

Rolfing® SI and the Brain

An Interview with Kevin Frank

By Sabine Weis, Certified Rolfer™

Introduction

I interviewed Rolf Movement® Instructor Kevin Frank to discuss a working model from neuroscience that supports Rolfing Structural Integration (SI) with a credible explanation and story – why it works.

As background, let me share a part of my story. The Rolf Movement aspects of my basic Rolfing training completely changed my way of perceiving and using my body. As a teen-aged athlete it had seemed to me that the most effective thing was to “work harder” in order to get stronger, faster, and fitter through weightlifting and countless repetitions of the same kinds of exercise. In Rolf Movement, I was faced with very different concepts that I could not wholly grasp, but started playing with. For example, at thirty I started dancing salsa. After very few months, I stopped taking lessons and instead applied ideas like changing my space and ground capacity, developing a better sense for my inner line during spins and turns. Also, I experimented with inherent movements during freestyle and connection to my partner with orientation exercises. My dancing improved dramatically.

Despite the improvement, I never really managed to articulate what I was doing. In my Rolfing practice, I also find it quite challenging to speak about the work other than through personal experience or case studies, and I see this issue troubles some of my SI colleagues as well. I believe it is our job to communicate clearly to

support our credibility. Outside of Munich and Boulder, we face a public unaware of Rolfing SI. A market survey in Germany (commissioned by the European Rolfing Association to develop our PR strategy) showed that “the man on the street” does not know anything about what we do or how it can be of benefit. Even people who have experienced Rolfing sessions make vague statements – “esoteric,” “very painful,” or “strange but helpful bodywork.” We know that Rolfing SI is not just another bodywork method, but do we manage to convey this? Yes, the gravity story does make sense to many people, but dealing with posture does not generate much excitement. We might want to consider finding another story to reinvent ourselves.

During a Rolf Movement workshop with Kevin in 2010, I felt a “click” in my mind about how body movement affects the brain. That inspired a year of self-study and application. There might be potential to explain our work anew – and more accurately – through neuroscience. In this light, I interviewed Kevin, who has taken ideas from scientific studies, especially from neuroscience, and connected the findings to what we do as Rolfers. In my interview with Kevin, I was particularly interested in how to translate these conclusions for other medical professionals and for laypeople.

Sabine Weis: Over several years, Rolfers and the Rolf Institute® of Structural Integration (RISI) have become more and more interested in science. Some possible explanations of how and why the Rolfing process works have been found. Kevin, why are Rolfing SI and neuroscience a good team?

Kevin Frank: Luckily for us, science, especially neuroscience/brain science, seems to suggest that the brain is formed on an ongoing basis. Researchers keep finding more evidence supporting this view. Structural integration is likely to be an example of this ongoing formation.

SW: But science takes time, and if we wait until our concept is supported we all might be very old. So what can we do until then?

KF: We can point to analogous processes that are well-studied, ones in which behavioral changes and brain changes are correlated. We hitchhike on these studies. It's now quite plausible.

SW: The concept seems complicated, even for health experts and doctors. How did you become interested in neuroscience?

KF: First, I agree that we need ways to ground the abstraction of brain plasticity and postural plasticity in simple examples; otherwise the "new" explanation" will not help. To answer your question, it was a natural progression that started with satisfaction about the experience of receiving, observing, and beginning to do the work, but great dissatisfaction with the story we were told about what we are doing and why it worked. Ida [Rolf] said that fascia is plastic and therefore body posture is plastic. Attractive notion. As so well summarized in Robert Schleip's writing [see bibliography], the fascia is much more likely a conduit of information to the brain about movement and position than it is a set of guy wires that hold it in a certain position. Hubert Godard's work demonstrated that what we call "structure" can change in a few seconds or minutes before our eyes and then often change back again. He showed how the fault is often not the tissue but the way tissue is orchestrated. Suddenly we are left with a great new idea: posture and coordination are the product of our way of perceiving and making the world up in our imagination. Wow.

SW: Do you ever expose your clients to this insight – we make the world up in our imagination?

KF: We must first re-define the word "imagination." We think of imagination, generally, as just making things up or pretending something that is not real. That is imagination that belongs to the thinking process. Imagination is the foundation of much more than thought. In fact the world is something we "imagine" in order to perceive it. That's a way of describing the mechanism behind what we call experiencing the world. And the way we perceive the world shapes our body and our movement. Conversely, how we imagine our body affects how we see the world and how we move as well. We are usually somewhat stuck in our ways of imagining the world and our body. Because our perception tends toward what Gibson calls "invariant" versions of what we see, even if the world around us changes, we tend to feel the world is constant, but it's our perception that is. Our imagination can be plastic. Ideas about the world, about our body, are based on what we have been told or what we learn from our family, school, and training. Some of these ideas lead to body dysfunction. And our work is an effective approach to evoking plasticity in the ways we imagine our body.

