SENSEABILITY

A newsletter of applications
of the *Feldenkrais Method*®
of somatic education
Issue # 64

Feldenkrais® & the Brain

Roger Russell, GCFP

Our human brain is incredibly complex. Intricately networked, and intertwined with our dexterous bodies, our brains coordinate our moving, sensing, feeling and learning. Out of a lifetime of experience laid down in the dynamic networks of our nervous system our sense of who we are and who we can become emerges.

When fashioning his unique movement lessons Moshé Feldenkrais recognized that our sense of ourselves – our self-image – is built on the foundation of our experience of moving.

During the evening presentation at the annual conference in Washington, DC, we will be exploring how awareness of our movement can bring about surprisingly pleasant discoveries about how we can move with proficiency and grace. The intriguing experience of this clever way to extend our movement repertoire raises a question:

"How do *Feldenkrais* lessons work?"

One answer lies in understanding how our brain orchestrates our movement. Using the metaphor of *The Coordination Cascade* (*see Image A following page*) we will see how *Feldenkrais* lessons impact all levels of our nervous system.

Photo of Roger Russell by Barbara Hohenadl, Heidelberg.

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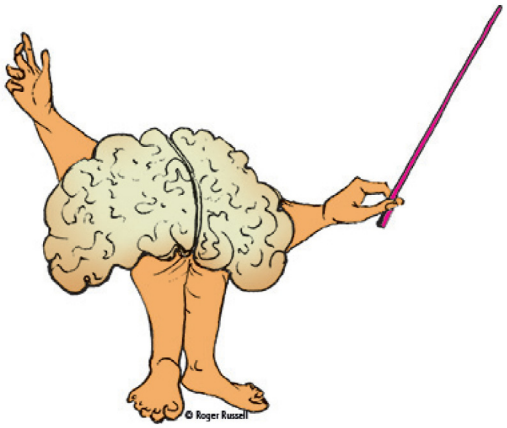
From the prefrontal cortex to the spinal cord and back – *Feldenkrais* lessons improve movement coordination and refine our sense of our body. We will outline each step along the way, matching theory with practice by weaving an easy-to-do *Feldenkrais lesson* into the evening's presentation. Here is what we will cover:

The *prefrontal cortex* (1) is the highest neurological center for planning our behavior.
The first to engage when we initiate an action the prefrontal cortex cooperates with other brain centers to regulate our:

- Body identity
- Social aspects of our behavior
- Behavioral flexibility and emotional regulation

Feldenkrais lessons impact these high level neuropsychological processes. With refined performance, greater confidence and a deeper connection with our human circle, we experience personal growth, resilience and healthy vitality.

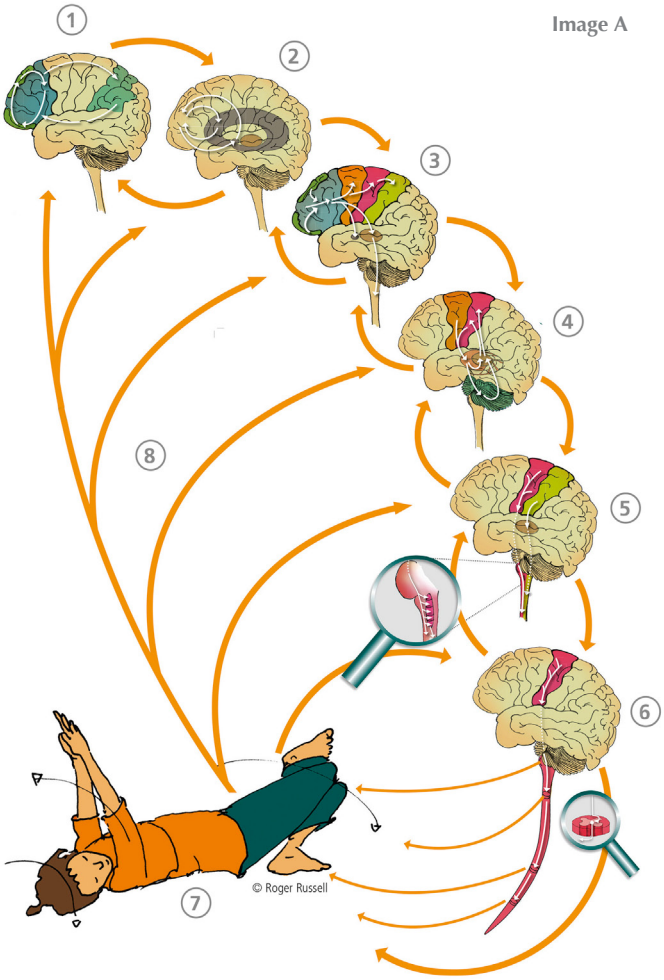
The limbic system (2) is our brain's emotional center. It imparts an emotional feel to our experience and our plans: curiosity, fear, pleasure, shame, lust or anger. *Feldenkrais* lessons help us refine a nimble balance between reason and feeling. We experience patience and vital self-respect. One of the surprises of the evening will be to experience how a *Feldenkrais* lesson influences what we believe to be an unconscious emotional process.



Attention (3) orchestrates the rhythms of our brain operations; directing which sensory and motor brain centers are engaged for action. We will discover how this works and why conscious direction of attention is so vital for our lives; along the way discovering a new capacity for flexible curiosity.

Two primary cycles of activity connecting many parts of the brain are involved in detailed *planning of our movements* (4). These networks operate between the premotor cortex, the basal ganglion and thalamus, which are buried deep within the brain, and the cerebellum, returning back to the motor cortex.

Image A



A picture saves a thousand words. *The Coordination Cascade* summarizes the complex flow of neurological processing throughout the brain that accompanies our moving and sensing. This picture makes it possible to imagine how the process of coordination unfolds. It also serves as an outline for future learning. Information found in neuroscience textbooks can be inserted into this outline, giving a framework for detailed knowledge.

The sequence of movements in every *Feldenkrais* lesson enables our brain to prepare improved movement plans. The range, direction, forces and speed of each movement pattern is perfected for successful action. We experience a refined body image which is available for everything we do; finesse surprises us in our daily life.

Our movement plans are carried out by way of a *complex system of neurological pathways* (5) which originate in the motor cortex. As the neurological messages travel along these tracts to the spinal cord motor centers of the brainstem, which influence the muscles of our head, trunk and hips as well as our face and voice, are brought into the plan.

Centers in the thalamus, brainstem and spinal cord are *sensory relay centers*. They influence how our body sensations are processed. These centers are influenced by pathways which originate in the sensory cortex and other parts of the brain. Astoundingly, the awareness processes of the Feldenkrais lessons help *prepare these tracts and direct their use* for a successful action.

