Embodying Neuroscience:
The Feldenkrais Method® in Human Development, Performance & Health

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www.feldenkrais.com

Check out what Dr. Merzenich has to say about the Feldenkrais Method®:
http://youtu.be/R6VHVLAhCjs

Dr. Merzenich

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SenseAbility Summer 2012
The Dotted Note

—by Michael Krugman, GCFP

Twenty-some years ago, at the very beginning of my career as a somatic educator, I was invited to give a lecture-demonstration on the Feldenkrais Method® before a group of a hundred or so pianists attending a two-day master class at a professional music school in New York City. “The Master”—he who would present the master class—was an eminent pianist, pedagogue and scholar already in the ninth decade of life, himself the son of one of the most highly regarded pianists of the twentieth century.

As the hour of my presentation approached I found myself getting a bit nervous, but I suppose it could have been worse. The Master was a towering figure in the world of music; he would have been a nearly impossible act to follow. Fortunately for me, I was to precede him on the podium. I was, as it were, the opening act.

It went well enough, I thought. My presentation met with a friendly reception followed by a heartening round of applause. Then, after a short intermission during which I shook a large number of extremely intelligent hands, I took a seat in the audience and The Master took the podium. By way of introducing himself—though of course everyone there already knew exactly who he was—he told the following story.

“As a little boy of five or six,” he began, “I had just begun my musical education. Somewhere, I don’t know whether I got it from a children’s book or heard about it in church, or somewhere else, I learned that there was someone called The Devil. The Devil, as I understood the matter, was the most evil person there was. At all times and in all places he worked unceasingly to bring suffering, discord, and disaster into the world.” This charming and very personal revelation drew titters from amongst the admiring crowd.

“Well,” The Master went on, “I found that very puzzling, very disturbing. Who was this person, this Devil, who, instead of trying to be good like the rest of us, did everything he could to be bad and to make others suffer? How could that be? What did it mean?” The Master paused, breathed in, slowly exhaled, swallowed ponderously, and breathed in again.

“Oh, of course, my father was the person to ask,” he continued. “To me, at that tender age, he was the highest authority, not only on the subject of music, but on every subject imaginable. I went to his study and knocked on the door; he opened it and ushered me inside. He had been working on a musical manuscript of some kind; I could see the pages laid out on his desk, his fountain pen lying nearby. He helped me into a chair opposite the desk, then resumed his former place in that great leather chair of his, which to me was like the throne of a king.”

“What is it, my boy?” my father inquired. He appeared ready to hear my question, whatever it might be, with every fiber of his being.”

“Yes, I asked, ‘who is this person called The Devil?’”

“At that, he was silent for a long moment, lowering his eyes as if deep in contemplation. Then he took a sheet of music paper from a drawer and wrote on it like this.

The Master turned to the backboard behind him, picked up a stick of chalk, and quickly drew an oval-shaped, filled-in note-head with a vertical stem bearing three elegantly curved flags. Then, with a sharp gesture, he tapped the chalk on the board immediately to the right of the note-head—the loud crack riveted all eyes there—and circled it slowly, several times, to produce a clearly visible dot.

“Like so,” repeated The Master, “a dotted thirty-second note. He turned the paper around and pushed it across the desk for me to see.” The audience was hushed, as enrapt as if, instead of

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telling this story, he had begun to play
the Moonlight Sonata.

“And he said, ‘The Devil is the one
who tempts you to ignore this dot.’”

There was a moment’s pause, followed
by gales of laughter. For this group of
musicians, the meaning of the story
was clear. A thirty-second note is a
note held for precisely one thirty-
second of a beat, a very brief interval;
an accompanying dot indicates that
the note, if it is to be played correctly,
must be held half again as long,
an additional one-sixty-fourth of a
beat, for a total of three sixty-fourths
of a beat—no more, no less. To the
untrained ear, the difference between
an undotted thirty-second note and a
dotted one, between one thirty-second
of a beat and three sixty-fourths, is
barely perceptible, if at all. To the
finely-tuned musical ear, however, it
is the difference between Good and
Evil, between true musicality and mere
noise, rubbish, junk.

Music has long been regarded a portal
to the sublime, and for the believer,
to the sacred, to the Lord Almighty. In
that context, the idea that The Devil
would actively seek to muddle the
execution of a dotted thirty-second
note made perfect, though diabolically
skewed, sense.