What I am describing are the layers of "body image" that are associated with restriction. If a person is told to position [his] pelvis in a certain way, for example, this is a way of imagining the body – we are steered by automatic images within our subconscious. What we are doing in structural integration is helping people feel how imagination can liberate us from unhelpful images. For example, learning to arouse a palpable feeling of omnidirectional space surrounding the head is a way of using conscious imagination to support orientation to space. The latter form of imagination uses an image to arouse native motor intelligence. I describe this to clients by distinguishing imagination that speaks to the thinking brain versus imagination that speaks to the "movement brain" or the sensorimotor system, [which] is a place where our conscious awareness can affect the parts of us beyond our conscious awareness.

SW: How do you raise the topic for new clients?

KF: Beginning with the first phone conversation, I introduce what I would call the "new story." That's what's exciting: we have a new story that is going to be quite different from the P.T., the D.C., the M.D., the massage person, or the traditional

structural integration story. The story is about how coordination gets shaped, how it isn't meant to change casually but we have a combination of things that help it happen. According to what the person can understand the explanation differs. And I offer concrete examples of how coordination becomes corrupted, over time, or during some incident, how we (appropriately) need to resort to effort, and how compensatory patterns of motor control can often fail to reset, leaving the body functioning in an efforted state. What does an efforted state look like? It is the body working against its own inhibition. It's the body using last-line-of-defense muscles first and first-line-of-defense muscles last. It's a state of motor-control confusion and we see it everyday. The fascia story was convincing until it became obsolete. Now the fascia-as-plastic theory is both incomplete – because it really doesn't describe why posture changes – and unfortunately it is also more and more physically improbable.

SW: Probably not all Rolfers think the fascia story is obsolete. What made you stop using it? Do you think both fields could complement somehow?

KF: We really don't know if some aspects of the fascia-as-plastic story are true or not. I keep waiting to hear something definitive but I don't hear it yet. Schleip's writing is pretty convincing. I don't know how many members of our community have necessarily read it or integrated his thinking into the teaching. Most SI people usually talk about fascia being plastic. My official position is that I will not say it's false until proven one way or another, but in the meantime it's not a smart way to talk about our work. What sours me is the following: First, it lumps us into the basket with all myofascial therapies, which are proliferating, and I think SI is not myofascial therapy. Second, it lets our clients off the hook before we even start. The fascia story says all we have to do is unglue the tangles and stuck places in the fascia and life will be just fine. I think fascial mobilization will have a much greater effect when we enroll clients in the process, in participating in lasting coordinative change. Posture is a coordination. While fascial mobilization is a great input to change motor-control patterns – coordination – we want clients to understand that what they do with their minds and how they approach movement is every bit as important.

SW: What is the possible connection of neuroscience to our work?

KF: It's not that neuroscience explains it directly, but it's now very close. You take what we know about fascia, motor control, perception, and pre-movement and you observe changes in coordination before your eyes and draw the conclusion that fascia must be a great way to inform the motor-control system about better choices.

This means that what we call the functional and structural taxonomies collapse as being one and the same thing. We can continue to argue for teaching fascial mobilization skills, a taxonomy of manipulation perhaps, and a taxonomy of coordinative education, but really fascial work is probably going to turn out to be more about education and less about repairing fibrous fixations. Schleip's writing is quite effective in this regard. Then we laboriously read about perception and motor control in the articles that Godard seems to effortlessly digest. They all pointed to this new idea being a very smart idea, but the picture didn't come together as neatly until functional MRI (fMRI) work propelled neuroscience into a new field in which the brain's plasticity could be observed directly.

Blakeslee and Doidge, and many others, saw this as a huge journalistic moment to summarize. Now, it's quite easy to put the pieces together. Rather than research articles with often difficult-to-discern implications for our work, we have story after story describing amazing tales from clinical practice, that are then related to how brain changes accompany the improvement in function. It's easy to get carried away with "brain plasticity" as the explanation for everything. It has become a bit of a fad. Still, the basic message has been revolutionary: behavior changes the brain, if the behavior is sustained. And we have the tools and the understanding to make this kind of lasting change in the brain mapping of our clients. We have ways that people can feel how the body behaves suddenly in ways of greater ease, greater length, greater spaciousness in the face of demand.

SW: What does a person "on the street" know about neuroscience? Why would he be interested? What do you say to describe Rolfing SI and what you do?

