention on the things you disrupted to get that pile of parts. In other words, when I apply my scalpel, I'm conscious that I've started to falsify the whole as I cut. The whole is what is true, the parts are not. I just can't ever see those parts as true, yet it's the only way to understand the whole better is to take it apart. So, I'm not objecting to taking it apart, I'm just saying that while you're taking it apart, realize and remember what you did, because it's the remembering that brings us to the wholeness, not the disarticulating.

My message is to pay attention to the separation and how much energy it takes to do it. When I'm working with the donors, I'm paying attention to the density of the tissues. Is it super-fibrous? Is it kind of slippery and mushy? Is it loose and areolar? Or can I pass my finger through it? When I do, does my finger get stuck on something? If so, what does it get stuck on? What's the texture of the thing it gets stuck on, and how does the thing it gets stuck on relate to this, to that? It's probably a vessel or a nerve. If it's a membrane, I can generally disrupt it manually, but does that mean it no longer exists because I disrupted it? Does that mean the things I have disconnected are distinct parts? No, there's no disconnection in the whole. The disconnection I've made is a kind of lie; the connection is the truth.

The question is not whether these parts I have made are two separate and different things, the question to ask is, what is the quality of their relationship? How do I embody and bring into my body a consciousness of the quality and texture of the relationship? Can my understanding of these parts become part of my conceptualization of the whole? I'm not saying to not explore the parts. I'm saying to do it in a way that doesn't trick you into believing your pile of parts is the truth and that the whole never existed, because once you start disassembling the donor, the whole, that truth, is gone.

LAH: I found it intriguing that you had to change your dissection style in order to show us these qualities of the nerve tree and heart tree. I didn't expect to hear that,

I thought your nerve presentation was going to be scalpel work. You talked about using a paddle, and paddling through the tissue, which made me think of you in a canoe moving through the tissue.

GH: That was it. The scalpel is the worst tool for nerves, just the worst. The refinement of the dissection approach that was required to produce the Captain's nerve tree was a huge leap in my own patience, attentiveness, and skill. Even after thirty years, I feel like I could be a lot better, and this project demanded me to get better. The scalpel kills everything before you've seen it. It's this death wave of separation. And I'm pretty good with the scalpel, I've grown to have skills over the years, but it really pales in comparison to what it took me to do the nerve tree. It was a very intimate meditation on those tissues and an incredible level of paying attention and being present to what's in front of my face. It was a contemplative process.

LAH: Hearing you say that sounds similar to my self-talk when I'm tableside with a client. It's a contemplative process. I don't know what I'm indirectly touching through the skin, but I have decades of study backing me up. Ultimately, I feel I don't know, and from the not knowing, I begin by being curious. It seems I have the best outcomes for the client from that mindset, and in my mind, I'm making my best guess with my beginner mind every minute.

GH: Exactly! It's upon that knowledge foundation that not knowing becomes meaningful. A beginner's mind in the container of a wonderful decades-long foundation of study can make all the difference in the world. I want my surgeon to have a beginner's mind; I don't want a surgeon who is stuck in their left brain and can't be present in the newness of my body. Every surgeon faces in the operating theater what I face in the lab and what you face on your table – every human body is different. The client you have in the morning isn't going to have the same texture and shape of tissue as your client in the afternoon; they cannot be the same.

LAH: Exactly. I want that surgeon too!

Look – It's the Vagus Nerve

LAH: You made some good jokes for those of us who are a bit ravenous for information about the vagus nerve. I'm firmly in the polyvagal theory camp, a big fan of Dr. Stephen Porges, and despite reading all his works many times over,

I was hoping you'd show us the *whole* vagus nerve. You did not disappoint, you gave us so much detailed imagery and mini-lectures about the details of this neural pathway, and then you did give us some whole vagus pictures and drawings. It was the most complete anatomical discussion of the vagus that I have experienced.

GH: I did tease the vagus nerve folks a little bit. Having heard so much about polyvagal theory over the years, many people come to my classes who have studied with Stephen Porges and have done the deep dive into his polyvagal theory books and articles. They would say, "I want to see this about the vagus nerve, and the other thing." And I thought, "You know something? It's about time we saw all of it." Let's not talk about it, let's look at it.