From the *spinal cord to the muscles* (6) each segment of the spinal cord regulates the activity of specific muscles. Feldenkrais lessons enable us to optimally engage these centers to mobilize our entire musculature. The ongoing movement is agile, efficient and safe.

Each step of *The Coordination Cascade* includes *multiple feedback loops* (8), a fundamental design characteristic of the nervous system. The awareness process which is mobilized during each Feldenkrais lesson assures the highest efficiency for these feedback processes. Recent theory and research in philosophy and science tell us how our brain uses this feedback to precisely coordinate our actions to fit our world.

Every *Feldenkrais* lesson improves our lives by engaging the natural resource most easily available to us: the rich plasticity of our neurological coordination cascade; a gift of our evolutionary heritage. Confronted with challenges as we make our way in a stressful world, *Feldenkrais* lessons enable us to continually refine our coordination and body sensation. We move successfully and gracefully.

Attend the Lecture!

***Feldenkrais* & the Brain**
Arlington, Virginia
Saturday, August 30, 2014 at 7:30pm

Check out this video introduction:
www.youtube.com/user/feldenkraisguild

Register now: **http://tinyurl.com/m3z7dmt**

Each success strengthens and expands our self-image which becomes the foundation for our next action.

Roger Russell, MA, PT, GCFT, (1977) trained with Moshé Feldenkrais at San Francisco, Israel, and Amherst between 1975-1982. He has been a Feldenkrais *Trainer since 1997, a physical therapist, movement scientist, and author.*

An American living in Germany, he is co-director of the Feldenkrais *Zentrum Heidelberg. Russell has presented and organized* Feldenkrais *and science conferences in Paris, Seattle, San Mateo, Berlin, and Heidelberg.*

Join us for "Senses in Action"

Ned Dwelle assisted by David Kaetz and David Webber

Sunday August 31, Renaissance Arlington Capital View Hotel

At the moment of birth, body/mind explodes into life in the world: skin is touched, light floods the eyes, breath fills the mouth and lungs, ears hear the cry, nose seeks the milk, tongue finds the nipple as head, neck and body turn to feed. This explosion of sensory input floods the senses and the brain, expanding the Self. It is a moment of functional integration that kick starts our life as a human being.

Return to your birthright!
Register now: **http://tinyurl.com/m3z7dmt**
Watch video introduction:
www.youtube.com/user/feldenkraisguild

Balance: An Everyday Miracle

Sheri Cohen, GCFP

When we think of balancing, we often think of extreme acts and acrobatics—a gymnast's beam, a circus high wire, a yogi on one foot for days and days. These extreme acts of balance are examples of the awe-inspiring capacities of the human mind and body.

For the rest of us, balance is a kind of everyday miracle. How is it that we get across the room, transferring our weight from one foot to the other, over and over again, without ending up on the ground? We've all experienced a misstep, or a slip on the ice. In that sudden, suspended moment of awareness that we're about to bite the dust, our whole worldview changes. We are no longer graceful, and in control, on our way to complete an important task. We are subject to the laws of physics, gravity and momentum carrying us swiftly from up to down. Balancing is something we take for granted until we're not doing it so well.

For humans over the age of two, balance has a lot to do with feet; standing and walking being our primary vehicles for activity. But when we look more closely, we notice that we are balancing all the time, in every action we make. When I reached for a water glass from my cabinet a moment ago, I transferred my weight to one foot, reached one arm up, counter-levered my free leg behind me, and perched my head over the middle of the see-saw so that I could watch my hand meet the glass. Come to think of it, I was never totally still at any point during this movement. Does this mean that I was not balancing?

If we look at the continuum of actions we make in our daily lives in detail—like in this Muybridge photograph—we can see that BALANCE HAPPENS all the time. When we shift from the everyday notion that balance is static, and understand that BALANCE IS DYNAMIC, then we can actually study and improve our movements in real conditions. *Moving better means balancing better.*

This notion that moving better means balancing better may seem paradoxical, because many of us have the idea that to balance is to hold very, very still—the opposite of moving. However, when we investigate the process of balance more closely, through careful observation of

our own experience, we notice that there is nothing at all still about balancing. The idea of balance as "held" is actually a false concept.

In his book, *The Potent Self*, Moshe Feldenkrais actually makes up a new word to describe the phenomenon of dynamic balance: "*acture*[1]." Replacing the root of the word *posture* meaning "fixed" with the root of the word action meaning "do" or "behave," he shifts our paradigm—changes the lens through which we conceptualize balance. Balance—sitting, standing, perching—is no longer movement-free, but movement-full.

But why did Feldenkrais call it *acture* and not *move-ture*? Why not just talk about "dynamic balance? Feldenkrais saw that *acture* is an expression of an individual's self-image. Deeper than any conceptual idea-of-self, this self-image to which Feldenkrais refers is both unconscious and defined by how we perceive our bodily sensations. Rather than Descartes', "I think, therefore I am," Feldenkrais might say, "I sense, therefore I am." "I sense," he

Posture/Acture

might add, "therefore I *act*."

Our *acture* is defined by our bodily sensations, which means it is limited by them. Our bodily sensations—the processes through which we monitor our internal milieu and recognize our body parts in relation to each other[2]—are fundamental to how we know ourselves. Any impediment to our sensing thus impedes our ability to act. As children, for example, our sense of balance is very fluid. We are used to moving in rolling, spiraling movements that translate well into safe falling. Our self-image includes "safe falling" as part of standing and walking. However, as we age, we lose these three-dimensional movement pathways into and out of the floor, because we're specializing in other movements. We get good at sitting still, and not so good at falling. We become fearful of falling. Our self-image no longer includes "safe falling", but is affected deeply by the fear of falling. The fear of falling settles into us as tension in the legs, fixed segments of the spine, eyes and head lowered to the floor—into our *acture*. We don't know we've changed this way. It's unconscious. We wonder why we can't somersault anymore, and the reason is: we no longer have a sensory image of ourselves moving safely to the floor.

Fear of falling is only one of many contributors to an *acture* that that makes balancing difficult. Causes for the deterioration of balance range from neurological diseases to aging. And there is no one of us who will not be touched by some balance challenge at some point in our lives.

Sound dire? Not so fast! Because of the nervous system's two-way-street structure (the brain is a populist democratic leader, not a dictator), not only does our *acture* affect our movements, but **our movements affect our *acture*.** We can reverse the effects of the fear of falling and other negative impacts on our balance by cultivating movements that change our self-image. Through the *Feldenkrais Method*, we engage the systems that govern our bodily sensations, improve their functioning, and include in our self-image movements that are necessary for healthy balancing.

