

Moving and Thinking with Fascia

Interview with Ray Chung on the intersection of fascia and Contact Improvisation training

by Kevin O'Connor

How do dance artists move with emerging 21st-century biology? What forms of articulation emerge in their practice? The following is an interview I conducted with dancer and educator Ray Chung over email during research for my doctorate thesis called "Interconnective (T)issues: Bodily Experiments and the Affective Entanglements between Fascia Research and Dance Improvisation." Prior to this exchange, I had taken

numerous classes with Ray in Berkeley and crossed paths with him at the Fascia Research Congresses. I was interested in probing deeper into the ways improvising with fascia has allowed him to make new distinctions and new bodily articulations that contribute to the emergence of his fascial sense-ability. These distinctions also contributed to innovations in training and teaching Contact Improvisation.
[K.O.]

Kevin: *Perhaps we could start with the following question to understand your history. Can you remember when you first started hearing about fascia in the dance world you are in? I frequently notice the concept floating around the Contact Improvisation (CI) community. What kinds of sensibilities do you cultivate in relation to it in your dance teaching and training?*

Ray: I hadn't really heard much about fascia in the CI or dance community until I started incorporating that information into my own practice and teaching. I had been reviewing material from the Fascia Congress in Vancouver in 2012 and was inspired to include that knowledge in my teaching, which already included biotensegrity and related info.

In the mid- to late '80s, I had learned about fascia first-hand when I received the complete Roling series and started learning some of the techniques to facilitate myofascial release.

I feel that the awareness and perception of the moving body is so heightened and enhanced through knowledge and experience of fascia—from how it relates and is

connected to proprioception, to biomechanics, to my own practice of shiatsu and bodywork. Since I learned CI and shiatsu in parallel, I found many similarities, and each practice informed the other. Learning more about the role of fascia in the movements of my own body and in how to connect to other bodies through healing and dancing has enhanced both experiences.



image courtesy R. Chung

Image of the fascial weblike network that connects throughout the body.



Image courtesy R. Chung

Image of the gel-infused fascial network that connects throughout the body.

Fascia is often called connective tissue—the viscous goop that connects, divides, and slides between muscles, organs, skin, and cells. It has also been found to be active, intelligent, communicative, and a sensory organ; sometimes three, sometimes many, and sometimes one; liquid, solid, and mucus. The scientific research on fascia is still in formation, existing in what historian of science Thomas Kuhn called a “pre-paradigmatic state,” in which multiple views exist simultaneously and where terminology and methods are in flux.¹

—Dumit and O’Connor, 2016

What kind of practices have you cultivated to help dancers think and move in relation to fascia? I am thinking about different scores in relation to fascia, but perhaps “scores” might not be the right word for how you work with it.

I guess the strategies that I use most in my teaching start with learning about the physiology of the fascia—*cells, gel,* and *fibers*. I am focusing primarily on the *gel*, or ground substance, as a lubricating layer that acts as a cushion between one’s skin and the underlying structure, noticing the difference between compressive and shear forces as one’s weight is transferred into the floor, and then how sliding or “floating” on the gel layer facilitates this transfer. In addition, I offer how experience of the gel can help one fall safely into the floor.

A “score” I sometimes use is an exploration of ways that fascia/connective tissue can provide support through the spine through the intention of reaching through the spine and limbs into the floor and into a partner’s body when finding/giving moving support. Playing with the different intentions of pushing, leaning, or reaching gives an experience of how the fascia can be engaged to greater or lesser degrees, and how that facilitates more ease and efficiency when receiving and giving forces through different parts of the body.

Biotensegrity

Kevin: *You bring in the concept of “biotensegrity.” What did this way of thinking about the body offer your teaching that was different than what you were using previously?*

Ray: I had previously focused on the skeletal and muscular systems more separately, and connective tissue hardly at all. I had been focused on vertical alignment in terms of stacked elements relative to gravity.

Thinking more architecturally about the physiology prompted me to utilize teaching aids in the form of tensegrity models and Chinese finger puzzles to model or represent connective tissue networks/sheathing around the spine and other joints.