LAH: In Porges' original 1995 paper introducing polyvagal theory, and in his subsequent books, he's talking about this anatomical neural pathway like it is one thing, one structure. It took my brain a long time to integrate the idea that the vagus nerve is bilateral, a left vagus nerve and a right vagus nerve. When Porges says something like, *the ventral vagus part of the vagus nerve downregulates the heart rate and breath rate when a person feels safe* – there are actually two ventral vagal nuclei, left and right. And two dorsal vagal nerve tracts. And when the vagus nerve exits the brainstem, there is one on each side of the brainstem, one on the right and one on the left.

You gave us the whole picture. And you called it "tracking the wild vagus," like a person can follow the tracks of a wild animal in the snow.

GH: The vagus nerve has become reified, thingified, one-version-ified, and personified as this magnificent nerve. I was committed to actually seeing an actual individual's vagus nerve tissues in their uniqueness, as manifested in relationship, and to document that. No small challenge, given that the representations I necessarily had to use as my guides were "maps" as it were, and not the territory. Sometimes it turns right, and not left, and you're wondering, is this "really" it? Well, yes, it is! And it is a constant effort to see what's in front of your face and believe it, rather than the representations and guides that we normally accept as dogmatically and indisputably true, because they got a page or two in the book.

That's what I mean by "tracking the wild vagus." Following the real thing, not the memory implanted from a book and believed without question or reference to what's in front of you. And I'll tell you, it's a little scary to work that way, because you have to spontaneously follow the tissue, rather than the book. You have to be in a space that is constantly open to newness, surprise, and to accept difference, uniqueness, and beauty as facts that reshape you for the encounter. That's right brain dissection, as opposed to just cutting it until it looks like it's "supposed to." I had a blast, it was like riding a roller coaster emotionally because you never know what's coming around the bend!

Quotable Gil

LAH: Folks who have attended your events will know you are a wordsmith, a poet, and a peaceful person. You gave us these quotable moments, sentences that just cut right through to the heart, mind, and soul. They do wonders for building the anatomy map in our minds. I'm wanting to tell you some of the impactful quotes from the nerve tour and have your further comments about them.

GH: Gil quotes. Okay, we'll see if I recognize that man.

LAH: It was hard to choose which to say first, there were so many. Here we go.

"No such thing as 'just fat' in the body." – Gil Hedley

LAH: And the context was that you were showing the cervical plexus, discussing what it was like to look for the cervical plexus as a structure. Part of the challenge was that you had the practice of removing the adipose tissue to reveal the neck muscles that everybody wants to see, and then in that adipose tissue that you would dispose of, there within was the cervical plexus.

GH: You quote me accurately. Yes, in other words, and I've talked about this in other places, our culture has a violent disdain for the word "fat." It's a dirty word, which is such a great shame because it's so cozy. I've been trying to reframe our thinking about adipose tissues and took the opportunity in the Nerve Tour to say repeatedly that, "You ain't going to get to know nerves too well if you're not willing to be very patient with the adipose tissues

because they're embedded in them, and the lymphatics are fatty." Right?

Our lymph tissues are in adiposal beds, and then the nerves are embedded in that, and so without patiently paddling my way through adiposal lymphatic fat matrices, I'm never going to see these nerves, especially the autonomic in particular. They're just yellow. If you're carving yellow tissue away, well, say goodbye to the nervous system. You're not going to see it.

Even something as huge as the sciatic nerve lives in loose aerial or fatty tissue. Its context is fat, which makes it slippery, has differential movement, and has lymphatic drainage. In a former anatomy tour, I elevated the superficial fascia to its rightful status as a whole-body layer. We need to heal our hatred of it; we need to understand how it becomes ill.

LAH: I love that, I know that message is needed. And such a wild update that the neural tissue is embedded in those juicy parts of ourselves.

GH: We have such rampant ill health in that layer, and it's not a chicken or the egg thing. The fat hatred comes first, and then we have a distorted relationship with that tissue, and it's hard to work it out from there in our own body sensibilities.