There are at least six ways the *Feldenkrais Method* helps the mover sense herself more clearly, change her self-image, and improve her *acture*:

1. Increased awareness of sensation

While practicing the *Feldenkrais Method*, students are directed again and again to bring their attention to their sensations—sense while moving, and sense while resting. This is a fundamental practice in the method. Movers become like scientists investigating their own experience. Through careful observation, testing and assessing sensory data, they fill in a more detailed picture of what their moving bodies are up to, even growing the range of movement possibilities through their "experiments." Her sensing becomes clearer, richer in information, more able to cope with surprises and varied movement challenges.

2. Smoother quality of movement

When a mover experiences increased awareness of sensation while practicing the *Feldenkrais Method*, the quality of her movements become more apparent. She is more tuned in to where (in herself) and when (during the process of moving) that a movement is strained, rough or painful. When she observes this unsatisfying movement quality, she is able to choose to cultivate a smoother, more comfortable quality of movement. Movements that are smoother are better movements, balancing the actions of the muscles more efficiently.

3. Improved skeletal support

More efficient actions of the muscles, experienced in the mover's awareness as smoother, freer movements, are movements that best utilize the mechanics of the skeletal system. While it is the muscles' job to move the bones, it is the job of bones and joints to provide direction for movement and support for the soft tissues and organs. When the muscles are inefficiently pulling or pushing at the bones in contradiction to the skeleton's design, we get "traffic jams" in the musculoskeletal system. These traffic jams can cause injury and interfere with balance. Practice in the *Feldenkrais Method* helps the mover align the bones, in movement and stillness, with less pressure on the joints, and a more harmonious relationship to gravity.

4. Better Coordination

Bringing together the three benefits of moving with more sensory information, smoother movements and a more efficient use of the skeleton, we can see how the mover might experience better coordination of his parts in time and space. The complex activity of walking, for example—a true symphony of weights and levers, forces and releases, falls and rightings, and multi-sensory communication—becomes high performance in everyday life. The Feldenkrais student's movements are no longer an unconscious tangle of inefficiencies and inhibitions. The process of observing the sensations with care, cultivating smoothness in small, isolated movements, and finding the clearest skeletal support adds up to a whole-self experience of coordinated movements.

5. More nourishing breathing

In a kind of win-win, "chicken or egg" paradox, the mover who practices the *Feldenkrais Method* both improves breathing to improve moving, and is rewarded with better breathing by the improvement of those movements. When

the mover practices sensing himself during *Awareness Through Movement* or *Functional Integration* lessons, he becomes more aware of the movements of his breath. During movement, he observes when his breath is inhibited, when the rhythm of the breath is uneven, and when breathing becomes less than satisfying. The breath becomes a measure. In asking, "Is how I'm moving interfering with my breathing?" the mover is fine-tuning his movements for greater efficiency.

Conversely, one who moves more smoothly, more efficiently, and with better coordination, is better organized for the kind of nourishing, uninhibited breathing he experienced as a baby. Imbalances and inefficacies in the musculoskeletal system put parasitic demands on the breathing apparatus. When these are released, the ribs, diaphragm, and other parts involved in breathing are free to do their job with less interference. Does better moving improve breathing, or does better breathing improve your moving? Feldenkrais says, "Both!"

6. Internalized change that occurs organically, "from the inside out"

The best part about the way the Feldenkrais Method helps improve the performance of the somatosensory system is that the student achieves improvement through her own efforts, observations and practices. This is because the method directly addresses the governor of all the systems in the body—the nervous system. The nervous system is "turned on" by the mover's careful attention to her sensations; it is soothed by her cultivation of smooth, comfortable movements; and it is tuned to coordinate the musculoskeletal system efficiently in new movements and unfamiliar situations. This is an organic process, much like our learning in early childhood, when no one taught us how to move. We discovered rolling, crawling and walking through testing and observation.

• • • • •

Practicing the *Feldenkrais Method* can help improve balance at any time of life, at any level of performance. In my classes and private practice, I work both with elders facing the realities of falling and breaking bones, and young dancers, ambitious to stand on one leg longer and more powerfully. All benefit from encountering their acture. Breathing better, sensing more clearly, and moving more smoothly, more efficiently and with better coordination, helps the mover maintain better balance throughout a lifetime.

Sheri Cohen is a *Guild Certified Feldenkrais Practitioner*[cm] based in Seattle, WA. In addition to her lively *Feldenkrais* practice, Sheri teaches yoga and contemporary dance. Please contact her through her web site: www.SheriCohenMovement.com

[1]Feldenkrais, Moshe. *The Potent Self*. San Francisco: Harper and Row, 1985, p. 108.
[2]Fogel, Alan. T*he Psychophysiology of Self-Awareness*. New York: Norton, 2009, pp. 10-11.

Emotions and Posture #11
Tiffany Sankary, *Feldenkrais Illustrated: The Art of Learning* (in press).
www.movementandcreativity.com. Quote from Moshe Feldenkrais, *The Potent Self: A Study of Spontaneity and Compulsion*. Frog Books and Somatic Resources, Berkeley, CA. 1985 & 2002. p.109.

Feldenkrais® is like a Bicycle

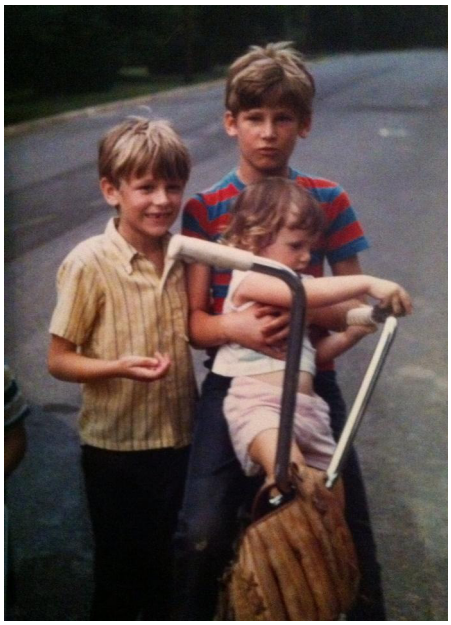
"*Feldenkrais* is more than just movement."

-Carol Kress during the second year of the Berkeley V Training Program

Tom Rankin, GCFP

I did not know it at the time, but those words would invite and inspire me to explore deeper into the *Feldenkrais Method* of somatic education. For most of my life, I thought of movement as specific muscle actions. Tight muscles were to be stretched and weak ones need strengthening. Now the process of creating movement was intriguing me. But this was just the tip of the *Feldenkrais*® iceberg.

The essence of the Method is movement. Yet its benefits go far beyond moving: into life itself. How does it work? Why does it make life dramatically better? I pondered these questions during *Awareness through Movement*® (*ATM*®) classes, study groups and while reading Moshe's words. After many years, in an enlightened moment, the answer came to me: the *Feldenkrais* is like a bicycle.