As a somatic educator, it made perfect
sense to me, too. Fundamental to
the teachings of Moshe Feldenkrais
is a very important concept called
reversibility. “Reversibility,” he said
in The Potent Self, “is a feature of all
correct action.” It means that once we
have initiated an action, we have the
ability to stop it, restart it, reverse it,
or drop it all together, according to
our needs. “The test of reversibility,”
Feldenkrais asserts, “holds good for all
human activity whether it is viewed
from the physical or the emotional
standpoint.”

But Feldenkrais ascribed a deeper
meaning to reversibility, one that is
often overlooked. In order to achieve
reversibility at a behavioral level, in
the realm of action, we must also have
reversibility at a neural level, in the
realm of the nervous system. Stripped
to its basics, the nervous system
operates on just two core principles.
There is excitation, the activating
principle that impels every action or
process, and there is inhibition, the
constraining, regulating principle that
gives shape, coherence, and timing to
those same actions and processes.

One can easily see these two
principles at work in the involuntary,
reflex-based action of the heart or
the breath, both of which exhibit an
active, excitatory phase (the systole,
the inhalation), as well as a passive,
inhibitory phase (the diastole, the
exhalation). The same basic principle
is at the core of all neural activity,
from the firing of a single neuron to
the highest-level functions of thought,
action, and expression. The accuracy
and effectiveness of all our actions, the
degree to which they bring us success
and satisfaction, depends on the
ever-changing play of excitation and
inhibition in the nervous system from
one moment to the next.

To me, that dotted thirty-second note
was, and remains, a great example
of this concept of reversibility. To
play a note on the piano requires
coordinated activation of the entire
frame—an excitatory process par
excellence—culminating in a press
of a finger on the key. But that action
also requires an inhibitory component
to ensure that, for example, the key
is pressed only so hard, or that other
keys are not unintentionally pressed
at the same time. Once the key is
pressed, it must be held for a very
specific interval of time. The player
must refrain from further action until
precisely the intended interval has
expired, no more, no less. That is an
inhibitory process par excellence.
And as you can imagine, the correct
enactment of that interval—especially
one so devilishly exact as three sixty-
fourths of a beat—requires exquisitely

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refined command of one’s inhibitory and excitatory faculties. In a word, full reversibility.

Of course, there is much more to be said about musicianship and the brain, and the account I’ve given here is highly schematic. Even so, it is my hope that the next time the reader attends a concert, listens to a recording, or performs a composition, he or she will recognize not only the sound of the music, but also the unceasing ebb and flow of excitation and inhibition that make music—and life—possible.

Michael is presenting *Too Strange to be Believed: The Foundations of Reversibility* at the Feldenkrais Method® Conference in the San Francisco Bay Area on September 1st, 2012. For more information, go to: http://www.feldenkrais.com/events/conference/2012_public/

Michael Krugman, MA founded the Sounder Sleep System in 1999, now taught by over 250 instructors in twelve countries. He teaches, lectures, and consults on sleep, alertness, relaxation, and industrial safety issues. He is the author of The Insomnia Solution and the “Rest Assured” insomnia self-help program available from www.soundersleep.com.
Maintaining mobility is a concern for everyone, especially as we age, but for people with MS (Multiple Sclerosis) concerns about mobility may unfortunately come much earlier in life. MS is known as “the greatest disabler of young adults.” It is estimated to affect 400,000 in the US and 2.5 million in the prime of their lives worldwide. I was diagnosed with MS in 1994 and when I couldn’t walk the 200 yards to work without having to sit down and rest, I was crushed. I loved hiking in the mountains and the thought of never seeing the world from the top of a mountain was a sad thought.

I had experienced the Feldenkrais Method® earlier in my life and had noticed its effect on my nervous system—I was calmer, more relaxed. Feeling desperate after the diagnosis, I thought the Feldenkrais Method just might help with MS and I began a training in 1995. During each year of the training, I felt stronger and could walk longer distances. A few months after the training ended, my husband and I did a twelve day trek in Nepal that ended at the 14,000’ ridge behind the Annapurna base camp—I had made it to a higher point than I ever had before.