LAH: Next Gil quote. I hope I wrote it down accurately.

"The human spinal cord is undulating in the spinal canal like a snake in water." – Gil Hedley

GH: Yes, that's pretty close! Every breath we take is a whole-body movement. Every rhythmic pulsation of our heart center is having its movement imputed to every tissue continuous with it, which means all of them. What's true for the cells of our arm is also true for our brain, which is completely infiltrated by the heart tree. The pulsation of the heart literally sloshes the brain. It's so big. Our vertebral and carotid arteries come together inside of our skull in the form of the basilar and the internal carotids which then form the circle of Willis. This pulsation is then beating through our brain, which is sloshing inside of our cranium in its fluid suspension and gently whipping that spinal cord.

LAH: You showed us a video of a snake swimming in a pool, evoking this beautiful movement.



Figure 5:

Gil Hedley: [If] you want to see an artery, you have to kind of strip its autonomic tunic of neural tissue. Once you've done that a few hundred times, you can't help but realize it is hard to get these two things apart. Nerves climb arteries like vines. (Image by serfeo on istockphoto.com.)

GH: Indeed, that's how to see it! Also, you can look up imagery of live brain MRI videos of the brain jiggling with every heartbeat (Science Museum 2018). There is a propeller for our spinal cord, and within that we have the movements of our cerebrospinal fluid circulating. They're very slow in comparison to the movements of the heart rhythm and the breath rhythm. There are multiple wave oscillations being generated in our form that are impacting the spinal cord in its liquid suspension. That's life in there, that's how it is when it's alive and moving.

LAH: Okay, here's the next Gil quote.

"Fascia is alive!" – Gil Hedley

LAH: I assure you this is a safe space to say such controversial things as fascia is alive, and you also said, "Life is not limited to just the inside of the cell." Meaning the extracellular spaces are also alive.

GH: Fascia is alive. I go off on that, don't I, haha.

LAH: Yes, and say more!

GH: We are back in the conversation about everything broken into parts. There is some philosophical commitment to where life is living, here, but not there. It is in the cell, not outside the cell. [See page 6 for interview with Dr. Theise.] You could reverse that claim. Why not? Dr. Neil Theise actually talked about this at the 2018 Fascia Research Congress in Berlin, Germany. He gave a wonderful presentation. Among other things, he challenged that decision and philosophical commitment to reducing life to the activities inside the cell. I'm on board completely with that challenge. Life permeates through and extends beyond the whole form.

My statement that, "*Fascia is alive*," incites the funniest controversy. It's just wild how this statement serves as a provocation to certain sensibilities. There are those wandering about who are committed to this sense that fascia is some sort of inert packing material and that it is essentially dead, inert, and clinically irrelevant. I'm here to assure you, no part of me is dead, I'm not part of the walking dead crew, I'm not part zombie. The whole of this



Figure 6:

Gil Hedley: I do like the jellyfish metaphor because of their beautiful pulsation and the sense that our nerve tree isn't some static, dead wood. No, it's come into life. It's a living thing, and I'm extrapolating that from being the witness. (Image by Ricardo Campitelli on istockphoto.com.)

body is alive, and in fact, my life is not even contained simply by my skin. My life exists way beyond my skin.

LAH: Yes! We talk about that a great deal in our Rolfing paradigm, the space around us is also part of the body, the brain processes it that way.

GH: Yes, and we fill it with life. If you've ever hung out in the lab with me, you can see firsthand how contained a dead body is. It has an impact beyond the surface of the form because people enter into relationship with that form. And then that becomes the quality of the space in the container. We can run into each other long before our skin is touching, we feel people's energy, heat, warmth, and what have you.

LAH: Okay, this is fun. Here's another Gil quote.

"It's just one jellyfish with many tentacles, with many functions that can't be separated. It is this incredibly beautiful pulsing living form existing within each one of our human bodies, one miracle among layers of miracles. And the body itself as a whole is just one aspect of the whole person, who is in relationship with everything else, on into the universal whole." – Gil Hedley

GH: That sounds like me.