Future *Feldenkrais* practitioner Tom Rankin (red and blue shirt) is sitting on the bike with sister Elizabeth in front of him and brother Bill beside him.

How? They both create unique environments that enable a learning experience. No one teaches you how to ride a bike. They may help you get started, but at some point you have to teach yourself. First, you are confused and do not know what to do. Therefore, it becomes necessary to explore a variety of options. Questions arise, such as: Where do I start? How do I find support? What moves? What does not move? How much effort is needed? By being aware of the differences between choices, it is possible to discover answers. Answers lead to discoveries. When enough discoveries occur there is an A-ha moment: "So this is how you do it."

The *Feldenkrais* practitioner also constructs a setting for self-education. Either by words (*ATM* lessons) or touch (*Functional Integration*® lessons), she helps you explore and discover a variety of possibilities. Much like learning to ride, the beginnings of lessons are elusive for a student. Yet through awareness, solutions soon become obvious. Each moment becomes an opportunity to learn how to learn. This process works so well that it sometimes feels like magic.

Why do bicycles and the *Feldenkrais Method* make life better? They both improve our self-image. Self-image is the idea, conception or mental image that one has of oneself. It both creates and is created by actions. Or more simply, you are what you do. Every action contains the ingredients of movement, sensation, feelings and thoughts.

Learning to ride a bicycle has a great impact on the self-image of a child. Babies do not walk, big kids ride bikes. Achieving this childhood milestone upgrades the self-image. You are no longer a little kid. You have gained more independence and have more choices in life.

Like the bicycle, the *Feldenkrais Method* provides the opportunity to use movement to clarify and enhance self-image. A man with chronic pain may see himself as limited and dependent. *Feldenkrais* lessons teach him how to improve his every day activities (getting up, walking). This enhances his self-image, which in turn creates more potent action. He is no longer imprisoned by pain and is free to create a more fulfilling life.

My trainers were right. *Feldenkrais* is so much more than just movement. It is the bicycle we can ride to discover who we are and how to create the life we want.

Tom Rankin lives and practices the Feldenkrais Method *in Mountain View, CA. He is a member of FGNA and Certified Strength and Conditioning Specialist member of the National Strength and Conditioning Association. Tom also teaches* Feldenkrais-*influenced fitness classes for Stanford University, General Dynamics and the El Camino YMCA.*

Seriously, for a Moment

You Are Not a Post

Pat Buchanan, PhD, ATC, PT, GCFT Chair, Esther Thelen Research Committee

For many of us adults, standing and sitting upright are such routine functions that we don't put much thought into how we do them. That wasn't always the case. If we followed a typical course of development as infants, it took us about six months after birth to figure out how to sit up on our own without support. We did lots of experiments and explored many variations of sitting with decreasing support from caregivers and chairs. In the process, we developed and pulled together balance, strength, and flexibility with other aspects of our rapidly growing bodies that were and are shaped and supported by skeletons. We likely gained pleasure and motivation from being upright as it allowed us to see, hear, smell, taste and notice our position and place in the world from a whole new perspective. Notably, we had to discover how to orient and hold a big head (that was proportionately much larger than it is now) on top of a spine (with over twenty moving pieces) that merged at the base with a pelvic bowl that attached to long legs. This is a very abbreviated inventory of the pieces within the puzzle box of the independently sitting baby.

So many new opportunities for learning came along with solving the sitting puzzle! Innumerable, amazing possibilities appeared as we moved up in the world and figured out how to stand. Most of us needed a few months to figure out this puzzle that had many more pieces in the box. In addition, the supporting pieces shrank when we moved from sitting on the big pelvis along with parts or all of the legs to standing on our own, much smaller, two feet.

If we were more like the stick figures I often draw to represent a person, we could have figured out these puzzles much faster. Fewer pieces would have meant less to arrange and control. At the extreme, one piece—like a post—would have been a simple if unreal puzzle. Imagine for a moment life as a post. Fortunately, you and I are not posts. We have many moving parts. Our moving skeletal parts allow us to act from different orientations to our world with flexibility and adaptability. Moshe Feldenkrais preferred the term acture for these orientations (or attitudes) as opposed to posture. In his book, *The Potent Self*, he wrote: "The human frame is essentially an unstable structure fitted for continuous change, and it functions smoothly and at its best only when maintained in a state that makes all attitudes equally realizable."

As adults, with years and years of experience, we are masters of sitting and standing. We hardly put any attention into these postures or actures. While we share features of sitting and standing that are common to being humans, we've developed our own styles that often make us recognizable as distinct individuals from a distance. Our styles carry information about who we are, including many of the habitual feelings and beliefs we have about ourselves.

I invite you to look at some photos I took of people in standing and notice what these images suggest. (I emphasize suggest; more data is helpful to come to reliable conclusions versus assumptions.) The first pairing of photos is of girls and boys about eight to twelve years old at a summer basketball camp.

Basketball campers.
All photographs courtesy of Pat Buchanan unless otherwise specified.

Perhaps you are struck by the different attitude, bias or expectation for what it means to stand and observe the action if you are a girl versus a boy. Of course, not all girls and boys stand like these campers, but they do suggest that gender roles can impact our choices for acture/posture.

The second photo shows a man and a woman waiting to board an airplane.

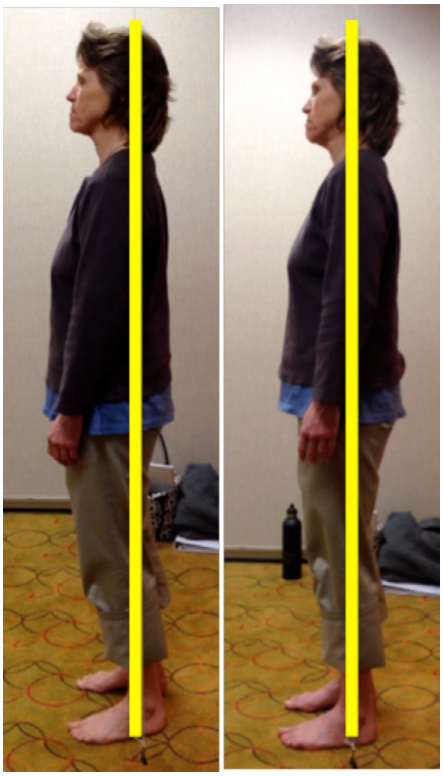
Waiting to board an airplane.

In your experience, how likely are you to observe women standing in the manner of this gentleman? Conversely, have you commonly seen men standing in the fashion of this lady?