So what is the relationship between MS and the Feldenkrais Method? I’ve thought carefully about my situation for a long time and I’m finally ready to tell my story, and share what I think are the connections between MS and the Feldenkrais Method. The most useful thing the Feldenkrais Method has taught me is to recognize small differences that are signals for when my nervous system is stressed, which subsequently leads to a worsening of my condition. When I sense those small differences, I put my life on hold and REST. Sometimes the recovery takes a few days, sometimes longer, and now I try to recognize even the smallest beginnings of those differences, resulting in a shorter recovery time.

“Feeling desperate after the diagnosis, I thought the Feldenkrais Method® just might help with Multiple Sclerosis...”

Come to the 2012 Feldenkrais Method Conference and participate in a workshop with Susan Dillon and her co-presenter Beth Rubenstein. Beth is a Feldenkrais Teacher, an assistant trainer of the Feldenkrais Method, and a physical therapist. She is on the medical advisory board of the Southern California chapter of the National MS Society, taught Awareness Through Movement classes for the chapter for years. She works with people with MS in her private practice.

The workshop will include several Awareness Through Movement classes that we have found helpful. Some are designed to calm your nervous system, thus enabling you to pay closer attention to yourself and notice small changes that may be important. The combination of sensing ourselves while attending to our feet and pelvis, balance and breath will lead us to improving functional activities for people with both “relapsing/remitting” and “progressive” MS. There will be an increased sense of balance whether standing or sitting in a chair.

One of my favorite ATM’s is called the Bell Hand movement. This movement involves softening the palm of the hand by drawing the fingers inward toward the palm but neither closing the hand into a fist nor totally stretching out the palm and fingers. Instead the focus is on the gentle opening and closing movement of the fingers and softening of the palm which can be coordinated with breathing. When you inhale, the fingers and palm open slightly and when you exhale the fingers and palm close slightly. This movement

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can be also extended in a similar but different version to the feet. It is possible to do this movement sitting or lying down. I’ve been gathering anecdotal information about how people have used the Bell Hand movement and its effectiveness for them. Several people have told me that they use it to help them sleep. Another woman used it to deal with spasms. This is a recent comment I received from a nurse in my ATM class who has MS and arthritis: “I was having so much pain and couldn’t sleep and then remembered the lesson (Bell Hand movement), I tried it and some time later awoke pain free and realized I had actually fallen asleep. Since then I use the movement frequently.”

Practitioners attending this workshop will learn helpful ways to assist clients with MS, and people living with MS may learn new approaches in addition to the Bell Hand movement which may help deal with aspects of MS. We will explore options for movements and functions that might be difficult because of MS. The workshop will also include a presentation by a member of the MS Society about the current state of MS research and will end with a Q&A session. We will be prepared to accommodate people using wheelchairs.

Maintaining Mobility: The Feldenkrais Method® and Multiple Sclerosis will be presented on Sunday, September 2, 2012. To register, go to: www.feldenkrais.com/events/conference/2012/register

Susan Dillon, MA has taught Feldenkrais® Awareness Through Movement® classes in Cambridge, England since 1996. Diagnosed with relapsing/remitting MS in 1994, she decided to train as a Feldenkrais practitioner. She had previously experienced the Feldenkrais Method® and realized that its effect on the nervous system might be helpful for people with MS.

Beth Rubenstein MS, PT. Beth has been involved with the Multiple Sclerosis Society since childhood, putting on neighborhood shows and donating the money to the local Washington, D.C. MS Society. She taught ATM® classes and given workshops about MS and for the MS Society. She is currently on the medical advisory board of the Southern California Chapter of MS Society. Beth works with a diverse client population. She is an Assistant Trainer and maintains a private practice in Los Angeles, CA. www.bethrubenstein.com

...Maintaining Mobility (continued from page 5)
My introduction to the Feldenkrais Method® began as it often does with many of my Feldenkrais® clients: an injury, unsatisfactory attempts at recovery, followed by a fortunate introduction to a Feldenkrais practitioner who had another perspective on my situation and healing.

A One-Armed Dancer
Through my adolescent years, I was a highly competitive gymnast, training seven hours a day. I trained with a doctrine of discipline and determination, raised on the “no pain, no gain” mantra, pushing my limits and striving to become better than the best I could be. Harder, faster, stronger. This approach took its toll.

After retiring from gymnastics at sixteen, I began dancing and choreographing. They became my passion and my full time occupation. While pursuing my Masters in Dance, I sustained a severe shoulder injury. After trying different medical options with no great success, I continued dancing...one-armed.