LAH: I'm collecting these metaphors; they enrich my understanding. This jellyfish metaphor delivers intelligence and texture.

GH: The jellies are very nervous-looking, we could add the man o' war creature too. Coming back to nature to describe what we find in the human form. The jellyfish was my way of witnessing the whole. After separating and dividing, I couldn't leave it there. Those many tentacles extending from a single form bring the message back together. It all works – jellyfish, tree – whatever metaphor you want to run with. I'll use them all, and when one stops working, pick up another one. Otherwise, it's just dogma and not a metaphor. We've got to keep it rich.

I do like the jellyfish metaphor because of their beautiful pulsation and the sense

that our nerve tree isn't some static, dead wood. No, it's come into life. It's a living thing, and I'm extrapolating that from being the witness. I know that as I'm moving around, my nervous system is alive, right? Along with my fascia, the whole thing, kit and caboodle, it's all a big story of life and wonder.

Humans Balancing in Gravity

LAH: As you know, Dr. Rolf (1896-1979) focused on the natural alignment of people standing and walking in gravity, that part of our wellness is structural health. That we can tap into that comfortable feeling when our spine is at ease, fluid, and reaching upward, while our feet and legs feel grounded on the planet.

Dr. Rolf would take before and after pictures of her standing clients to teach the outcome of her manual therapy. Those clients' standing shapes revealed what could be visually assessed about the relationships of their internal structures. She taught about the balance of human tissue in gravity; stacking the heavy parts of ourselves on the plumb line of gravity can lead towards optimal function. I think the public gets the impression that Rolfers are looking at the symmetry of the body side to side, that the two arms and the two legs are doing the best job when they are mirror images of each other. At least that's what my clients talk about when they look in the mirror at my office; they want me to make them symmetrical. So then, it becomes some education about what it means to be balanced in gravity.

What are your thoughts about how the human animal balances on this beautiful planet?

GH: Well, balance certainly isn't symmetry. At the more superficial level, people have paired structures from side to side. There is an eyeball on either side of the face, a nostril on either side, and an ear, an arm, and a leg on either side. So generally, that's the deepest level you can take the notion of symmetry.

In the Nerve Tour presentation, I made the distinction between Euclidean and fractal geometry. Euclidean geometry is a mathematical system based on a set of notions about two-dimensional and three-dimensional space. These are the foundational ideas people have about forms, shapes, and space – the cube, the cylinder, the circle, the sphere, the triangle, etc. These are the forms of Euclidean

geometry; and these are decidedly not the shapes we find in the body (see Figure 7).

That's not us; when we really look, it is all asymmetry, even upon the most superficial aspects of the human body. Put your two hands together, they're not identical in the way that an equilateral triangle's opposite sides are identical. If you draw a line down the middle of the body, you have two very different shapes left to right when you really look at it. We are not Euclidean geometric forms, we're poorly described by Euclidean concepts like symmetry.

On the other hand, fractal geometry doesn't succeed at describing the body perfectly either, but it is an attempt to describe nature better than Euclidean geometry mathematically. Fractal geometry is a branch of mathematics that describes successively smaller copies of a pattern nested inside itself. Where Euclidean geometry deals with zero, one, two, and three dimensions, in fractal geometry, you can play out what it means to be in the 1.47960 dimension. So, fractal geometry gets us closer to describing the shapes we find in nature where we don't find whole-number dimensions. These mathematical ideas are an imposition on nature, which is yet more complex and irreducible than even fractal geometry manages to achieve with its beautiful algorithms.

So what symmetries exist within us are of a fractal rather than a Euclidean nature. When nerves branch and branch again,

there's a repetition of the phenomenon of branching. But if you put the right side branching spinal nerve side by side with its left side partner, the two things are not a mirror match. You can't place them on top of each other. You can't place two oak trees on top of each other and expect every branch to match. Not even one side of an oak tree will match when compared to the other side of the same tree (see Figure 8). That's how we are. If you look at our organs, our nerve tree, our heart tree, they are fractal branching forms. They demonstrate self-similarity, but they are not symmetrical in the way that a bisected equilateral triangle is. So, the balance that we manage to achieve is not because we somehow manifest that kind of symmetry.