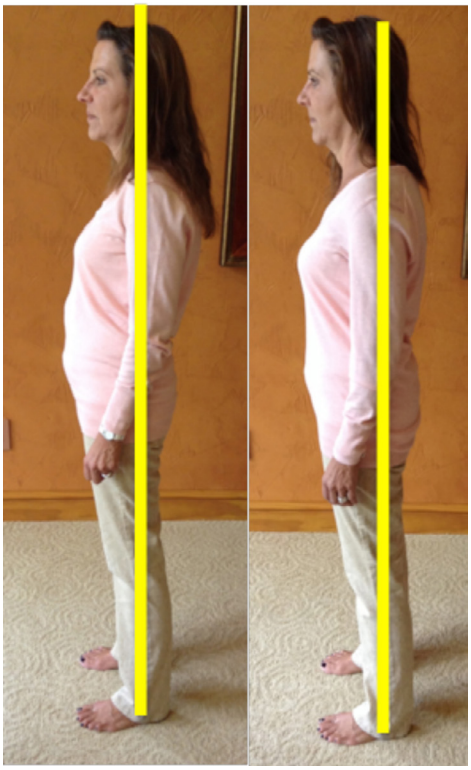
Gender is just one of many factors that can influence posture/acture. If you engage your Superman power and turn on your x-ray vision, you can imagine the skeletons of these people. Draw them as stick figures in your mind. Now, add in a line that represents the ever-present (while on the surface of the Earth) vertical pull of gravity. To help you clarify that image, here are two pairs of photos with vertical lines representing the line of gravity. The first pair shows me before and after I got a few minutes of verbal feedback on my alignment. The second pair shows one of my students at the start and end of her fourth individual lesson. You can use your x-ray vision to draw stick figures on these photos, too.

Now, compare your stick figure skeletons with the lines of gravity. Whenever the sticks through long parts like the trunk and legs are not parallel to the gravity lines, ask yourself, so what? Here are some "so whats" to consider.

So what happens when the stick above doesn't line up with the stick below? Does that change how the weight or force travels from one stick to the next? What difference does that make to the surfaces and shapes of the sticks? The pictures of the basketball campers make me wonder whether the gender differences suggested here partly explain why girls and women are at greater risk of injuring



Line of gravity-author. Photographs courtesy of Pearl O'Connor and Pat Buchanan.



Line of gravity–a student.

the anterior cruciate ligament of the knee. When the bones of the leg do not line up for the efficient transfer of forces from one bone through to the next, strain increases on other tissues, including ligaments. Other tissues that take on greater loads include the cartilage covering the ends of the long bones. When loads are unevenly distributed over time (note the uneven loading through the legs of the girls, the man, and the woman), the overloaded surfaces can wear down and wear out. Arthritic changes can result that may lead to pain, limited function, and the decision to have joint replacement surgery.

So what muscles have to work harder to hold a stick figure in a shape that doesn't parallel the line of gravity? What happens to muscles that have to work harder? Here's an example using my photos. I became aware from my short lesson that I had been leaning forward with my whole body in standing. This meant I used my calf muscles a lot more than necessary to keep me from falling forward and likely led to me developing pain in my Achilles tendons. With this increased awareness, I've altered my standing acture. My calf muscles are no longer overworking and my tendons are feeling much better. As for my student, she has stopped overusing her low back muscles. A surprising benefit of our lessons has been that she is now sleeping on her back for the first time in over twenty years.

Moshe Feldenkrais had this to say about our habits of acture in *The Potent Self*:

> When we have relieved all the unnecessary tensions (that have been built up in the course of development as the only means of reacting to the environment available at that time, that have become useless at present), we can obtain a better and easier comportment. Thus, if we eliminate from standing all that is extraneous to it, such as standing manly, femininely, authoritatively, nicely, efficiently, arrogantly, proudly, or meekly and all other cross motivations that we cultivate in childhood and adolescence with such wholehearted conviction of doing right, there remains a standing as dictated by the structure of the body and its nervous mechanisms.

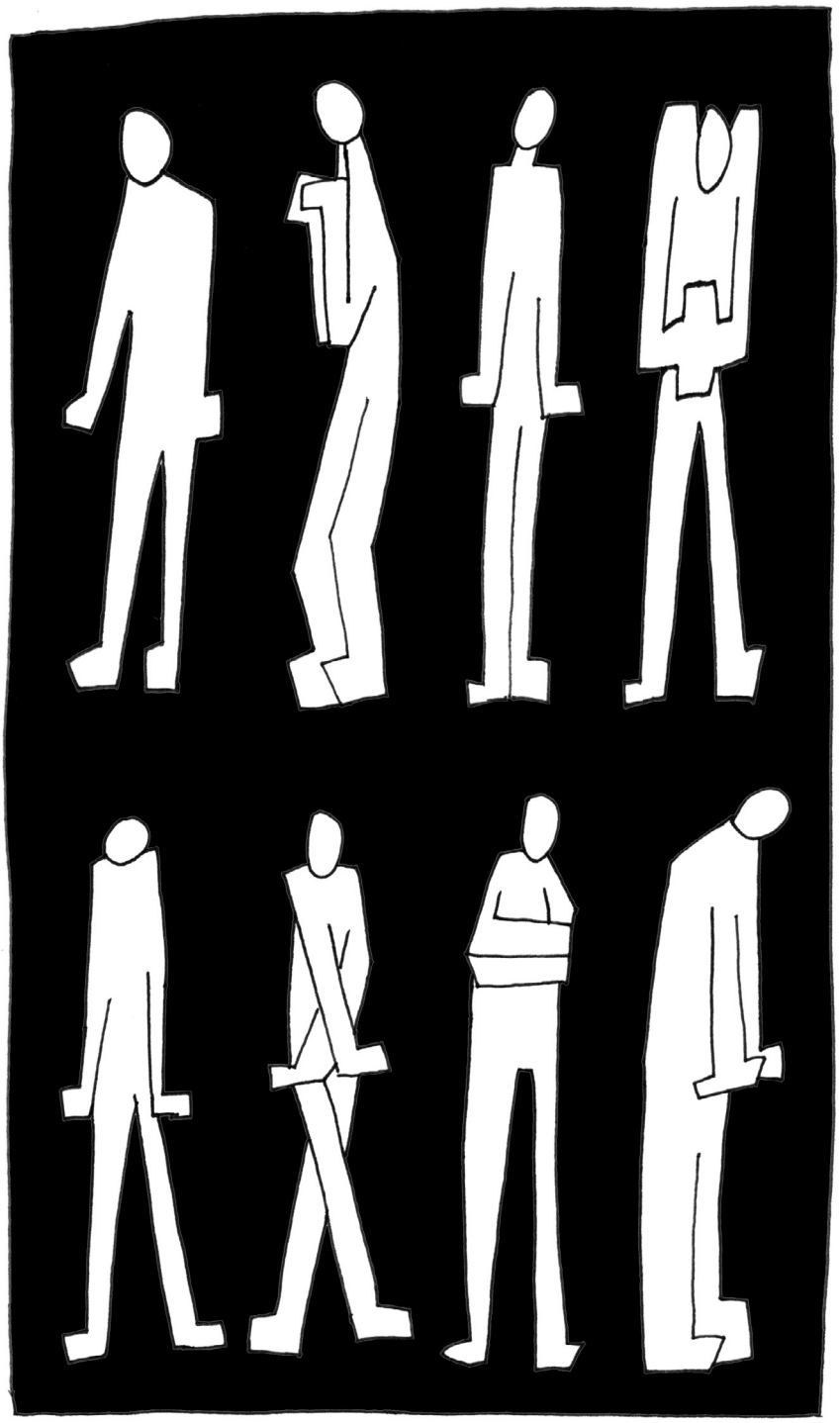
> A stance that is rare, but of which we are all capable.