Currently, I’m exploring how the skeletal, muscular, and connective tissue systems relate synergistically as a tensegrity structure, which can act independent of gravity.

How do you bring the concept of biotensegrity into your dance practice? When is it useful to think with biotensegrity—for example, in weight-bearing situations? And what in the model do you specifically focus on?

An image I often use is “swimming in your skin,” where an awareness of an articulation between the skin and the underlying structure is mediated by the connective tissue gel, similar to floating on the gel. I use this in conjunction

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with the image of the bones suspended and floating in the connective tissue network, all acting synergistically to mediate forces, gravitational or otherwise, that come in contact with the body, and how the body responds to these forces. This is conducive to creating a sense of being omnidirectionally responsive to forces coming from anywhere, as well as creating a sense of lightness and ease in movement. Consequently, as weight is introduced to a part of the body, the body reaches out to meet that force, rather than bracing or tightening.

Cultivating Felt Images

Kevin: *What are some of your techniques for training a dancer to notice the difference between compressive and shear force? Do you invite them to imagine the gel? Sense into it? What language do you use?*

Ray: I often begin with a physiological description of the components of the connective tissue (CT). The three primary components of CT being the *cells* (fibroblasts, adipocytes, macrophages, chondroblasts, osteoblasts), which provide **metabolism**; the *fibers* (collagen, elastin), which provide the **mechanical properties**; and the *gel* (extracellular matrix [ECM], ground substance), which provides **viscosity and plasticity**.

Then I have students touch their own body structure before exchanging hands-on exploration of each other's bodies, focusing on the viscoelastic quality of the fascia on a local as well as a global (full-body) scale. Locally, exploration involves pinching, pulling, rubbing, and sliding on surfaces of the body initially, and then with the hands on various body parts. Globally, it's connecting the whole body together through one specific point or small area as it's contacting the floor or a body and noticing how one's body responds as a tensegrity system. After some time, they work solo in relation to the floor, noticing how the gel cushions the bony parts of the body (back of the skull, elbows, sacrum, spine, scapula, knees, greater trochanter,

iliac crest, etc.) and helps them experience the floor as softer and more welcoming as they move across, into, and out of it.

The language I use is fairly descriptive, with some imagery but not a lot. Invoking the images of “swimming in your skin,” “floating on the gel,” “floating bones,” is as imagistic as I tend to get.

I think about “shear” as the thing that breaks tensegrity models. I am interested in different strategies dancers use to attend to shear force and perhaps change it so it can be dispersed in their architecture. Can you articulate how shear force feels different than compression?

Shear forces are essentially sliding forces, or forces acting at an angle to a support structure. Compressive forces tend to restrict movement, whereas shear forces tend to be conducive to movement. As I rest the back of my head on the floor, the main force I experience is compressive. As my head begins to slide (not roll), the sliding of the gel absorbs the shearing force into the surrounding tissue. The movement of the parts surrounding the gel (skull bone, scalp) tends to spread sliding forces into and through the gel. The viscoelasticity of the gel absorbs the energy of deformation of the tissue by the weight or forces acting upon it.

I love the description of sliding or floating on the gel layer. Can you articulate what this might do or feel like in practice?

The sensation of floating or sliding on the gel is not unlike sitting on ice and sliding on your bum when one falls to the ice while ice skating. The amount of sliding is limited due to the fact that the actual slide is occurring within the body rather than external to it. Due to the elasticity of the skin, the slide sensation is also partially the viscoelastic stretch of the skin, and the limit of stretch causes a dampening of the slide to “rebound” in the opposite direction. One can play with the rebound and find a resonance within



photo © Charlie Hewell/In

Ray Chung [left] and Andrew Harwood, Leviathan Studio, Lasqueti Island, Canada, August 2015.

the viscoelasticity while moving in relation to the floor or a partner. This rebound is similar to the sensation of landing smoothly and silently when jumping up from and down into the floor repeatedly. The rebound can also aid the movements, as the energy stored in the stretching structures can be released and redirected as the bouncing movements continue.