Fortunately, a curious Feldenkrais practitioner who was also a dancer in one of my classes, thought it would be interesting to work with me. Thus began my Feldenkrais journey, one that continues to influence how I dance through my life today.

I made a full recovery from my injury. The ease, grace and movement range in my dancing dramatically improved. Even more amazing was that I began experiencing myself internally as softer yet stronger, more receptive and effective. The experience of doing small, subtle, gentle movements that created powerful shifts in my ability to move with greater ease and comfort was deeply touching and empowering.

Moving to Learn
While attending Awareness Through Movement® classes, I was asked to engage in complex, and sometimes downright difficult movement sequences, yet to move only within a range of ease. No achieving by exerting willpower or force. Instead of ignoring my body’s signals of pain and need for rest and recovery as had been my habit, I was asked to slow down, reduce my effort and explore how I was moving. I wasn’t just learning to move, I was “moving to learn.”

Reaching toward the ceiling during an ATM® lesson, the teacher directed my attention toward how I was participating in the act of reaching itself. In the past, I would’ve focused on how far I could reach or what I could reach. Now, I paid attention to how different parts of myself were involved in the movement of reaching. I was making distinctions, variations and new connections in the pattern of my reaching. I explored and discovered new ways to organize my action. This approach of using movement as a means to learn and develop awareness was remarkable and interesting.

Lighter, Softer, Slower
I relished the fact that by becoming a Feldenkrais (continued on page 8)
practitioner and starting my private practice, it was part of my job description to “do less” as a means to sense more. I was to slow down and not get caught up in trying to fix someone’s aches and pains. Instead, I was to curiously investigate how a person functioned and habitually moved and then help them discover and create unexplored possibilities.

This softer, gentler, creative problem solving approach was a welcomed, refreshing shift after my early competitive training. My mantra changed from “stronger, harder, faster” to “lighter, softer, slower.” As expressing myself creatively has always given me great joy, I embraced the Feldenkrais approach with gusto, wholeheartedly.

My ability to sense with greater acuity continued to grow, as did my ability to problem solve creatively. Ironically though, I was working very hard to “do less”: I was still struggling with my habitual attitude of discipline and determination.

Protected Yet Captive
As an athlete through my adolescent years, I sustained significant amounts of physical impact and was under a lot of pressure psychologically and emotionally. In some ways, I was trained to be very dense and compact, in other ways, very flexible. I encouraged extreme flexibility in my lower back and legs while holding my upper back and chest area rigidly. This way of moving and organizing became embedded in my identity as I grew into an adult. For the most part, I felt flexible, yet also strong, stable and able to endure. However, I also felt like I was trapped in my rigid, unyielding rib “cage;” my lungs and heart protected, yet held captive.

Through the Feldenkrais Method, the mobility through my chest area increased greatly. I sensed a more malleable spaciousness inside my chest, as if my heart had more room to pulse. My breathing felt more comfortable and powerful. The changes invigorated me. I felt alive in a way that I hadn’t known before.

Yet, as the mobility and softness through my chest area continued to increase, I felt apprehensive and overwhelmed. The sense of security from my habitually held ribcage, the protector of my well-guarded heart and lungs, no longer felt impenetrable.

Theoretically and functionally, the benefits of this more malleable, soft spaciousness in my chest made logical sense to me. But personally, I felt vulnerable and unsafe. My emotional reactions were swift and strong.
I panicked, tightened deep in my chest. I became short of breath and my heart beat rapidly. The functional advantage of my greater ease of movement now felt like a liability.

New questions arose:
- How did “how I hold” and “how much I hold” in my chest affect my internal sense of security?
- How could I recognize and participate in how I protect myself?
- How could I become more available, to myself and others, without being overwhelmed by feelings of vulnerability and helplessness?

Through my Feldenkrais training, into my private practice and through years of additional advanced Feldenkrais trainings, my interest and studies in the intertwining relationship between actions and emotions has continued to grow.

**A Formative Approach**

Soon after I became a Feldenkrais practitioner, I began ongoing studying with Stanley Keleman, a pioneer in the field of somatic psychology and founder of Formative Psychology®.

Formative Psychology is grounded in anatomy, biology and evolution. It is a somatic approach whereby we develop and form our emotional inheritance.