What does such a standing acture look like? Well, it depends on the act related to the standing orientation. And, as I tried to illustrate with my descriptions of solving the puzzles of sitting and standing, it is complicated. Feldenkrais offered three criteria for a potent state of acture in *Body and Mature Behavior*:

> As no segment of the body can be moved without adjustment of all the others to a new configuration, the description of any act must necessarily be extremely cumbersome. Any act involves so many muscles and so complete an activity, that it is more useful to describe the function than the mechanism. And this is: (1) that the proper posture of the body is such that it can initiate movement in any direction with the same ease; (2) that it can start any movement without a preliminary adjustment; (3) that the movement is performed with the minimum of work, i.e., with the maximum of efficiency.

If I understand that I am not a post and that sitting and standing are actures, I can choose to tune into my self-awareness to help me find my potent state and be a skillful puzzle solver throughout my life. I can honor and marvel at what a genius puzzle solver I was as an infant. And, I've learned so much more since then. Notably, I have refined my understanding of the process of learning through my *Feldenkrais Method* education. I am confident in my ability, whether independently or by periodically inviting the guidance of another *Feldenkrais* teacher, to identify the best solution for the action puzzle in front of me at this moment.

Pat Buchanan, PhD is a Feldenkrais *teacher, physical therapist, and athletic trainer in Toledo, OH.*



Emotions and Posture #7
Tiffany Sankary, *Feldenkrais Illustrated: The Art of Learning* (in press).

Tiffany Sankary explores the relationship between embodiment & creativity as a *Feldenkrais*® practitioner, visual artist and teacher of Authentic Movement. She is in the final stages of publishing her book *Feldenkrais Illustrated: The Art of Learning*, an illustrated collection of Feldenkrais' writings. She lives, works and plays in Somerville, MA with her husband Matty Wilkinson, GCFP and their son Aydin Moshe.
www.tiffanysankary.com

Which side are you on?

Self Image and Self Imagining in Chronic Pain

Christine Graves, GCFP

In recent studies regarding the unfortunate condition called Complex Regional Pain Syndrome (CRPS), persons with abnormal temperature changes in the affected limb (the side with the problems) can create the same changes in the unaffected limb when it is placed on the affected side. That's right, a healthy limb placed on the side of the body occupied by the difficulty can experience unhealthy changes. Change to the brain's perception of the limbs, such as which side of space it occupies, affects symptoms such as pain with movement, or this example of temperature change.

It is an image. It doesn't reside in the limb or brain, but in the organization and perception of the whole person; our self image. The brain finds it useful to organize this image so that we can meet our amazing human capacity. We all understand that the organization chosen by the brain could be less than optimal, as in the instance of CRPS. So little tricks to show the brain that everything is ok help to reorganize this image. And modern pain researchers are finding how the brain can be tricked to see the side differently by using smoke and mirrors, literally. One of the creators of a treatment approach known as mirror therapy is Lorimer Moseley. In Mirror therapy, the unaffected limb is viewed by a client in a mirror, making it appear to the brain as the affected limb. Movements normally found painful can be done by the non-painful hand and the brain and body can begin retraining self image to see the hand as healthy.

Feldenkrais practitioners know this can be done in imagination as well. Or by *Awareness Through Movement®* lessons involving self hugs, crossed limbs and standing the hand across the body, or lying on our front when we never do that.

Lorimer Moseley[1] (Explain Pain) recently gave a key note address at the Canadian Pain Society 35th annual Scientific Conference in Quebec City, Canada where he spoke about the evidence of top down regulation as well as bottom up affects that are possible in the perception of chronic or persistent pain. When he proposed the question "what do we do about it?" his list of treatments included the *Feldenkrais Method* as a way to "perform a detailed remapping of the cortex." There were over three hundred medical people in the room hanging on his every word. Lorimer Moseley is a rock star in the world of human chronic pain mechanisms research and forwarding the evidence of cortical involvement in organizing the entire system in pain. Self image and perception, dishinhibition and remapping are all terms he uses often to describe what his research can show is happening. Apparently, Feldenkrais is in his lexicon as well.

I often joke to clients when I present "Explain Pain" materials that "we have a method for this". Especially when I refer to the chapter in his book about chronic pain management "Tool 3: Accessing the virtual body."

Imagine the medical world being able to perceive of complex open system interactions from top-down modulation and bottom up that make up the human experience. Chronic pain research and understanding may present one of the potential areas of medicine to create this new image of how a human works: a healthier reorganization of understanding, a more reliable self image.

[1]Lorimer's research website is bodyinmind.org

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Self-image:
Knowing or Doing?

Russ Hall, GCFP

Neuroscientists using fMRI have been finding that the same areas of the brain are active when stimuli are organized into perception as when motor (action) planning is done. Apparently our perceptions are importantly a function of our current repertoire of possible actions, and clarifying the perceived image involves choosing an image of action. So how do we explain how we do anything new? Wait. Can we give a simple account of the doing without the explaining? That would be like telling a story, wouldn't it? Interesting. Perhaps self-image makes more sense, is more complete, as a self-story of actions.

Recently, my wife's cousin, a very thoughtful runner, a musician, and mathematician involved in medical research, said to me, "I don't really know what you do," inflecting it as a question. We were standing outside a restaurant with others of the extended family, waiting to be seated. The easy, habitual detour through explanation was right there, waiting to be followed. I waited for a few of the possible beginnings of explaining to pass by. This allowed some impressions of my questioner's spatial configuration to have a moment to become a perception of a possible beginning of a more direct route.

His weight seemed to be parked rather firmly off-center to the left, turning and rolling his left foot out. His chest area seemed to stay stiffly in the middle, while his head inclined left. I considered what I might ask him to do. I wanted to clarify my own perceptions, and I wanted to develop the conditions for him to notice something new. I did not yet tell what I saw. I had him move over a few feet to a level spot. What followed took us less than fifteen minutes.