Floating Bones, or “Fascial Sense-ability”

Kevin: *You write above about fascia offering a different way of being in relationship with others (and perhaps the floor). Could you articulate how thinking with fascia allows dancers to come into contact differently than when thinking through muscles or bones?*

Ray: An increased awareness of the layer between the skin and the underlying structures can facilitate a greater sense of layers and levels of weight and touch. The transition of forces from a localized scale to a more global scale within the body relates equally to another’s body in the situation of a Contact Improvisation dance. Connecting to other bodies on the layer of the fascia, and especially the gel, elicits a greater sense of fluidity, softness, ease, efficiency, and release in the joints. The image of the bones suspended or floating within our softer tissue structures is another way of thinking differently about the functional relationship between the bones and muscles. Especially as the fascia is such an integral part of all muscle, one can’t really speak about muscle without speaking about fascia. This also speaks to how softer tensile structures like tendons, ligaments, and fascia can support weight

without collapsing and are more adaptable to changes in direction, force, and timing—the omnidirectional responsiveness inherent in tensegrity structures.

The fascia is the proprioceptive substrate of mechanoreceptors. So in the case of proprioception, the sensory elements are more diffuse throughout the body rather than localized around the joints.

Also, the systems approach to the body as a synergetic whole differentiated into various functional forms gives a radically different experience and felt sense of the body and how it functions than the more traditional anatomical view of the body as individual parts assembled together. Emphasis is on integrity, continuity, connectivity, architecture, wholeness, rather than compatibility of components. Much like being waves rather than particles.

Thinking with waves reminds me of the following quote from Ludwig von Bertalanffy, founder of general systems theory:

What is described in morphology as organic forms and structures is in reality a momentary cross section through a spatio-temporal pattern. What are called structures are slow processes of long duration, functions are quick processes of short duration. If we say that a function such as the contraction of a muscle is performed by a structure, it means that a quick and short process wave is superimposed on a long-lasting and slowly running wave.²

As we dance and move through space interactively, our wave nature overlaps and resonates with others reverberating and echoing off each other and the environment.

Kevin: *This reminds me of how fascia mediates exchanges differently. I think of fascia as the material of the middle (or of the relation). Can you give an example of how attending to fascia changes the felt sense of a dance duet?*

Ray: The fascia has been described by doctor and medical anthropologist Jaap van der Wal as the “organ of innerness,” an organ of connectedness.³

A greater sense of permeability and diffusivity within my body is created when I attend to the fascia. This gives me a sense of a larger interior space, which provides more opportunity for movement initiated from the interior, and thus makes me more available for movement and forces from the exterior to connect to my interior space. The interior space being not just the deepest innermost regions but also all the regions between the skin and the deepest. Also, the experience of effort and strain is less localized within my body and spreads out to more regions, giving the feeling that more of my body supports and is connected to a particular effort or movement.

I am interested in the play between reading texts on fascia, moving with them, and then returning to the texts. Could you give an example of how you do this? How do you know when a practice helps you think with a concept?

My guiding principle is that “learning is experience, the rest is information.” I think Einstein said this. My intention is to create a frame, or points, of reference from information about the body. Then I would explore, or have students explore within said frame of reference through moving and attending to how they respond and adapt.

In this case, information gleaned from research can be used to narrow in on a specific frame. One example is falling, and how the experience of moving through, on, over the gel reveals possibilities of how to relate and connect to the floor, falling safely.

There are usually overlapping frames of reference, since the body is always a frame as well. Another frame that I could be working with simultaneously is of tensegrity and how awareness of this architecture interplays with the gel. I find it best to stick to one or two frames at any given time. After some period of exploration, a time for reflection and inspection of the experience is articulated in writing and/or feedback with another person. Then I revisit the information in the text to see if my experience corroborates or contradicts it. This often gives more information about how to proceed.

One indicator of the “success” of the endeavor is whether the process has been transformative for me. Have any of my perceptions, viewpoints, or experience of myself been transformed in the process?



photo © Levi Dershowitz

Ray Chung, Leviathan Studio, Lasqueti Island, Canada, August 2015.