Our balance doesn't come from symmetry, it comes from a relationship to everything else and to ourselves. Right? I practiced Tai Chi for about seven years every day. Balancing on one leg, waving my arms around, and trying to be balanced – meaning not fall over. Sometimes these moves will make a person get off balance, but that doesn't mean they are bad at Tai Chi. The question is, can you return to balance from being off balance? Years ago, the World Health Organization included in their definition of health the rapidity with which you can return to balance from being out of balance. You're healthy, not because you never get sick, but because

when you do get sick, you're easily restored to balance.

Similarly, in our movements, it would be odd to never risk being off balance, movement is about returning to balance nicely. So, what is balance? It's in your living, moving relationship to gravity, which is never standing in front of a camera in your underwear while someone takes a Polaroid of you. That's never going to capture pure balance. A snapshot is the carcass of balance in a moment, and it's embarrassing. People will assemble themselves under those conditions, with whatever layers of tension are necessary to impress upon the camera the similitude of symmetry to please the camera's eye, and the practitioner's too.

LAH: Yes, a valid critique of that process. People will work to meet what they think the expectations of the person holding the camera are. Or, at least, that's the risk, that it is performative.

GH: People are encouraged to assemble themselves for that photographic record of their balance. And don't we see this all day long on Instagram and Facebook, pretty people and places in impossible positions that were held for a microsecond and then put down as a record of balance. A performance of balance.

What we know about still shots and postures that people present in their sessions is that they amount to layering of tensions onto the actual living reality.

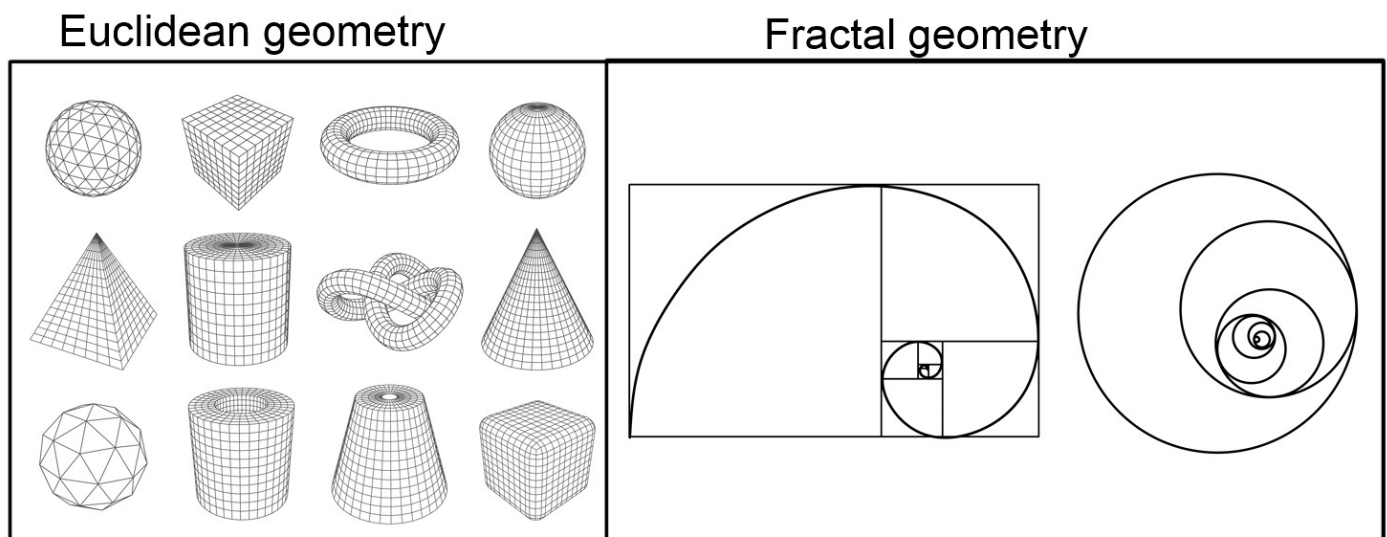


Figure 7: Euclidean geometry is a mathematical system based on two-dimensional and three-dimensional shapes; fractal geometry is a branch of mathematics that describes successively smaller copies of a pattern nested inside itself. (Images by Sensvector and sutana on istockphoto.com.)