I asked him to notice his weight on each foot. He moved himself over each foot in a 'definite' way that suggested an assumption of no difference, and he felt none. So I had him start in the middle again, now asking that he 'drift' to each side, while I followed intermittently with a light contact at each iliac crest. Continuing with this quality, always pausing in the middle, I asked, "How far is it to each side?" Soon he noticed that the left side was closer, meaning his sense of middle was shifted left. This raised his eyebrows. "Wait," I suggested. "We need more information and perspective to say much about it."

We observed swaying (without bending) forward and backward, both in his present middle and while staying to each side in turn. I asked him if one heel received his weight more easily and if he felt weight evenly across each forefoot. The differences became clearer for him as we brought his feet closer together, approximating the internal spacing of the hip joints. Even with the differences between right and left, he felt how his balance and movement were easier than with feet wider or closer than this. His head still inclined left.

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I had him look at the left foot being turned out, so he could bring it more nearly parallel to the right foot and repeat the motions forward and backward as before. I asked him to compare the contact of the two big toes with the ground during these motions. He noticed that the left first metatarsal and toe stayed lifted. Attempting to weight them, he felt resistance in the left hip area and mentioned that he had been having an ongoing problem with tightness and discomfort there. I said, "So it seems you stay more over the left leg, yet balance and ease of motion are less there." He agreed with both the observation and the seeming paradox.

Next we explored turning left and right, both with weight about equal on the two feet and while more over one leg or the other. He reported stiffness and discomfort in the left hip area when turning right. He did not yet unweight

the left leg easily to turn right around the right leg. So I suggested with my hands that the pelvis rest within its limit of easy turning, staying turned while he turned head or shoulders the other way and back again. His head still inclined left. Standing without turning now, I had him lift one shoulder girdle up while dropping the other, gently guiding with my hands at first. Then we explored tilting the head toward either the lifting shoulder or the dropping shoulder, doing this next while staying turned to one side and exploring how to balance when shifting over the leg on the side of the lifting shoulder or oppositely. I suggested seeking equal ease in each direction, not equal size of motion. He began to find this, and a re-check of turning simply left and right showed ease and increased movement to the right, now without the left hip area pain.

Naturally, he tried to turn farther to the right. Following with my hands, I could indicate when to pause (by gesture or vocal (non-verbal) alert. I would ask him each time to 'think' of the fluid kind of balancing he had been feeling just before, perhaps adding mention of some part of his body and a (two-way) direction. He now turned even farther right without left hip area pain. I suggested something like, "So it seems that as more of you becomes perceived and moveable, the whole system self-organizes better." He nodded and then looked intently at me and said, "This is very interesting," inflecting it to indicate particular meaning. (For him, as a research scientist and mathematician, this is how a worthwhile line of inquiry is referred to.)

I asked him to walk just a bit to observe what his body might do with what he had done and felt. He nodded that he felt good differences from before. I suggested that repeating a similar kind of process would be more useful than our natural impulse to recall and reproduce the particulars. Again, "This is interesting!"

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Exploring Self Image:
The *Feldenkrais Method*® and Ballet

Lodi McClellan, GCFP with Becci Parsons, GCFP

"When you change the way you look at things, the things you look at change."
Max Planck (1858 - 1947)

In the spring of 2012 my colleague Becci Parsons (*Guild Certified Feldenkrais Teacher*® and trained dancer) and I decided to embark on an experimental collaboration. We planned and ultimately taught two, 110-minute advanced ballet classes to fourteen of our seniors at Cornish College of the Arts. We wondered, would integrating the internalized approach of the *Feldenkrais Method* with the rigors of classical ballet technique training positively affect students' sense of self, and ability to abandon self-consciousness in the training studio?

Becci and I have been colleagues for many years. We trained and performed together in the 1980s, and Becci has led me through numerous *Awareness Through Movement*® lessons. Within the past decade we'd met informally to discuss some of the stubborn, detrimental habits that I was observing in my ballet students. Becci's *Feldenkrais*-based insights into how to think about movement patterns had helped me teach these students more effectively. In addition, students of mine who consulted her privately often returned to ballet class with less tension in their shoulders, more clarity in their movement sequencing and greater self-awareness about how to participate mindfully in technique class. It seemed like a logical next step to put our heads together over this current challenge.

While combining a disciplined art form like ballet with the more meditative explorations of the *Feldenkrais Method* might seem as challenging as mixing oil with water, there are precedents. I had participated in two experiential *Feldenkrais*/Ballet workshops, one with Prisca Winslow Bradley (Taos, NM) and the other with Augusta Moore (San Francisco, CA). Both of these master teachers are former professional ballet dancers who now teach classes that weave the *Feldenkrais Method* and ballet training into wonderfully effective hybrids. In both workshops I had experienced numerous revelations. For example, my personal breathing patterns in ballet became easier after experiencing an *Awareness Through Movement* lesson designed to release the tension surrounding my diaphragm. It's common for ballet students to minimize

Lodi McClellan teaching ballet.

breathing while attempting to engage deep core support. This shallow breathing is just one factor that triggers the fight or flight response, and anxiety, we'd observed, contributed to students' poor self-image. Becci and I suspected that easier breathing would positively impact students' sense of themselves, which would in turn support their dancing, and allow their personalities to shine.

In preparation for our classes, Becci and I met several times to discuss our integrative strategies. We intended to address technical and performance issues that are common to many ballet students, such as persistent floor-gazing, and challenges with cross-lateral movement sequencing and spotting the head and eyes when turning. However, we were also keen to explore how self-perception affected students' dancing. Our basic intention: Becci would lead the students in an abbreviated *Awareness Through Movement* lesson chosen to highlight a specific aspect of ballet technique followed by my teaching a ballet sequence that allowed students to focus on our chosen concept. We then intended to ask the students to reflect on their experiences.

As a place to begin, Becci suggested that we focus our first class on connecting the students' arms and shoulder girdles to their core system. She had noticed excessive tension in how the students moved their arms through space (in ballet called port de bras). So, we sketched out a plan for our first class: we'd spend a half hour introducing our ideas, I would teach the students a simple port de bras sequence, and Becci would lead them through a fifteen minute *Awareness Through Movement* lesson focused on

connectivity of the head/eyes/arms relationship. Then, for the next hour I would teach an abbreviated ballet class. And finally, we would allow twenty minutes at the end for verbal processing. We would also hand out articles and links to various www.feldenkrais.com web pages for further reading. Becci brought in a list of "talking points" such as "this class will add new tools to your toolbox" or "we may break ballet rules to subvert habitual patterns," and you are "encouraged to cultivate a 'beginner's mind' of receptivity and openness: let go of the desire to achieve."