In his book *Emotional Anatomy*, Keleman explains that our human anatomy is dynamic, pulsatory and alive. “Pulsation is the in and out of all life and begins at the cellular level.” It is the underlying organizing principle of animate life, from single cells to complex human organisms, and it is the innate organizing pattern of all tissue. Upon this foundation, we grow, develop, and create how we behave, feel and function. Through using neuromuscular effort to assemble the shape and intensity of our behaviors, we can voluntarily influence this tissue pulsation, alter our anatomy and the experience and intensity of our actions.

When I began taking Keleman’s somatic practice classes, I felt like I was coming home – to myself. In some ways, I was reminded of my experiences during Awareness Through Movement classes: I lay down quietly on the floor in an environment of exploration, curiosity and discovery. I slowly investigated subtle ways I organized how I acted. I experienced a heightened sense of my inner rhythms and my quiet, intimate aliveness, which was always present for me during and right after Feldenkrais lessons. Yet the formative approach was different.

Instead of focusing on how I moved through space as a means to develop awareness, I was asked to hold the shape of my intended action and vary the intensity of how I was holding this shape. My attention was directed toward how I internally assembled and disassembled this shape as a means to give it an emotional content. For example, how do I assemble the shape of my reaching:
- As a determined striving toward?
- A longing for?
- As a cautious readiness to retreat?
- An urgent, hungry grasping?

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And how does the shape and intensity of my intention to reach influence my experience of reaching? How does this internal feedback inform how I think, sense and behave?

I was born determined and then trained this natural tendency. To address my deeply ingrained attitude, I created a continuum of related, but very different internal attitudes of determination. Each distinct behavior, from relentlessly stubborn to playfully persistent, uniquely informed how I felt, thought and acted. This gave me the ability to vary how determined I approached my own learning. Specifically, I could recognize and influence how hard I was trying to “do less” in my Feldenkrais practice. This dimensionally shifted how I could perceive, receive and participate in my interactions with myself and others.

Through exploring and intentionally cultivating how I assembled and regulated the intensity of my motor acts, I created an internal somatic dialogue between my cortex and body, generating an aliveness and vitality in myself, growing a personal interiority and building a library of emotional behaviors. Instead of feeling vulnerable and helpless to my own anatomical changes, like I did when I gained mobility in my chest area, I grew my ability to be available, participatory and responsive to my changing self and circumstances.

**Resonance**

The more I work personally with the formative principles and approach, the deeper it resonates with my Feldenkrais practice.

Just as we each create a habitual and unique movement signature that is recognizable by how we move through space, we also create our own personal way of habitually assembling the emotional shape of a movement.

When people come to my Feldenkrais office, I pay close attention to their habitual movement patterns. I also notice how they create and shape their emotional desires, delight, concerns, and excitement. I pay attention to how their anatomical and emotional inheritance and habits affect how they behave. How do they make meaning out of how they move and are moved? How does this inform how they function and feel? I ask myself how I can empower them to actively participate in their approach to their personal growth and learning in their Feldenkrais sessions and in their lives.

**Deepening Our Somatic Dialogue**

In my workshop at the Feldenkrais Method Conference, I will teach Awareness Through Movement lessons, highlighting principles of the Feldenkrais Method, and investigating how formative practices and principles compliment them.

I will lead an Awareness Through Movement lesson that uses a developmental and evolutionary movement pattern such as reaching, and highlight principles from the Feldenkrais Method. After a time for sharing and discussing, I will then lead a Formative practice which engages the same developmental and evolutionary motor pattern of reaching, but from a neuromuscular emotional visceral perspective.

We will explore how the Formative approach and principles relate to the Feldenkrais Method, adding new dimensions to our somatic understanding and deepening our dialogue with ourselves and with others.

Sonja will be presenting Deepening our Somatic Dialogue: Shaping Actions into Behavior at the Feldenkrais Method Conference on Sunday, September 2. For details, go to: http://www.feldenkrais.com/events/ conference/2012_public/conf_event/4871

Sonja H. Sutherland, MA is a Feldenkrais® practitioner with over 12 years of ongoing studies in Formative Psychology®. She maintains a private practice in Berkeley and teaches workshops and retreats in the US and Europe. Sonja holds a black belt in Aikido and a Masters in Dance. www.LearningInAction.org