Figure 8:

Gil Hedley: When nerves branch and branch again, there's a repetition of the phenomenon of branching. But if you put the right side branching spinal nerve side by side with its left side partner, the two things are not a mirror match. . . . Not even one side of an oak tree will match when compared to the other side of the same tree. (Image by Mikhail Martirosyan on istockphoto.com.)



People wear these habits and choices on top of the life within them, and that photograph is a fleeting moment to show off. Not to be overly critical of the before and after shots, but the proof of balance is in the lived experience, not in the photo.

LAH: Such key ideas to ponder when we're deciding our philosophy in our treatment rooms. Here's my final question, inspired by your talk, you taught us in many ways that our attention energizes our anatomy. You led the group on several beautiful meditations that I experienced as powerful, and landed the message of living in my whole, integrated flesh.

If it's okay with you to share, you invited us all to feel in a grounded way, our pituitary glands, and I felt activity there that shifted my senses, seemingly, forevermore. Now, I have been able to access that place behind my eyes, and it has become another tool in my toolkit. And here's another one, you generally invited us to consider doing – on our own – focusing our attention on the neural plexuses. You said, pick one of them, and focus on it in a meditative, mindful way. Those are my words and interpretation of the invitation I heard. The anatomy parts feel different when I do that!

What do you think the connection is between our mind imagining specific anatomy, being meditative and slow with our attention, and the enlivening that we feel of that place thereafter?

GH: Good, that thrills me that you heard that invitation, thank you. That's great feedback.

LAH: For years, and I'm sure many people reading these words do this too, I put my attention on my heart to soothe myself, I put my hands on my heart, and it so clearly supports me self-regulating back down into that rest and digest state. Then you showed us the cardiac plexus, and I'm thinking about how change really happens. And what is that change in the tissue that helps us feel better?

GH: Your attention is energy, it is consciousness. Your attention is the battery fueling your life, and we are very random in the use of our outrageous power of attention. Our attention is a commodity right now. There are companies battling for our attention because it's what they are selling. We must be careful not to fritter our attention away to thieves.

Our attention, if intentionally placed, is power and consciousness. To my mind, you don't really know anatomy for

knowing some words and how to string them together. But if you say the words and you command the thing named with your attention, whoa, now you're going to go to another level. What you just described of your experience, there's power, and that's power restored to you by your own choice of where you place your attention.

And I ain't bragging here. My attention is as scattered as anybody else's, but at least I know sometimes what I'm doing with myself. You know what I'm saying?

LAH: Totally.

GH: We're all just people here and we're just doing the best we can do. Like meditation, you sit there and you float away. But then, you notice you've floated away and you come back. That's the thing. That's balance, the coming back. That's the whole thing for the whole planet. It's like, where's our attention? Are we exercising our power over it? Because we don't have power over much else. We don't even know what we have in this beautiful world, no less how it works.

What we humans do have is our capacity to attend intentionally, and there's an outrageous amount of intelligence and power in that. We have underestimated this side of ourselves and at times give it away because we think, "Oh, there's nothing I can do about the world." But don't get all floppy and helpless, you have power in your attention. Us people, we spend decades complaining about something in ourselves, to ourselves, and my message is we can all actually pay attention to the way we work with our attention, that can empower our change.

LAH: Beautiful. You embedded so many useful, practical, and sacred lessons in your Nerve Tour, it made me think about the notion of balanced human anatomy in a different way. And moreover, you model what a balanced, wholistic practitioner looks like, profound friendships all around you. Thank you for sharing your ideas, your time, revisiting a few of the ideas from that presentation.

GH: It's been fun. You are most welcome!

Gil Hedley, PhD, has been teaching integral anatomy in the lab, lecture hall, and online at www.gilhedley.com since 1995 to professionals from the whole range of healing and fitness modalities. He is the producer of 'The Integral Anatomy Series', the author of several books of poetry and prose, and has

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