This last talking point was especially profound in the ballet context. All ballet dancers contend with the expectations of an art form supported by over three hundred years of history. At the advanced level, our students' self-image was integral to how much they had achieved. In addition, these were college students, expecting to be graded. Frankly, I wondered what ballet would look like without dancers striving to reach perfection.

After our introductions, the actual experience of teaching our first class was anything but predictable, and at times quite "bumpy." We hadn't anticipated the many complexities of our exploration, including our desire to navigate the often shifting line between goals and process."

I should mention that one constraint to our process of exploration was my responsibility to warm up the students' bodies for subsequent technique classes. Yet, I was unsure of how to do this within our experimental structure. In addition, within minutes of beginning the class, I began to question my role. Like our students, we as teachers also needed to embrace a beginner's mind! I became tongue-tied. Traditionally, ballet teachers provide constant corrective feedback to students throughout a class. In this situation my own entrenched habits of teaching caught me off guard. Becci and I had agreed to encourage our students to explore, without judgment. It was very strange for me to demonstrate a ballet barre sequence and not provide any familiar physical or verbal cues or give students feedback about how to improve their performance. For example, I'd catch myself wanting to say evaluative statement like, "relax your shoulders" or "nicely done." As a student of the *Feldenkrais Method* I had learned to accept a certain level of disequilibrium while my nervous system adapted to shifting perceptions, and teaching a straight-ahead classical ballet class is as familiar to me as breathing. Yet, our hybrid classes highlighted how differently my own self-image existed within each experience. The "allowing" and "non-directive" approach, while freeing, was also disorienting for me as a ballet teacher. My self-image was at stake. I actually had to fight what is clearly my default mode: the physical urge (habit, reinforced by thirty years of teaching) of cueing, coaxing, intervening, and assessing. I


Becci Parsons teaching.

wondered, "how do I negotiate my teacher identity and relationship to students when I have relinquished control?" "What is my purpose in this environment?" I was uncertain about whether to participate or watch. Despite the internal chatter, I valiantly attempted to stick to our plan while also realizing that I needed to be more responsive to what was happening in front of us. So, that first class, feeling split in two, I stumbled along, open to come what may. Not surprisingly, I learned (maybe remembered is more accurate) that students will still learn without my constant pedagogical intervention.

Student feedback at the end of class revealed a similar discomfort. "Where is this going?" they asked. "Are we being graded?" Becci and I reiterated that the class was an exploration for all of us. No grades! The students laughed with relief when they realized that we were not judging their performance. Our collective self-image was confronting years of habit. Becci observed,

> As I watched our students struggle with their habitual desire to "do it perfectly" while trying to fulfill our request that they shift their attention inward to the feeling of what's happening in the moment, I smiled. Not at their misfortune. I smiled because I could see that in their confusion and frustration they were further along the path of bringing the magic and presence of performance into the classroom than I had ever gotten [as a dancer]. By offering explicit permission to experience the freedom of 'failure' without judging, our students actually began to learn something new. The terrible taskmaster and inner critic gave way to curiosity, creativity and a sense of spaciousness. I witness that process every time I teach a public Awareness Through Movement class. It was enlightening to see it come alive in the ballet classroom.

With these observations in mind, we planned our second class (one week later) with less structure and more space for experimentation. Once we began, we improvised our interactions based on mutual trust, frequently checking in with one another and essentially "going with the flow."

This time, class began with my "suggesting" a ballet warm-up at the barre. For example, I would outline an exercise for the legs and feet (tendu) and then invite the students to play with the given material by taking more or less time, closing their eyes, and trusting their own physical needs in the moment (our advanced students were capable of listening to their bodies and making informed choices). After we had completed the warm-up, Becci then led the students in an *Awareness Through Movement* lesson focused on moving the ribs and chest in ways that challenge the rigid torso commonly seen in ballet class. Gradually, the students began to perform ballet technique with noticeably less tension and more flow. Heads spotted in turns more easily, bodies travelled through space with more gusto, arabesque lines extended more easily. Most significantly, the students appeared to be more themselves, not some idea of what they were supposed to be. In addition, most of the students were less tentative during the second co-taught class. A few students still held back - seemingly nervous about relinquishing their ballet self-image. Still, after both classes, some students revealed that they had felt "spacey" but that the "language of permission was profound." They appreciated "just being allowed to dance, without judgment." They were breathing easier and dancing with joy. Fear of judgment had been holding them back.

As their teachers, Becci and I valued the opportunity to witness untapped possibilities in these advanced students. They were fulfilling their dancing through very unfamiliar means. These positive discoveries confirmed our suspicions. The dancers who had previously appeared two dimensional in the studio were now dancing with a lusciousness and freedom we'd only seen from them on stage. They appeared to be more of their whole, three dimensional selves. Two years later, I am still in the process of integrating my own personal discoveries as a teacher. The issues of how to negotiate a non-judgmental approach within the aesthetic expectations of ballet, and of a college program (grades) are an ongoing quest.

Which brings me to our additional questions. Can the aesthetic values of ballet be learned in an environment of permission? How can technical standards be maintained without a teacher assessing a student's performance? Do traditional ballet teaching habits effectively serve the outcomes we desire in our students? What does "just being allowed to dance, without judgment" indicate about how assessment impacts performance and self-image? Becci and I witnessed some profound shifts in our students' ability to physically manifest ballet technique. Is a *Feldenkrais* approach to ballet technique training enough to achieve artistic high standards? Would the modality be more appropriate as a coaching, rather than training tool? Can students of all ballet technique levels benefit from a *Feldenkrais* approach to ballet training? How did our collaborative process make the studio to stage experience fresh? Did our approach invite our students to accept more responsibility for their learning? Might the option for a more open structure with deeply ingrained, habitual exercises inspire students to experiment more with personal expression?

These questions are driving us forward. Becci and I began our collaboration with the desire to help students bridge the gap between studio and stage, discovering new ways to bring the "magic" of performing as their fully embodied joyful selves into the college dance classroom. We're pleased with our initial explorations, and eager to continue. When I asked Becci how her self-image had been impacted through this experience, she reflected,

> I came away from our experiment with deep appreciation for how the *Feldenkrais Method* has shaped my values as a teacher and facilitator of change. I can hold the space for the messy chaos of learning in ways that I couldn't as a dancer and choreographer. I had no idea that the source of the friction that I felt on a daily basis in those days was me. It was an inside job.

Lodi McClellan, GCFP has been teaching ballet in private studios since 1980 and at Cornish College of the Arts for the past 18 years..

Becci Parsons is a dancer and Guild Certified Feldenkrais Teacher® *(1991) with over 35 years experience in the movement arts.*