You write that in relation to proprioception, the fascial sensory elements are more diffuse through the body rather than localized around the joints. Does attending to this sensory capability shift the timing of a contact dance?

Using the sensory information from mechanoreceptors helps in “seeing” with and through the body. When this information, along with the interoceptive, exproprioceptive, and proprioceptive “sense,” is incorporated, I’ve noticed there is a tendency of the experience of a contact dance to shift more into “body time,” which tends to feel slower than “clock time.” The more information processed at once, the slower time seems to pass.

I am curious if you have thought of this in relation to “mind” or “minding,” or a more central thinking/dancing compared to a more diffuse thinking/dancing?

I often consider conscious awareness and thought as more central, and the unconscious as more diffuse, and often experience my dancing this way. When I focus more conceptually (space, time, relationships, composition), I experience dancing as more central. When I’m more focused on sensation (weight, interoception), dancing is experienced more internally and diffuse, in the sense that the whole system is in tune and humming along with no single aspect standing out more than another for very long. I tend to correlate the central to external, and the diffuse to internal. In practice, the challenge is often how to integrate the inner and outer worlds, the central and the diffuse aspects or qualities of our awareness. Is it possible to be in both or must we oscillate between the two?

The systems approach to the body as a synergetic whole differentiated into various functional forms gives a radically different experience and felt sense of the body and how it functions than the more traditional anatomical view of the body as individual parts assembled together.

I think, especially in the context of performance, that the integration of these aspects is essential, as there is so much that happens beyond our conscious awareness and control (the diffuse thinking), and our conscious awareness (the central thinking) can attend to only a few items at a time. Having an economy of consciousness is helpful, while trusting that the diffuse bodymind is able to take care of survival, technique, sustainability, etc.

Historian of the body, Shigehisa Kuriyama, writes about how our concepts of the body pull along a certain kind of self. For instance, he traces how the emergence of muscles in ancient Greece pulled along the idea of a true Greek man, with muscles as agents for autonomous will. Could you describe the kind of subjectivity that thinking with fascia pulls along in Contact Improvisation?

As my body is more than the sum of its parts, the contribution of the various bodily systems creates a complex, elaborate, and synergistic experience of wholeness, coherence, coordination, and integrity, as I am not able to functionally isolate systems from each other. As the “organ of innerness,” fascia provides me with more of a sense of connectedness between the outside and the inside of my body.

Compared to former knowledge of the body, since the time of the Greek muscle human, current knowledge continues to provide novel images and experiences of the body, such as the tensegrity human. Thus, the shift from the dualistic worldview of the body composed of parts making a whole organism to the complex view of the body as differentiated from a single whole into functional systems that interact synergistically. From this evolving frame of reference, current concepts of the body continue to transform and affect my sense and perception of movement and embodiment as well as my practice of Contact Improvisation.

ENDNOTES

¹ Joseph Dumit and Kevin O’Connor, “The Senses and Science of Fascia: A Practice as Research Investigation,” in *Sentient Performativities of Embodiment: Thinking alongside the Human* (Lanham, MD: Lexington Books, 2016). www.ecologicalbodying.com/wp-content/uploads/2018/11/DumitOConnor.pdf.

² Ludwig von Bertalanffy. *Problems of Life: An Evaluation of Modern Biological Thought* (New York: John Wiley & Sons, 1952), 134.

³ Jaap van der Wal, “Fascia—Continuity and Connectivity in the Body and the ‘Organ of Innerness’? A phenomenological view” (text accompanying lecture, OSD Osteopathy Congress, Berlin, 2018).

Suggested Reading

Lesondak, David. *Fascia: What It Is and Why It Matters*. Pencaitland, Scotland: Handspring, 2017.

Nørretranders, Tor. *The User Illusion: Cutting Consciousness Down to Size*. London: Penguin Books, 1999.

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To contact the authors:

Ray Chung, rayc@kinetic-designs.com
Kevin O’Connor, oconnor@ucdavis.edu;
www.ecologicalbodying.com