KF: It depends on the person but some version of: "The programs that run our movement are full of corrupted code, like computer viruses. We clean up the code

with two powerful forms of education: fascial mobilization and perceptual and coordinative guidance. Our work systematically and comprehensively restores the body's native movement intelligence." People need some simple examples to explain motor control, or coordination. They want to make a connection to what you know is great stuff but to their ears sounds a bit abstract and different from what anyone else is telling them – therefore suspect. Our trump card is that we know a lot about orientation and a lot about foundational orientation, which is orientation to gravity. This is the place where biology, physics, and existence come together. When we enroll a system in working with this level of response we find greater plasticity to posture and coordination. We can demonstrate how weight and space orientation changes everything, and makes it fun at the same time.

SW: And imagine you only have thirty seconds. . . .

KF: I give them the brake-and-gas-pedal-glued-together story. It's clear and anyone can imagine it. Unglue the two and life is better. If they give me five minutes, I give them some more based on what they already want in their life. I take the predicament they offer me and explain how it could change based on things like how one prepares to move, or based on habit patterns based on dealing with overload at some point in life. Or I tell them that they may be using secondary stability muscles before they use primary – that's an expensive choice they are making every day without knowing it. I use different stories, all based on motor-control models that are corroborated by various pieces of research.

SW: What do physicians and psychologists know about neuroscience? How do you connect to them about what we do?

KF: I am likely to talk about posture and lasting changes in posture derived from better mapping at the sensorimotor level. I also would add the business about primary, secondary, and tertiary stabilization. I also might speak about preparation to move and the manner in which this relates to stability. We are always wise to find out what interests them before launching into a lecture, and to give them a very specific concrete example. In person, I have them push on me and I respond with a defensive strategy and contrast it with a strategy

built on perception and orientation. That's the best illustration – what you can show them in your movement. People can see it right away. With psychologists, it's useful to make the bridge between psychological security and subcortical security based on gravity orientation and orientation to "where" as opposed to "what." The "where and what model," well described in Pailliard's writing for example, shows that our sensorimotor brain is mostly concerned with "where" questions while our cognitive brain is concerned with "what" questions. "Where" information makes the body and sensorimotor system happier than "what" information – it provides the security at a deeper level, below thought. The "where" and "what" model does a good job of fleshing out Rolf's claim that structural integration gets below the level of conventional psychology.

SW: Which models are your favorites when referring to the body map and related subjects?

KF: No one in the field of neurophysiology is going to hand us a new model on a plate. What we can do, however, is look at models of brain maps of the body – sensory maps, motor maps, even language maps – and see that much of what we are doing is about refreshing or reviving or enhancing maps so the brain can make better choices. Further, we can look at the various ways that the brain has been divided into cortical and subcortical processes, or "where" and "what" processes, and see that is very attractive to speak about structural integration as being a way of speaking to subcortical processes, the sensorimotor side of the equation. Now we are doing what Pailliard was advocating: we are bridging the chasm between psychological approaches to human improvement and neuroscience. Further, we have authors such as Daniel Siegel who tell stories about how he and his colleagues worked for a long time to find acceptance in the medical world for the idea that behavior changes the brain. So he helped to convince doctors that how we meditate, how we process (things like Somatic Experiencing® for example), lead to integration of experience and then changes in brain activity. What we add as structural integrators is a package of tools that speak to the sensorimotor brain, to the subcortical processes that lead to lasting shifts in posture and movement strategy. Bodies behave as if "hungry" for better information at this level.

SW: How would you explain the concept of “body maps”?

KF: You start by helping people realize that their brain map of the body has gotten a bit generalized and vague. You bring alive a sensory distinction and you tell them, “Now your map has a clearer distinction, a clearer location of this part of the body. That leads to better movement choices than before.” The map story can accompany the visual anatomy model and skillful fascial touch. Also useful are stories about “where” and “what” – the story about Ian Waterman who lost his proprioception (no where and substitute of what to make up for it), and the blindsight phenomenon (all “where” and no “what”) in which a person cannot consciously see an object but walk around it to avoid walking into it; these are dramatic illustrations that ground the topic very succinctly. A great book that illustrates “where” and “what” differentiation is *Vision and Art: The Biology of Seeing* by Margaret Livingstone. She shows, for example, how skillful artists build coded messages to our “where” brain. This gives the painting impact in ways we feel without knowing why at a conscious level.

SW: Terms like “sensorimotor control” and “secondary stabilization” sound quite theoretical. Which concrete examples or stories do you use?

KF: “Sensorimotor” means the [“movement brain,” the] part of the brain that doesn’t require conscious thinking, that acts automatically, faster than we can think. You feel [its] intelligence when you tie your shoes in a flash. But there is much more to the sensorimotor brain than just little coordinative patterns. It is the subcortical part of the equation for keeping us upright and for perceiving what our body needs to know, but we don’t notice it consciously. “Secondary stabilization” is about is using the auxiliary muscles before we use the ones that are for normal levels of stability. It’s very “expensive” for clients – they lift a jug of milk [and] squeeze the abdomen and clench the pelvic floor, either because some well-intentioned but misinformed exercise teacher told them to, or because they had an accident and never stopped bracing, or because they are in some state of fear or defensiveness all the time. For whatever reason, they are using a motor pattern that should be saved for loads that are very large and in which the primary stabilizers turn on first.

SW: Does neuroscience offer any explanation about the relevance of instincts or automatisms? And how would you link this to Roling SI?

KF: I think neuroscience and developmental psychologists have been trying to figure out what is “hard wired” and what is learned for a long time. The current thinking, as I understand it, is an example of dynamic systems process. Anatomy predisposes us to movement that we learn more or less inevitably if given the opportunity to play and explore as children. We develop automatic subroutines that save the brain the trouble of making it all up from scratch each time a similar movement is called for. People often live with the assumption that you can train to learn a new movement. But Rolfers help people as much to unlearn expensive automatic routines, learned during moments of pressure or overwhelm, or just plain unhelpful guidance from well-meaning educators.

SW: How do you guide clients to easily follow your suggestions?

KF: How do we help people find ease in learning new simple things that, at first, make them feel stupid? You want to start with slowing down the learning process; figure out the learning style of the client, make success easy at the beginning and refer back to that baseline. Teach the skills that precede learning movement such as sensory awareness, conscious awareness of orientation, conscious awareness of felt sense. You want to make the process fun. We learn most when we are having fun.

SW: How would you guide clients when they ask “What am I supposed to feel?” or “What does this have to do with my pain?”

KF: Start early with teaching the client the authority of his experience and [noticing the] contrast between doing some simple movement from effort and from ease. Make it very simple so there is no question of skill. For example, “push my hand like you want to do a good job of pushing; now let go of the good job, and feel your skin as you push.” [Look] for, [coach] for, responses that involve length rather than contraction, the capacity to grow more spacious in the face of demand. Learn what the client likes. Help clients build a vocabulary of experience and remember that what resources them is the path to finding ease and flow and often relief from pain.

The body learns new coordination by repetition. It’s that simple. We are mostly helping the person to interrupt the old pattern, by stopping, by slowing down, by inhibiting the old one, with sufficient support and safety so it’s not overwhelming. Then we teach what to pay attention to as the initiation of the movement begins. Each time the old pattern shows up, we stop and go slower and find better resource. In the absence of the effort pattern, the automatic system can have a chance to manifest ease. The body automatically repeats what it likes and likes what feels easier, all other things being equal. But we often need to support people to do that because all things aren’t equal. People have been taught to struggle and work harder, right?

SW: Sure. That is what most of us learn at school, from our parents, and what we assume is expected by bosses at work. One question [clients have] about what is achieved during Roling sessions is “will it last?”

KF: New posture and new movements last when the client likes it and on reflection can allow it, meaning it is not in conflict with some aspect of the psyche. One needs to help the client find the secondary benefit of the former pattern; that is quite important and part of the ecology of change. Then the client needs to find the new coordination, using his own cue, not yours necessarily. And then the client needs to find ways to integrate the new movement into life at times and places that feel safe and easiest. And clients need to talk to us about all of this, to have us listen to what has worked and what hasn’t so they can organize their experience. And self-care exercises are important, ones done in small doses that feel good to do. If we change coordination, we assume this will be lasting.

SW: The model, here, is about coordination and communication working together, instead of in conflict. It takes time to grow into thinking that way; creating stability constantly and speaking about actual body experience. Going into the experience can also be tricky. What do you say to guide [that]?

KF: I attempt to get people used to tracking and being tracked in their sensory experience. This is not unique to my work of course. But it’s a huge way to “guide” either verbally or nonverbally by following the rhythm, sensory experience, and meaning impulses of the client. Often just listening

is the best guidance because it supports the self-regulatory and self-discovery process of the client. As one tracks the client, one tracks one's own body experience. This develops a co-resonant state in which the patterns that are no longer needed tend to be the most willing to release. I think this reinforces the mapping process in the brain, by the way.

SW: Thank you very much, Kevin. I feel excited that a bit of your experience can be presented here to make sense of this fascinating field of neuroscience. I see this as great opportunity to keep up with academic developments, as well as valuing even more the Rolfing work.

Sabine Weis is a Rolfer in Frankfurt, Germany. Kevin Frank is a Rolf Movement Instructor with a practice in Holderness, New Hampshire.

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